Hyper-Linked Contents

Note:
The Format item specified for each field indicates the section and specific item in the Program Default Database Number Formatting Options form that controls the formatting (units, decimal places, etc.) for the specified field. This form can be accessed using the Options menu > Database > Set Program Default DB Formatting command.

Table: Active Degrees of Freedom

Field: UX

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either Yes or No, indicating if the UX degree of freedom is active.

Field: UY

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either Yes or No, indicating if the UY degree of freedom is active.

Field: UZ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either Yes or No, indicating if the UZ degree of freedom is active.

Field: RX

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either Yes or No, indicating if the RX degree of freedom is active.

Field: RY

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either Yes or No, indicating if the RY degree of freedom is active.

Field: RZ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either Yes or No, indicating if the RZ degree of freedom is active.

Table: Analysis Case Definitions

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the analysis case.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

The type of analysis case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, and LinSteady.

Field: InitialCond

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Zero or the name of a Nonlinear Static case. Zero means that the stiffness used is based on the unstressed state. Otherwise, the stiffness used is that at the end of the specified Nonlinear Static case. This item does not apply to response spectrum and linear modal history analysis cases.

Field: ModalCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the modal analysis case used in solving this analysis case. This item only applies to nonlinear static, response spectrum, and modal history cases.

Table: Area Added Mass Assignments

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: MassPerArea

Field is Imported: Yes
Format: Mass/Area (Mass and Weight section of form)
Units: Force-Sec2/Length3

Added mass per unit area applied to the area object.

Table: Area Auto Mesh Assignments

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: AutoMesh

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the area object is to be (internally) automatically meshed by the program for analysis.

Field: MeshType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Number of Elements or Maximum Size indicating the type of automaticmeshing specified.Number of Elements means that the area object is meshed into Number1 by Number2 elements.Maximum Size means that the area object is meshed into elements no larger than the size specified by Max1 and Max2.

Field: Number1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

If the AutoMesh item is Yes, and the MeshType item is Number of Elements then the area object is to be (internally) automatically meshed into Number1 by Number2 elements by the program for analysis.Number1 is the number of elements along the edge of the area object from Point 1 to Point 2 of the area object.Number2 is the number of elements along the edge of the area object from Point 1 to Point 3 of the area object..

Field: Number2

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

If the AutoMesh item is Yes, and the MeshType item is Number of Elements then the area object is to be (internally) automatically meshed into Number1 by Number2 elements by the program for analysis.Number1 is the number of elements along the edge of the area object from Point 1 to Point 2 of the area object.Number2 is the number of elements along the edge of the area object from Point 1 to Point 3 of the area object..

Field: Max1

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

If the AutoMesh item is Yes, and the MeshType item is Maximum Size then the area object is to be (internally) automatically meshed into elements no larger than the size specified by Max1 and Max2.Max1 is the maximum size of elements along the edge of the area object from Point 1 to Point 2 of the area object.Max2 is the maximum size of elements along the edge of the area object from Point 1 to Point 3 of the area object..

Field: Max2

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

If the AutoMesh item is Yes, and the MeshType item is Maximum Size then the area object is to be (internally) automatically meshed into elements no larger than the size specified by Max1 and Max2.Max1 is the maximum size of elements along the edge of the area object from Point 1 to Point 2 of the area object.Max2 is the maximum size of elements along the edge of the area object from Point 1 to Point 3 of the area object..

Field: AddSupport

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Yes means a restraint degree of freedom is to be added to new joints along the edges of the area object if both adjacent corners have that degree of freedom restrained. No mean no additional restraints are added. This item only applies if the object is to be automeshed (i.e., if the AutoMesh item is Yes).

Table: Area Bridge Object Flags

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: AutoBridge

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the area object is automatically created from a bridge object. Otherwise it is No.

Field: BridgeObj

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the bridge object with which this area object is associated.

Field: BOSpan

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the span in the bridge object with which this area object is associated.

Field: CompType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Top Slab, Bottom Slab or Girder indicating the portion of the bridge object with which this area object is associated.

Table: Area Edge Constraint Assignments

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: Constrained

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Yes means that line constraints are automatically applied to the edges of the area object.

Table: Area Loads - Gravity

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the coordinate system in which the gravity loads are defined.

Field: MultiplierX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The applied gravity load in the X-direction of the specified coordinate system is equal to the self weight of the object times the MultiplierX scale factor.

Field: MultiplierY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The applied gravity load in the Y-direction of the specified coordinate system is equal to the self weight of the object times the MultiplierY scale factor.

Field: MultiplierZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The applied gravity load in the Z-direction of the specified coordinate system is equal to the self weight of the object times the MultiplierZ scale factor.

Table: Area Loads - Pore Pressure

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: Pressure

Field is Imported: Yes
Format: Force/Area (Forces section of form)
Units: Force/Length2

The pore pressure load applied to the specified face of the Area object.

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified pressure. If no joint pattern is specified then this item is reported as None.

Table: Area Loads - Rotate

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: AngularVel

Field is Imported: Yes
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

Angular velocity for rotation about the axis of symmetry of the object.

Table: Area Loads - Strain

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: Component

Field is Imported: Yes
Format: Controlled by program
Units: Text

The area object local component to which the specified strain load is applied. This is either Strain11, Strain22, Strain12, Curvature11, Curvature22, Curvature12, Strain13 or Strain23.

Field: Strain

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strain load applied to the specified component of the object.

Field: Curvature

Field is Imported: Yes
Format: 1/Length (Miscellaneous section of form)
Units: 1/Length

The strain load (curvature) applied to the specified component of the object.

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified strain or curvature. If no joint pattern is specified then this item is reported as None.

Table: Area Loads - Surface Pressure

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: Face

Field is Imported: Yes
Format: Controlled by program
Units: Text

The face of the Area object to which the pressure load is applied.

Field: Pressure

Field is Imported: Yes
Format: Force/Area (Forces section of form)
Units: Force/Length2

The surface pressure load applied to the specified face of the Area object.

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified pressure. If no joint pattern is specified then this item is reported as None.

Table: Area Loads - Temperature

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Temperature or Gradient indicating the type of load.

Field: Temp

Field is Imported: Yes
Format: Temperature (Forces section of form)
Units: Temp

The temperature assignment to the Area object.

Field: TempGrad3

Field is Imported: Yes
Format: Temperature Gradient (Forces section of form)
Units: Temp/Length

The temperature gradient in the local 3 direction (units are delta temperature/thickness 3-3) assignment to the Area object.

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified temperature. If no joint pattern is specified then this item is reported as None.

Table: Area Loads - Uniform

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the coordinate system in which the load is defined. Local means that the load is specified in an object local axis direction.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either 1, 2, 3, X, Y, Z, X Proj, Y Proj, Z Proj, Gravity or Grav Proj indicating the direction of the load. 1, 2 and 3 indicate the local axes directions of the area object. X, Y and Z indicate the X, Y and Z directions of the specified coordinate system. Gravity is in the negative global Z direction. X Proj, Y Proj or Z Proj are projected forces in the specified coordinate system. Projected forces are scaled by the sine of the angle between the area object and the direction of load. .

Field: UnifLoad

Field is Imported: Yes
Format: Force/Area (Forces section of form)
Units: Force/Length2

The uniform load that is applied to the area object in the specified direction.

Table: Area Loads - Uniform To Frame

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the coordinate system in which the load is defined. Local means that the load is specified in an object local axis direction.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either 1, 2, 3, X, Y, Z, X Proj, Y Proj, Z Proj, Gravity or Grav Proj indicating the direction of the load. 1, 2 and 3 indicate the local axes directions of the area object. X, Y and Z indicate the X, Y and Z directions of the specified coordinate system. Gravity is in the negative global Z direction. X Proj, Y Proj or Z Proj are projected forces in the specified coordinate system. Projected forces are scaled by the sine of the angle between the area object and the direction of load. .

Field: UnifLoad

Field is Imported: Yes
Format: Force/Area (Forces section of form)
Units: Force/Length2

The uniform load, in the specified direction, that is distributed to the surrounding frame objects.

Field: DistType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either One Way or Two Way indicating the type of distribution used for the load.

Table: Area Loads - Wind Pressure Coefficients

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: Windward

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the area object receiving the load is on the windward side of the structure. Otherwise it is No.Typically, building codes specify the wind pressure on the windward side of the structure varies over the height of the structure, whereas it is constant over the structure height on other sides.

Field: Cp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The wind pressure coefficient specified for the area object.

Field: XComponent

Field is Imported: No
Format: Controlled by program
Units: Unitless

The global X component of the wind pressure coefficient.

Field: YComponent

Field is Imported: No
Format: Controlled by program
Units: Unitless

The global Y component of the wind pressure coefficient.

Field: ZComponent

Field is Imported: No
Format: Controlled by program
Units: Unitless

The global Z component of the wind pressure coefficient.

Table: Area Local Axes Assignments 1 - Typical

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle that the local 1 and 2 axes are rotated about the positive local 3 axis, from the default orientation or from the orientation determined by the plane reference vector. The rotation for a positive angle appears counterclockwise when the local +3 axis is pointing toward you.

Field: AdvanceAxes

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if an advanced method is used to define the local axes reference vectors for the area object. Otherwise it is No meaning that the default reference vectors are used.Default means that the local 3-2 plane for the area object is taken to be vertical, that is, parallel to the global Z-axis. The local 2 axis is taken to have an upward sense (global +Z) unless the object is horizontal (lies in the global X-Y plane) in which case the local 2 axis is taken along the global +Y direction. The local 1 axis is horizontal, that is it lies in the global X-Y plane.Advanced means that the local axes are defined with respect to user-defined reference vectors. Note that when the advanced system is used, the specified Angle is applied to the local axes orientation defined by the user specified reference vectors.

Table: Area Local Axes Assignments 2 - Advanced

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: LocalPlane

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item indicates the local plane that is to be determined by the plane reference vector. It is either 31 or 32, indicating the 3-1 or the 3-2 plane, respectively.

Field: PlOption1

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Coord Dir, Two Joints or User Vector indicating the first method used to determine the plane reference vector.

Field: PlCoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The coordinate system used to define the plane reference vector coordinate directions and the plane user vector.

Field: CoordDir1

Field is Imported: Yes
Format: Controlled by program
Units: Text

The primary coordinate direction taken at the object center in the specified coordinate system. It is used to determine the reference vector.It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: CoordDir2

Field is Imported: Yes
Format: Controlled by program
Units: Text

The secondary coordinate direction taken at the object center in the specified coordinate system. It is used to determine the reference vector.It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: PlVecJt1

Field is Imported: Yes
Format: Controlled by program
Units: Text

PlVecJt1 and PlVecJt2 are the labels of two joints that define the plane reference vector. Either of these joints may be specified as None to indicate the center of the specified object. If both PlVecJt1 and PlVecJt2 are specified as None then they are not used to define the plane reference vector.

Field: PlVecJt2

Field is Imported: Yes
Format: Controlled by program
Units: Text

PlVecJt1 and PlVecJt2 are the labels of two joints that define the plane reference vector. Either of these joints may be specified as None to indicate the center of the specified object. If both PlVecJt1 and PlVecJt2 are specified as None then they are not used to define the plane reference vector.

Field: PlVecX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The X direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Y direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Z direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Table: Area Material Temperatures

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: Temp

Field is Imported: Yes
Format: Temperature (Forces section of form)
Units: Temp

The Area object material temperature .

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified temperature. If no joint pattern is specified then this item is reported as None.

Table: Area Reference Temperatures

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: Temp

Field is Imported: Yes
Format: Temperature (Forces section of form)
Units: Temp

The Area object material temperature .

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified temperature. If no joint pattern is specified then this item is reported as None.

Table: Area Section Assignments

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: Section

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the area section property assigned to the specified area object.

Field: MatProp

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Default, or the name of a Material. Default means that the material property for the area object is taken from the material property designated for the area section that is assigned to the area object.

Field: ThickOver

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either None, Pattern, or Object indicating if and how the area object thickness specified by the area section property assigned to the area object is overwritten. If the None option is chosen then the area object thickness is not overwritten. Pattern means the thickness at each of the area object corner points is specified using a joint pattern. Object means the thickness at each of the area object corner points is directly specified.

Field: ThickPat

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern that is multiplied specified thickness scale factor specified by the ThickPatSF item to obtain the area object thickness.This item is only applicable when the ThickOver item is By Pattern.

Field: ThickPatSF

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The scale factor that multiplies the joint pattern specified by the ThickPat item to obtain the area object thickness.This item is only applicable when the ThickOver item is By Pattern.

Field: Thickness1

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The specified area object thickness at joint 1 of the area object.This item is only applicable when the ThickOver item is By Object.

Field: Thickness2

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The specified area object thickness at joint 2 of the area object.This item is only applicable when the ThickOver item is By Object.

Field: Thickness3

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The specified area object thickness at joint 3 of the area object.This item is only applicable when the ThickOver item is By Object.

Field: Thickness4

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The specified area object thickness at joint 4 of the area object.This item is only applicable when the ThickOver item is By Object.

Field: OffsetOver

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either None, Pattern, or Object indicating if and how the area object joint offset is specified. If the None option is chosen then no area object joint offsets exist. Pattern means the joint offset at each of the area object corner points is specified using a joint pattern. Object means the joint offset at each of the area object corner points is directly specified.The joint offset is measured from the center of the area object thickness to the joint location. A positive offset is in the positive local 3-axis direction.

Field: OffsetPat

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern that is multiplied specified length scale factor specified by the OffsetPatSF item to obtain the area object joint offsets.This item is only applicable when the OffsetOver item is By Pattern.The joint offset is measured from the center of the area object thickness to the joint location. A positive offset is in the positive local 3-axis direction.

Field: OffsetPatSF

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The scale factor that multiplies the joint pattern specified by the OffsetPat item to obtain the area object joint offsets.This item is only applicable when the OffsetOver item is By Pattern.The joint offset is measured from the center of the area object thickness to the joint location. A positive offset is in the positive local 3-axis direction.

Field: Offset1

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The specified area object joint offset at joint 1 of the area object.This item is only applicable when the ThickOver item is By Object.The joint offset is measured from the center of the area object thickness to the joint location. A positive offset is in the positive local 3-axis direction.

Field: Offset2

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The specified area object joint offset at joint 2 of the area object.This item is only applicable when the ThickOver item is By Object.The joint offset is measured from the center of the area object thickness to the joint location. A positive offset is in the positive local 3-axis direction.

Field: Offset3

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The specified area object joint offset at joint 3 of the area object.This item is only applicable when the ThickOver item is By Object.The joint offset is measured from the center of the area object thickness to the joint location. A positive offset is in the positive local 3-axis direction.

Field: Offset4

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The specified area object joint offset at joint 4 of the area object.This item is only applicable when the ThickOver item is By Object.The joint offset is measured from the center of the area object thickness to the joint location. A positive offset is in the positive local 3-axis direction.

Table: Area Section Properties

Field: Section

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the area section property.

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the material property assigned to the area section property.

Field: MatAngle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

Material angle associated with the area section property.

Field: AreaType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Shell, Plane or Asolid indicating the type of area section.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

For shell-type area sections this is either Shell-Thin, Shell-Thick, Membrane, Plate-Thin, or Plate-Thick indicating the type of shell element.For plane-type area sections this is either Plane-Stress or Plane-Strain indicating the type of plane element.This item does not apply to asolid-type elements.

Field: Thickness

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

For shell-type area sections this is the membrane thickness of the element used for calcualting the membrane stiffness for full-shell and pure-membrane sections, and used for self-mass and self-weight calculations.For plane-type sections this is the thickness of the element. This item does not apply to asolid-type area sections.

Field: BendThick

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

This item only applies to shell-type area sections. It is the bending thickness of the section used for calculating the plate-bending and transverse shear stiffnesses for full-shell and pure-plate sections.

Field: Arc

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

This item only applies to asolid-type area sections. It is the object arc, that is, the number of degrees through which the object's planar shape is rotated to define the solid-type object. Inputting 0 for this item means that the arc will be taken as 1 radian.

Field: InComp

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if incompatible bending modes are included in the stiffness formulation. Otherwise it is No. It only applies to plane and asolid type sections.In general, incompatible modes significantly improve the bending behavior of the object.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item only applies to asolid-type area sections. The asolid axis of symmetry is the Z axis of this coordinate system.

Field: Color

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either a defined color or an integer representation of the color associated with the section.The possible defined colors are Black, Red, Orange, Yellow, Green, Cyan, Blue, Magenta, White, Dark Red, Dark Yellow, Dark Green, Dark Cyan, Dark Blue, Dark Magenta, Gray1, Gray2, Gray3, Gray4, Gray5, Gray6, Gray7 and Gray8. Gray1 is a light gray and Gray8 is a dark gray.

Field: TotalWt

Field is Imported: No
Format: Weight (Mass and Weight section of form)
Units: Force

Total weight of all objects in the model that are assigned the specified area section property.

Field: TotalMass

Field is Imported: No
Format: Mass (Mass and Weight section of form)
Units: Force-Sec2/Length

Total mass of all objects in the model that are assigned the specified area section property.

Field: F11Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

F11 stiffness modifier for the specified area section property. This item is used for analysis only, not design. This item is multiplied times the similar modifier specified for the area section; it does not replace the modifier specified for the area section.

Field: F22Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

F22 stiffness modifier for the specified area section property. This item is used for analysis only, not design. This item is multiplied times the similar modifier specified for the area section; it does not replace the modifier specified for the area section.

Field: F12Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

F12 stiffness modifier for the specified area section property. This item is used for analysis only, not design. This item is multiplied times the similar modifier specified for the area section; it does not replace the modifier specified for the area section.

Field: M11Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

M11 stiffness modifier for the specified area section property. This item is used for analysis only, not design. This item is multiplied times the similar modifier specified for the area section; it does not replace the modifier specified for the area section.

Field: M22Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

M22 stiffness modifier for the specified area section property. This item is used for analysis only, not design. This item is multiplied times the similar modifier specified for the area section; it does not replace the modifier specified for the area section.

Field: M12Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

M12 stiffness modifier for the specified area section property. This item is used for analysis only, not design. This item is multiplied times the similar modifier specified for the area section; it does not replace the modifier specified for the area section.

Field: V13Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

V13 stiffness modifier for the specified area section property. This item is used for analysis only, not design. This item is multiplied times the similar modifier specified for the area section; it does not replace the modifier specified for the area section.

Field: V23Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

V23 stiffness modifier for the specified area section property. This item is used for analysis only, not design. This item is multiplied times the similar modifier specified for the area section; it does not replace the modifier specified for the area section.

Field: MMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Mass multiplier for the specified area section property. This item is used for analysis only, not design. This item is multiplied times the similar modifier specified for the area section; it does not replace the modifier specified for the area section.

Field: WMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Weight multiplier for the specified area section property. This item is used for analysis only, not design. This item is multiplied times the similar modifier specified for the area section; it does not replace the modifier specified for the area section.

Table: Area Section Properties - Bridge Object Flags

Field: Section

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the area section property.

Field: AutoBridge

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the area section is an automatically created bridge section. Otherwise it is No.

Field: BridgeObj

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the bridge object with which this area section is associated.

Table: Area Spring Assignments

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: Face

Field is Imported: Yes
Format: Controlled by program
Units: Text

The face of the area object to which the specified springs are applied.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either 1, 2 or 3 indicating the area local axes direction in which the springs are oriented.

Field: Stiffness

Field is Imported: Yes
Format: Trans Stiffness/Area (Stiffness section of form)
Units: Force/Length/Length2

Spring stiffness per unit area of the specified face of the area object in the direction specified.

Table: Area Stiffness Modifiers

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: f11

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The membrane f11 modifier for the specified area object.

Field: f22

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The membrane f22 modifier for the specified area object.

Field: f12

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The membrane f12 modifier for the specified area object.

Field: m11

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The bending m11 modifier for the specified area object.

Field: m22

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The bending m22 modifier for the specified area object.

Field: m12

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The bending m12 modifier for the specified area object.

Field: v13

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shear v13 modifier for the specified area object.

Field: v23

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shear v23 modifier for the specified area object.

Field: MassMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The mass modifier for the specified area object.

Field: WeightMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The weight modifier for the specified area object.

Table: Area Vehicle Response Component Overwrites

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: Usage

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either AASHTO HL - Superstructure, AASHTO HL - Reaction, or AASHTO H & HS Superstructure indicating the vehicle type and structural member type to which the overwrite applies.AASHTO HL - Superstructure refers the superstructure negative moments over supports.AASHTO HL - Reaction refers to reactions at interior supports (piers).AASHTO H & HS Superstructure refers to superstructure moments (positive or negative).

Field: Component

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either F11, F22, F12, M11, M22, M12, V13, V23, S11Top, S22Top, S12Top, S11Bot, S22Bot, or S12Bot indicating the output component to which the overwrite applies.

Field: Status

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Do Not Use, Use Positive Values, Use Negative Values, or Use All Values indicating the portion of the output for the specified component to which the overwrite applies.

Table: Auto Seismic - BOCA96

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto seismic load applies.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either X or Y indicating the global direction in which the specified auto seismic load acts.

Field: PercentEcc

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The percentage eccentricity applicable to all rigid diaphragms. This item only applies if the Dir item indicates that there is eccentricity. Note that if the EccOverride item is Yes, then this eccentricity may be overwritten for some diaphragms.

Field: EccOverride

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item indicates if the percentage eccentricity specified by the PercentEcc item is overwritten for any of the rigid diaphragms in the model.

Field: PeriodCalc

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item indicates the method used to determine the building period for use in calculating the magnitude of the auto seismic load. It is either Method A, Prog Calc (short for program calculated), or User.

Field: Ct

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Ct factor used in calculating the building period (in English units).

Field: UserT

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The user-defined value of the building period used in calculating the magnitude of the auto seismic load.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto seismic loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto seismic loads are applied.

Field: R

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The BOCA96 response modification factor.

Field: Aa

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The BOCA96 effective peak acceleration coefficient.

Field: Av

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The BOCA96 effective peak velocity-related coefficient.

Field: S

Field is Imported: Yes
Format: Controlled by program
Units: Text

The BOCA96 site coefficient.

Field: TUsed

Field is Imported: No
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The period used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: CoeffUsed

Field is Imported: No
Format: Controlled by program
Units: Unitless

The BOCA96 coefficient Cs used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: WeightUsed

Field is Imported: No
Format: Weight (Mass and Weight section of form)
Units: Force

The seismic weight of the structure used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: BaseShear

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The base shear calculated for the specified auto seismic load. This item is only available after the analysis has been run.

Table: Auto Seismic - Chinese 2002

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto seismic load applies.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either X or Y indicating the global direction in which the specified auto seismic load acts.

Field: PercentEcc

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The percentage eccentricity applicable to all rigid diaphragms. This item only applies if the Dir item indicates that there is eccentricity. Note that if the EccOverride item is Yes, then this eccentricity may be overwritten for some diaphragms.

Field: EccOverride

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item indicates if the percentage eccentricity specified by the PercentEcc item is overwritten for any of the rigid diaphragms in the model.

Field: PeriodCalc

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item indicates the method used to determine the building period for use in calculating the magnitude of the auto seismic load. It is either Prog Calc (short for program calculated), or User.

Field: UserT

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The user-defined value of the building period used in calculating the magnitude of the auto seismic load.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto seismic loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto seismic loads are applied.

Field: AlphaMax

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Chinese 2002 maximum influence factor.

Field: SI

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is one of the following items indicating the Chinese 2002 seismic intensity: 6 (0.05g), 7 (0.10g), 7 (0.15g), 8 (0.20g), 8 (0.30g), or 9 (0.40g).

Field: DampRatio

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Chinese 2002 damping ratio.

Field: Tg

Field is Imported: Yes
Format: Period (Time-Related section of form)
Units: Sec

The Chinese 2002 charactristic ground period.

Field: PTDF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Chinese 2002 period time discount factor.

Field: EnhanceFact

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Chinese 2002 enhancement factor.

Field: TUsed

Field is Imported: No
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The period used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: CoeffUsed

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Chinese 2002 Seismic coefficient used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: WeightUsed

Field is Imported: No
Format: Weight (Mass and Weight section of form)
Units: Force

The seismic weight of the structure used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: BaseShear

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The base shear calculated for the specified auto seismic load. This item is only available after the analysis has been run.

Table: Auto Seismic - IBC2003

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto seismic load applies.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either X or Y indicating the global direction in which the specified auto seismic load acts.

Field: PercentEcc

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The percentage eccentricity applicable to all rigid diaphragms. This item only applies if the Dir item indicates that there is eccentricity. Note that if the EccOverride item is Yes, then this eccentricity may be overwritten for some diaphragms.

Field: EccOverride

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item indicates if the percentage eccentricity specified by the PercentEcc item is overwritten for any of the rigid diaphragms in the model.

Field: PeriodCalc

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item indicates the method used to determine the building period for use in calculating the magnitude of the auto seismic load. It is either Method A, Prog Calc (short for program calculated), or User.

Field: Ct

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Ct factor used in calculating the building period (in English units).

Field: UserT

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The user-defined value of the building period used in calculating the magnitude of the auto seismic load.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto seismic loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto seismic loads are applied.

Field: R

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The IBC2003 response modification factor.

Field: Omega

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The IBC2003 system overstrength factor used for design.

Field: Cd

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The IBC2003 deflection amplification factor used for design.

Field: SeisGroup

Field is Imported: Yes
Format: Controlled by program
Units: Text

The IBC2003 seismic group.

Field: SiteClass

Field is Imported: Yes
Format: Controlled by program
Units: Text

The IBC2003 site class.

Field: Ss

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The IBC2003 mapped spectral acceleration for short periods.

Field: S1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The IBC2003 mapped spectral acceleration for a one second period.

Field: Fa

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The IBC2003 site coefficient, Fa.

Field: Fv

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The IBC2003 site coefficient, Fv.

Field: TUsed

Field is Imported: No
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The period used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: CoeffUsed

Field is Imported: No
Format: Controlled by program
Units: Unitless

The IBC2003 coefficient Cs used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: WeightUsed

Field is Imported: No
Format: Weight (Mass and Weight section of form)
Units: Force

The seismic weight of the structure used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: BaseShear

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The base shear calculated for the specified auto seismic load. This item is only available after the analysis has been run.

Table: Auto Seismic - NBCC95

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto seismic load applies.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either X or Y indicating the global direction in which the specified auto seismic load acts.

Field: PercentEcc

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The percentage eccentricity applicable to all rigid diaphragms. This item only applies if the Dir item indicates that there is eccentricity. Note that if the EccOverride item is Yes, then this eccentricity may be overwritten for some diaphragms.

Field: EccOverride

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item indicates if the percentage eccentricity specified by the PercentEcc item is overwritten for any of the rigid diaphragms in the model.

Field: StructType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Mom Frame or Other indicating the type of structure.

Field: PeriodCalc

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item indicates the method used to determine the building period for use in calculating the magnitude of the auto seismic load. It is either Code, Prog Calc (short for program calculated), or User.

Field: Ds

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

Length of wall or braced frame which constitutes the main lateral-force resisting system.

Field: UserT

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The user-defined value of the building period used in calculating the magnitude of the auto seismic load.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto seismic loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto seismic loads are applied.

Field: R

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

NBCC 95 force modification factor.

Field: Za

Field is Imported: Yes
Format: Controlled by program
Units: Text

NBCC95 acceleration-related seismic zone.

Field: Zv

Field is Imported: Yes
Format: Controlled by program
Units: Text

NBCC95 velocity-related seismic zone.

Field: VType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item indicates whether the NBCC95 zonal velocity ratio is program calculated based on Zv, or it is user-defined .

Field: V

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

NBCC95 zonal velocity ratio.

Field: I

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

NBCC95 importance factor.

Field: F

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

NBCC95 foundation factor.

Field: TUsed

Field is Imported: No
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The period used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: FSUsed

Field is Imported: No
Format: Controlled by program
Units: Unitless

The product of the NBCC95 foundation factor, F, and the NBCC95 seismic response factor, S, used in calculating the base shear. This item is only available after the analysis has been run.

Field: WeightUsed

Field is Imported: No
Format: Weight (Mass and Weight section of form)
Units: Force

The seismic weight of the structure used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: BaseShear

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The base shear calculated for the specified auto seismic load. This item is only available after the analysis has been run.

Field: FtUsed

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The Ft force (concentrated force at the top of the building) calculated for the specified auto seismic load. This item is only available after the analysis has been run.

Table: Auto Seismic - NEHRP97

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto seismic load applies.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either X or Y indicating the global direction in which the specified auto seismic load acts.

Field: PercentEcc

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The percentage eccentricity applicable to all rigid diaphragms. This item only applies if the Dir item indicates that there is eccentricity. Note that if the EccOverride item is Yes, then this eccentricity may be overwritten for some diaphragms.

Field: EccOverride

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item indicates if the percentage eccentricity specified by the PercentEcc item is overwritten for any of the rigid diaphragms in the model.

Field: PeriodCalc

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item indicates the method used to determine the building period for use in calculating the magnitude of the auto seismic load. It is either Method A, Prog Calc (short for program calculated), or User.

Field: Ct

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Ct factor used in calculating the building period (in English units).

Field: UserT

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The user-defined value of the building period used in calculating the magnitude of the auto seismic load.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto seismic loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto seismic loads are applied.

Field: R

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The NEHRP97 response modification factor.

Field: SeisGroup

Field is Imported: Yes
Format: Controlled by program
Units: Text

The NEHRP97 seismic group.

Field: SiteClass

Field is Imported: Yes
Format: Controlled by program
Units: Text

The NEHRP97 site class.

Field: Ss

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The NEHRP97 mapped spectral acceleration for short periods.

Field: S1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The NEHRP97 mapped spectral acceleration for a one second period.

Field: Fa

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The NEHRP97 site coefficient, Fa.

Field: Fv

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The NEHRP97 site coefficient, Fv.

Field: TUsed

Field is Imported: No
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The period used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: CoeffUsed

Field is Imported: No
Format: Controlled by program
Units: Unitless

The NEHRP97 coefficient Cs used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: WeightUsed

Field is Imported: No
Format: Weight (Mass and Weight section of form)
Units: Force

The seismic weight of the structure used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: BaseShear

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The base shear calculated for the specified auto seismic load. This item is only available after the analysis has been run.

Table: Auto Seismic - UBC94

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto seismic load applies.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either X or Y indicating the global direction in which the specified auto seismic load acts.

Field: PercentEcc

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The percentage eccentricity applicable to all rigid diaphragms. This item only applies if the Dir item indicates that there is eccentricity. Note that if the EccOverride item is Yes, then this eccentricity may be overwritten for some diaphragms.

Field: EccOverride

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item indicates if the percentage eccentricity specified by the PercentEcc item is overwritten for any of the rigid diaphragms in the model.

Field: PeriodCalc

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item indicates the method used to determine the building period for use in calculating the magnitude of the auto seismic load. It is either Method A, Prog Calc (short for program calculated), or User.

Field: Ct

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Ct factor used in calculating the building period (in English units).

Field: UserT

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The user-defined value of the building period used in calculating the magnitude of the auto seismic load.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto seismic loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto seismic loads are applied.

Field: Rw

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC94 numerical factor, Rw.

Field: Z

Field is Imported: Yes
Format: Controlled by program
Units: Text

The UBC94 seismic zone factor.

Field: S

Field is Imported: Yes
Format: Controlled by program
Units: Text

The UBC94 site coefficient for soil characteristics.

Field: I

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC94 importance factor.

Field: TUsed

Field is Imported: No
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The period used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: CoeffUsed

Field is Imported: No
Format: Controlled by program
Units: Unitless

The UBC94 coefficient C used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: WeightUsed

Field is Imported: No
Format: Weight (Mass and Weight section of form)
Units: Force

The seismic weight of the structure used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: BaseShear

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The base shear calculated for the specified auto seismic load. This item is only available after the analysis has been run.

Field: FtUsed

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The Ft force (concentrated force at the top of the building) calculated for the specified auto seismic load. This item is only available after the analysis has been run.

Table: Auto Seismic - UBC97

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto seismic load applies.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either X or Y indicating the global direction in which the specified auto seismic load acts.

Field: PercentEcc

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The percentage eccentricity applicable to all rigid diaphragms. This item only applies if the Dir item indicates that there is eccentricity. Note that if the EccOverride item is Yes, then this eccentricity may be overwritten for some diaphragms.

Field: EccOverride

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item indicates if the percentage eccentricity specified by the PercentEcc item is overwritten for any of the rigid diaphragms in the model.

Field: PeriodCalc

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item indicates the method used to determine the building period for use in calculating the magnitude of the auto seismic load. It is either Method A, Prog Calc (short for program calculated), or User.

Field: Ct

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Ct factor used in calculating the building period (in English units).

Field: UserT

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The user-defined value of the building period used in calculating the magnitude of the auto seismic load.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto seismic loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto seismic loads are applied.

Field: R

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC97 overstrength factor.

Field: SoilType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The UBC97 soil profile type.

Field: Z

Field is Imported: Yes
Format: Controlled by program
Units: Text

The UBC97 seismic zone factor.

Field: Ca

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC97 coefficient, Ca.

Field: Cv

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC97 coefficient, Cv.

Field: SourceType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The UBC97 seismic source type.

Field: SourceDist

Field is Imported: Yes
Format: Controlled by program
Units: km

The distance to the closest known seismic source in kilometers.

Field: Na

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC97 near source factor, Na.

Field: Nv

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC97 near source factor, Nv.

Field: I

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC97 importance factor.

Field: TUsed

Field is Imported: No
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The period used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: WeightUsed

Field is Imported: No
Format: Weight (Mass and Weight section of form)
Units: Force

The seismic weight of the structure used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: BaseShear

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The base shear calculated for the specified auto seismic load. This item is only available after the analysis has been run.

Field: FtUsed

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The Ft force (concentrated force at the top of the building) calculated for the specified auto seismic load. This item is only available after the analysis has been run.

Table: Auto Seismic - UBC97 Isolated

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto seismic load applies.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either X or Y indicating the global direction in which the specified auto seismic load acts.

Field: PercentEcc

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The percentage eccentricity applicable to all rigid diaphragms. This item only applies if the Dir item indicates that there is eccentricity. Note that if the EccOverride item is Yes, then this eccentricity may be overwritten for some diaphragms.

Field: EccOverride

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item indicates if the percentage eccentricity specified by the PercentEcc item is overwritten for any of the rigid diaphragms in the model.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto seismic loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto seismic loads are applied.

Field: Ri

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC97 overstrength factor for isolated buildings specified in UBC97 Table A-16-E.

Field: Bd

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC97 coefficient for damping specified in UBC97 Table A-16-C.

Field: Kmax

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

Maximum effective stiffness of the isolation system.

Field: Kmin

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

Minimum effective stiffness of the isolation system.

Field: SoilType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The UBC97 soil profile type.

Field: Z

Field is Imported: Yes
Format: Controlled by program
Units: Text

The UBC97 seismic zone factor.

Field: Cvd

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC97 coefficient, Cv.

Field: SourceType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The UBC97 seismic source type.

Field: SourceDist

Field is Imported: Yes
Format: Controlled by program
Units: km

The distance to the closest known seismic source in kilometers.

Field: Nv

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC97 near source factor, Nv.

Field: WeightUsed

Field is Imported: No
Format: Weight (Mass and Weight section of form)
Units: Force

The seismic weight of the structure used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: BaseShear

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The base shear calculated for the specified auto seismic load. This item is only available after the analysis has been run.

Table: Auto Seismic - User Coefficient

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto seismic load applies.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either X or Y indicating the global direction in which the specified auto seismic load acts.

Field: PercentEcc

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The percentage eccentricity applicable to all rigid diaphragms. This item only applies if the Dir item indicates that there is eccentricity. Note that if the EccOverride item is Yes, then this eccentricity may be overwritten for some diaphragms.

Field: EccOverride

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item indicates if the percentage eccentricity specified by the PercentEcc item is overwritten for any of the rigid diaphragms in the model.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto seismic loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto seismic loads are applied.

Field: C

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The user-defined base shear coefficient (V = CW).

Field: K

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The user-defined exponent applied to the story height.

Field: WeightUsed

Field is Imported: No
Format: Weight (Mass and Weight section of form)
Units: Force

The seismic weight of the structure used to calculate the seismic base shear. This item is only available after the analysis has been run.

Field: BaseShear

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The base shear calculated for the specified auto seismic load. This item is only available after the analysis has been run.

Table: Auto Seismic - User Loads

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto seismic load applies.

Field: Diaphragm

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the diaphragm to which the load is applied.

Field: DiaphragmZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate of the specified diaphragm.

Field: AppPoint

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either CM (short for center of mass) or User indicating the application point of the load.

Field: AddEcc

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The additional eccentricity ratio added to the specified load. This added eccentricity causes an MZ moment in the plane of the diaphragm. This item is only applicable when the user seismic load is applied at the center of mass.

Field: FX

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The force applied to the diaphragm in the global X direction.

Field: FY

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The force applied to the diaphragm in the global Y direction.

Field: MZ

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

The moment applied to the diaphragm about the global Z axis.

Field: X

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The user-defined global X coordinate of the load application point.

Field: Y

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The user-defined global Y coordinate of the load application point.

Field: BaseShear

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The base shear calculated for the specified auto seismic load. This item is only available after the analysis has been run.

Table: Auto Seismic Eccentricity Overrides

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: AutoLdType

Field is Imported: No
Format: Controlled by program
Units: Text

This item is either User Coeff, User Loads or the name of the code considered for the specified load case.

Field: Diaphragm

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the horizontal rigid diaphragm constraint to which the specified eccentricity applies.

Field: Eccen

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

User-specified eccentricity for the specified rigid diaphragm constraint. Note that this eccentricity is specified as an absolute length, not a percentage of the structure dimension.

Table: Auto Seismic Loads To Groups

Field: LoadCase

Field is Imported: No
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: AutoLdType

Field is Imported: No
Format: Controlled by program
Units: Text

This item is either User Coeff, User Loads or the name of the code considered for the specified load case.

Field: Group

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the group to which the specified load applies.

Field: GroupAvgZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The average global Z coordinate of all point objects included in the specified group.

Field: FX

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto seismic force acting in the global X direction at the specified point.

Field: FY

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto seismic force acting in the global Y direction at the specified point.

Field: FZ

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto seismic force acting in the global Z direction at the specified point.

Field: MX

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto seismic force acting about the global X axis at the specified point.

Field: MY

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto seismic force acting about the global Y axis at the specified point.

Field: MZ

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto seismic force acting about the global Z axis at the specified point.

Field: X

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global X coordinate of the point at which the auto seismic group forces and moments are reported.

Field: Y

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Y coordinate of the point at which the auto seismic group forces and moments are reported.

Field: Z

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z coordinate of the point at which the auto seismic group forces and moments are reported.

Table: Auto Seismic Loads To Horizontal Diaphragms

Field: LoadCase

Field is Imported: No
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: AutoLdType

Field is Imported: No
Format: Controlled by program
Units: Text

This item is either User Coeff, User Loads or the name of the code considered for the specified load case.

Field: Diaphragm

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the horizontal rigid diaphragm constraint to which the specified load applies.

Field: DiaphragmZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate of the specified diaphragm.

Field: FX

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto seismic force acting in the global X direction at the specified point.

Field: FY

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto seismic force acting in the global Y direction at the specified point.

Field: FZ

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto seismic force acting in the global Z direction at the specified point.

Field: MX

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto seismic force acting about the global X axis at the specified point.

Field: MY

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto seismic force acting about the global Y axis at the specified point.

Field: MZ

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto seismic force acting about the global Z axis at the specified point.

Field: X

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global X coordinate of the point at which the auto seismic diaphragm forces and moments are reported.

Field: Y

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Y coordinate of the point at which the auto seismic diaphragm forces and moments are reported.

Field: Z

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z coordinate of the point at which the auto seismic diaphragm forces and moments are reported.

Table: Auto Seismic Loads To Joints

Field: LoadCase

Field is Imported: No
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: AutoLdType

Field is Imported: No
Format: Controlled by program
Units: Text

This item is either User Coeff, User Loads or the name of the code considered for the specified load case.

Field: JointElem

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the joint element in the SAP analysis model to which the specified auto seismic force is applied.

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the joint object associated with the specified joint element, if any.

Field: FX

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto seismic force acting in the global X direction at the specified point.

Field: FY

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto seismic force acting in the global Y direction at the specified point.

Field: FZ

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto seismic force acting in the global Z direction at the specified point.

Field: MX

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto seismic force acting about the global X axis at the specified point.

Field: MY

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto seismic force acting about the global Y axis at the specified point.

Field: MZ

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto seismic force acting about the global Z axis at the specified point.

Field: X

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global X coordinate of the point at which the auto seismic joint element forces and moments are reported.

Field: Y

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Y coordinate of the point at which the auto seismic joint element forces and moments are reported.

Field: Z

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z coordinate of the point at which the auto seismic joint element forces and moments are reported.

Table: Auto Wave 1 - General

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto wave load applies.

Field: WaveChar

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a set of wave characteristics data.

Field: Current

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either None or the label of a set of wave current profile data. None means that no current is considered for this auto wave load.

Field: MarineGrow

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either None or the label of a set of wave marine growth profile data. None means that no marine growth is considered for this auto wave load (unless it is specified as a wave overwrite).

Field: DICoeff

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either API Default or the label of a set of wave wave drag and inertia coefficient profile data.API Default means that the program uses a drag and inertia coefficients of 0.65 and 1.6, respectively for Rough. Smooth conditions are assumed above the specified high tide elevation and rough conditions are assumed below.

Field: WaveWind

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either None or the label of a set of wave wind data. None means that no wind is considered for this auto wave load.

Field: BuoyLoad

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if bouyant loads are included as part of the wave load. Otherwise it is No.

Field: LoadDisc

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The maximum discretization length for distributed wave loads applied to objects. A value is calculated for the distributed load at locations along an object not exceeding the discretization length. The magnitude of the distributed wave load is assumed to vary linearly between these calculated locations.

Field: InitCrestX

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global X coordinate of a point on the initial wave crest.

Field: InitCrestY

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Y coordinate of a point on the initial wave crest.

Field: NumPos

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The total number of wave crest positions considered for this auto wave load.If only one position is considered then it is the wave crest position defined by the InitCrestX and InitCrestY items.If multiple positions are considered then the wave length is divided by the numberof positions considered to create equal length segments along the wave length. The wave crest is then considered at positions located at the beginning of each of these wave segments. For example, if four positions are considered, then the wave crest is located at 0, 1/4, 1/2 and 3/4 points of the wave length.

Field: DirAngle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The direction that the wave is moving measured counterclockwise from the global X axis.

Field: VertDatum

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z coordinate at which the wave vertical datum is located. The wave vertical datum is used as a reference elevation for all other wave vertical elevations.

Field: MLFromDatum

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The elevation of the mudline measured from the wave vertical datum. Positive elevations are above the datum.

Field: HTFromDatum

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The elevation of the high tide measured from the wave vertical datum. Positive elevations are above the datum.

Field: WWtDensity

Field is Imported: Yes
Format: Weight/Volume (Mass and Weight section of form)
Units: Force/Length3

The water weight density.

Table: Auto Wave 2 - Tabular Display

Field: LoadCase

Field is Imported: No
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto wave load applies.

Field: HLoc

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The horizontal (X) coordinate of the considered point in the wave coordinate system.

Field: VFromDatum

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The vertical (Z) coordinate of the considered point in the wave coordinate system. This is the distance from the wave vertical datum to the considered point. Positive distances mean the considered point is above the datum.

Field: HWaveVel

Field is Imported: No
Format: Velocity-Trans (Time-Related section of form)
Units: Length/sec

The horizontal velocity of the wave (not including the current) at the considered point.

Field: HCurrVel

Field is Imported: No
Format: Velocity-Trans (Time-Related section of form)
Units: Length/sec

The horizontal velocity of the current, in the direction of the WAVE, at the considered point.

Field: HTotalVel

Field is Imported: No
Format: Velocity-Trans (Time-Related section of form)
Units: Length/sec

The total horizontal velocity at the considered point. This is the sum of the wave velocity and the component of current velocity in the direction of the wave.

Field: HWaveAcc

Field is Imported: No
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

The horizontal acceleration of the wave at the considered point.

Field: VWaveVel

Field is Imported: No
Format: Velocity-Trans (Time-Related section of form)
Units: Length/sec

The vertical velocity of the wave at the considered point.

Field: VWaveAcc

Field is Imported: No
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

The vertical acceleration of the wave at the considered point.

Field: Pressure

Field is Imported: No
Format: Force/Area (Forces section of form)
Units: Force/Length2

The hydrostatic pressure at the considered point.

Table: Auto Wave 3 - Wave Characteristics - General

Field: WaveChar

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a set of wave characteristics data.

Field: WaveType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either From Theory or User indicating the wave type considered.

Field: KinFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The wave kinematics factor. This factor accounts for wave directional spreading and irregularity in the wave profile shape.

Field: SWaterDepth

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The storm water depth. The mean storm water level (MSWL) is at a distance equal to the storm water depth above the mudline.

Field: WaveHeight

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The wave height. The distance from mean storm water level (see the SWaterDepth item) to the top of the wave is equal to one-half the wave height.This item only applies when the WaveType item is From Theory.

Field: WavePeriod

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The wave period as it appears to a stationary observer, that is, as it appears to an observer who is NOT moving with the current.This item only applies when the WaveType item is From Theory.

Field: WaveTheory

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Linear, Stokes or Cnoidal indicating the wave theory used.This item only applies when the WaveType item is From Theory.

Field: TheoryOrd

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

If the WaveTheory item is Stokes or Cnoidal then this is the order of the wave theory.This item only applies when the WaveType item is From Theory and when the WaveTheory item is either Stokes or Cnoidal.

Table: Auto Wave 4 - Wave Characteristics - User Horizontal Coordinates

Field: WaveChar

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a set of wave characteristics data.

Field: HLoc

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The horizontal (X) coordinate of the considered point in the wave coordinate system.

Field: SFromDatum

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The elevation of the wave surface measured from the wave vertical datum. Positive elevations are above the datum.

Table: Auto Wave 5 - Wave Characteristics - User Vertical Coordinates

Field: WaveChar

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a set of wave characteristics data.

Field: VFromDatum

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The vertical (Z) coordinate of the considered point in the wave coordinate system. This is the distance from the wave vertical datum to the considered point. Positive distances mean the considered point is above the datum.

Table: Auto Wave 6 - Wave Characteristics - User Wave Data

Field: WaveChar

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a set of wave characteristics data.

Field: HLoc

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The horizontal (X) coordinate of the considered point in the wave coordinate system.

Field: VFromDatum

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The vertical (Z) coordinate of the considered point in the wave coordinate system. This is the distance from the wave vertical datum to the considered point. Positive distances mean the considered point is above the datum.

Field: HWaveVel

Field is Imported: Yes
Format: Velocity-Trans (Time-Related section of form)
Units: Length/sec

The horizontal velocity of the wave (not including the current) at the considered point.

Field: HWaveAcc

Field is Imported: Yes
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

The horizontal acceleration of the wave at the considered point.

Field: VWaveVel

Field is Imported: Yes
Format: Velocity-Trans (Time-Related section of form)
Units: Length/sec

The vertical velocity of the wave at the considered point.

Field: VWaveAcc

Field is Imported: Yes
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

The vertical acceleration of the wave at the considered point.

Field: Pressure

Field is Imported: Yes
Format: Force/Area (Forces section of form)
Units: Force/Length2

The hydrostatic pressure at the considered point.

Table: Auto Wave 7 - Current Profile

Field: Current

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a set of wave current profile data.

Field: VFromDatum

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The vertical (Z) coordinate of the considered point in the wave coordinate system. This is the distance from the wave vertical datum to the considered point. Positive distances mean the considered point is above the datum.

Field: HCurrVel

Field is Imported: Yes
Format: Velocity-Trans (Time-Related section of form)
Units: Length/sec

The horizontal velocity of the current, in the direction of the CURRENT, at the considered point.

Field: DirAngle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The direction that the current is moving measured counterclockwise from the global X axis.

Field: BlockFact

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The current blockage factor.

Field: StretchOpt

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Linear or Nonlinear indicating the current stretching option used.

Table: Auto Wave 8 - Marine Growth

Field: MarineGrow

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a set of wave marine growth profile data.

Field: VFromDatum

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The vertical (Z) coordinate of the considered point in the wave coordinate system. This is the distance from the wave vertical datum to the considered point. Positive distances mean the considered point is above the datum.

Field: Thickness

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The marine growth thickness at the specified elevation.

Table: Auto Wave 9 - Drag And Inertia Coefficients

Field: DICoeff

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a set of wave drag and inertia coefficient profile data data.

Field: VFromDatum

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The vertical (Z) coordinate of the considered point in the wave coordinate system. This is the distance from the wave vertical datum to the considered point. Positive distances mean the considered point is above the datum.

Field: DragCoeff

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The drag coefficient at the specified elevation.

Field: InerCoeff

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The inertia (mass) coefficient at the specified elevation.

Table: Auto Wave 10 - Wave Wind Loads

Field: WaveWind

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a set of wave wind data.

Field: DirAngle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The direction that the wind is moving measured counterclockwise from the global X axis.

Field: MeanSpeed

Field is Imported: Yes
Format: Velocity-Trans (Time-Related section of form)
Units: Length/sec

The one hour mean wind speed at 32.8 ft (10 m).

Field: AvgTimePer

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The averaging time period, t, for the wind. 0 < t <= 3600 sec.

Field: AirMassDen

Field is Imported: Yes
Format: Mass/Volume (Mass and Weight section of form)
Units: Force-Sec2/Length4

The mass density of air.

Field: TypShapeCo

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The typical wind shape coefficient. This shape coefficient is used for all objects unless it is overwritten.

Table: Auto Wind - ASCE7-88

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto wind load applies.

Field: ExposeFrom

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Diaphragms or Areaobjects. Diaphragms means that the wind exposure is based on the extent of the rigid diaphragms. Areaobjects means that the wind exposure is based on user-defined wind pressure coefficients assigned to area objects.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

Angle measured counterclockwise from the positive global X-axis to the direction that the wind is blowing. This item only applies if the ExposeFrom item is Diaphragms.

Field: WindwardCp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The windward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: LeewardCp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The leeward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto wind loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto wind loads are applied.

Field: WindSpeed

Field is Imported: Yes
Format: Controlled by program
Units: mph

The basic windspeed in mph.

Field: Exposure

Field is Imported: Yes
Format: Controlled by program
Units: Text

The ASCE7-88 wind exposure type.

Field: I

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The ASCE7-88 wind importance factor.

Field: GustFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The ASCE7-88 gust factor, G.

Field: ExpWidth

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either User or From Diaphs indicating how the program determines the exposure width for the wind. From Diaphs means that the program calculates the exposure width based on the extent of the diaphragm in a direction perpendicular to the wind load.

Table: Auto Wind - ASCE7-95

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto wind load applies.

Field: ExposeFrom

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Diaphragms or Areaobjects. Diaphragms means that the wind exposure is based on the extent of the rigid diaphragms. Areaobjects means that the wind exposure is based on user-defined wind pressure coefficients assigned to area objects.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

Angle measured counterclockwise from the positive global X-axis to the direction that the wind is blowing. This item only applies if the ExposeFrom item is Diaphragms.

Field: WindwardCp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The windward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: LeewardCp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The leeward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto wind loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto wind loads are applied.

Field: WindSpeed

Field is Imported: Yes
Format: Controlled by program
Units: mph

The basic windspeed in mph.

Field: Exposure

Field is Imported: Yes
Format: Controlled by program
Units: Text

The ASCE7-95 wind exposure type.

Field: I

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The ASCE7-95 wind importance factor.

Field: Kzt

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The ASCE7-95 topographic factor.

Field: GustFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The ASCE7-95 gust factor, G.

Field: ExpWidth

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either User or From Diaphs indicating how the program determines the exposure width for the wind. From Diaphs means that the program calculates the exposure width based on the extent of the diaphragm in a direction perpendicular to the wind load.

Table: Auto Wind - ASCE7-02

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto wind load applies.

Field: ExposeFrom

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Diaphragms, Areas or Frames or Areas And Frames. Diaphragms means that the wind exposure is based on the extent of the rigid diaphragms. Areas means that the wind exposure is based on user-defined wind pressure coefficients assigned to area objects. Frames means that the wind load is applied to frame objects assuming that the structure is an open structure.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

Angle measured counterclockwise from the positive global X-axis to the direction that the wind is blowing. This item only applies if the ExposeFrom item is Diaphragms.

Field: WindwardCp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The windward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: LeewardCp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The leeward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: ASCECase

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either 1, 2, 3, 4 or All indicating the ASCE case considered as shown in ASCE 7-02 Figure 6-9.

Field: E1

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The ex value (eccentricity) specified in ASCE 7-02 Figure 6-9.

Field: E2

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The ey value (eccentricity) specified in ASCE 7-02 Figure 6-9.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto wind loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto wind loads are applied.

Field: WindSpeed

Field is Imported: Yes
Format: Controlled by program
Units: mph

The basic windspeed in mph.

Field: Exposure

Field is Imported: Yes
Format: Controlled by program
Units: Text

The ASCE7-02 wind exposure type.

Field: I

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The ASCE7-02 wind importance factor.

Field: Kzt

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The ASCE7-02 topographic factor.

Field: GustFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The ASCE7-02 gust factor, G.

Field: Kd

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The ASCE7-02 wind directionality factor.

Field: SolidRatio

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The ratio of solid area to gross area.

Field: ExpWidth

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either User or From Diaphs indicating how the program determines the exposure width for the wind. From Diaphs means that the program calculates the exposure width based on the extent of the diaphragm in a direction perpendicular to the wind load.

Table: Auto Wind - BOCA96

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto wind load applies.

Field: ExposeFrom

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Diaphragms or Areaobjects. Diaphragms means that the wind exposure is based on the extent of the rigid diaphragms. Areaobjects means that the wind exposure is based on user-defined wind pressure coefficients assigned to area objects.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

Angle measured counterclockwise from the positive global X-axis to the direction that the wind is blowing. This item only applies if the ExposeFrom item is Diaphragms.

Field: WindwardCp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The windward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: LeewardCp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The leeward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto wind loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto wind loads are applied.

Field: WindSpeed

Field is Imported: Yes
Format: Controlled by program
Units: mph

The basic windspeed in mph.

Field: Exposure

Field is Imported: Yes
Format: Controlled by program
Units: Text

The BOCA96 wind exposure type.

Field: I

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The BOCA96 wind importance factor.

Field: GhType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either User Defined or Per Code indicating how the gust response factor is defined.

Field: Gh

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The BOCA96 gust response factor.

Field: ExpWidth

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either User or From Diaphs indicating how the program determines the exposure width for the wind. From Diaphs means that the program calculates the exposure width based on the extent of the diaphragm in a direction perpendicular to the wind load.

Table: Auto Wind - BS6399-95

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto wind load applies.

Field: ExposeFrom

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Diaphragms or Areaobjects. Diaphragms means that the wind exposure is based on the extent of the rigid diaphragms. Areaobjects means that the wind exposure is based on user-defined wind pressure coefficients assigned to area objects.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

Angle measured counterclockwise from the positive global X-axis to the direction that the wind is blowing. This item only applies if the ExposeFrom item is Diaphragms.

Field: WindwardCp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The windward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: LeewardCp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The leeward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto wind loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto wind loads are applied.

Field: Ve

Field is Imported: Yes
Format: Controlled by program
Units: meter/sec

The effective wind speed in meters per second.

Field: Ca

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The BS6399-95 size effect factor.

Field: Cr

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The BS6399-95 dynamic augmetation factor.

Field: ExpWidth

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either User or From Diaphs indicating how the program determines the exposure width for the wind. From Diaphs means that the program calculates the exposure width based on the extent of the diaphragm in a direction perpendicular to the wind load.

Table: Auto Wind - Chinese 2002

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto wind load applies.

Field: ExposeFrom

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Diaphragms or Areaobjects. Diaphragms means that the wind exposure is based on the extent of the rigid diaphragms. Areaobjects means that the wind exposure is based on user-defined wind pressure coefficients assigned to area objects.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

Angle measured counterclockwise from the positive global X-axis to the direction that the wind is blowing. This item only applies if the ExposeFrom item is Diaphragms.

Field: BldgWidth

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

.

Field: ShapeCoeff

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto wind loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto wind loads are applied.

Field: WindSpeed

Field is Imported: Yes
Format: Controlled by program
Units: kpa

The basic windspeed in mph.

Field: GrndRough

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either A, B, C or D indicating the ground roughness type.

Field: PhiZSource

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either 'Modal Analysis' or 'Z/H Ratio' indicating how PhiZ is determined.

Field: T1Source

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either 'Modal Analysis' or 'User' indicating how T1 is determined.

Field: UserT1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The user specified T1 value. This item only applies when the T1Source item is User.

Field: DampRatio

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The damping ratio.

Field: ExpWidth

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either User or From Diaphs indicating how the program determines the exposure width for the wind. From Diaphs means that the program calculates the exposure width based on the extent of the diaphragm in a direction perpendicular to the wind load.

Table: Auto Wind - Mexican

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto wind load applies.

Field: ExposeFrom

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Diaphragms or Areaobjects. Diaphragms means that the wind exposure is based on the extent of the rigid diaphragms. Areaobjects means that the wind exposure is based on user-defined wind pressure coefficients assigned to area objects.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

Angle measured counterclockwise from the positive global X-axis to the direction that the wind is blowing. This item only applies if the ExposeFrom item is Diaphragms.

Field: WindwardCp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The windward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: LeewardCp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The leeward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto wind loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto wind loads are applied.

Field: WindVel

Field is Imported: Yes
Format: Controlled by program
Units: meter/sec

The wind velocity, Vd in meters per second.

Field: ExpWidth

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either User or From Diaphs indicating how the program determines the exposure width for the wind. From Diaphs means that the program calculates the exposure width based on the extent of the diaphragm in a direction perpendicular to the wind load.

Table: Auto Wind - NBCC95

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto wind load applies.

Field: ExposeFrom

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Diaphragms or Areaobjects. Diaphragms means that the wind exposure is based on the extent of the rigid diaphragms. Areaobjects means that the wind exposure is based on user-defined wind pressure coefficients assigned to area objects.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

Angle measured counterclockwise from the positive global X-axis to the direction that the wind is blowing. This item only applies if the ExposeFrom item is Diaphragms.

Field: WindwardCp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The windward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: LeewardCp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The leeward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto wind loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto wind loads are applied.

Field: VelPressure

Field is Imported: Yes
Format: Controlled by program
Units: kpa

The NBCC95 velocity pressure in kPa.

Field: Cg

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The NBCC95 gust effect factor.

Field: ExpWidth

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either User or From Diaphs indicating how the program determines the exposure width for the wind. From Diaphs means that the program calculates the exposure width based on the extent of the diaphragm in a direction perpendicular to the wind load.

Table: Auto Wind - UBC94

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto wind load applies.

Field: ExposeFrom

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Diaphragms or Areaobjects. Diaphragms means that the wind exposure is based on the extent of the rigid diaphragms. Areaobjects means that the wind exposure is based on user-defined wind pressure coefficients assigned to area objects.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

Angle measured counterclockwise from the positive global X-axis to the direction that the wind is blowing. This item only applies if the ExposeFrom item is Diaphragms.

Field: WindwardCq

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The windward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: LeewardCq

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The leeward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto wind loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto wind loads are applied.

Field: WindSpeed

Field is Imported: Yes
Format: Controlled by program
Units: mph

The basic windspeed in mph.

Field: Exposure

Field is Imported: Yes
Format: Controlled by program
Units: Text

The UBC94 wind exposure type.

Field: I

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC94 wind importance factor.

Field: ExpWidth

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either User or From Diaphs indicating how the program determines the exposure width for the wind. From Diaphs means that the program calculates the exposure width based on the extent of the diaphragm in a direction perpendicular to the wind load.

Table: Auto Wind - UBC97

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto wind load applies.

Field: ExposeFrom

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Diaphragms or Areaobjects. Diaphragms means that the wind exposure is based on the extent of the rigid diaphragms. Areaobjects means that the wind exposure is based on user-defined wind pressure coefficients assigned to area objects.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

Angle measured counterclockwise from the positive global X-axis to the direction that the wind is blowing. This item only applies if the ExposeFrom item is Diaphragms.

Field: WindwardCq

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The windward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: LeewardCq

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The leeward wind pressure coefficient. This item only applies if the ExposeFrom item is Diaphragms.

Field: MaxZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the highest level where auto wind loads are applied.

Field: MinZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate at the lowest level where auto wind loads are applied.

Field: WindSpeed

Field is Imported: Yes
Format: Controlled by program
Units: mph

The basic windspeed in mph.

Field: Exposure

Field is Imported: Yes
Format: Controlled by program
Units: Text

The UBC97 wind exposure type.

Field: I

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC97 wind importance factor.

Field: ExpWidth

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either User or From Diaphs indicating how the program determines the exposure width for the wind. From Diaphs means that the program calculates the exposure width based on the extent of the diaphragm in a direction perpendicular to the wind load.

Table: Auto Wind - User

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto wind load applies.

Field: Diaphragm

Field is Imported: Yes
Format: Controlled by program
Units: Text

Rigid diaphragm constraint for which the specified exposure width applies.

Field: DiaphragmZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate of the specified diaphragm.

Field: FX

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The force applied to the diaphragm in the global X direction.

Field: FY

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The force applied to the diaphragm in the global Y direction.

Field: MZ

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

The moment applied to the diaphragm about the global Z axis.

Field: X

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The user-defined global X coordinate of the load application point.

Field: Y

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The user-defined global Y coordinate of the load application point.

Table: Auto Wind Exposure For Horizontal Diaphragms

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto wind load applies.

Field: Diaphragm

Field is Imported: Yes
Format: Controlled by program
Units: Text

Rigid diaphragm constraint for which the specified exposure width applies.

Field: DiaphragmZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate of the specified diaphragm.

Field: X

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global X-coordinate of the point where the wind force is applied.

Field: Y

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Y-coordinate of the point where the wind force is applied.

Field: TribWidth

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The exposure width for the specified diaphragm.

Field: TribHeight

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The tributary height of wind load applied to the specified diaphragm.

Table: Auto Wind Loads To Groups

Field: LoadCase

Field is Imported: No
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: AutoLdType

Field is Imported: No
Format: Controlled by program
Units: Text

This item is either User or the name of the code considered for the specified load case.

Field: Group

Field is Imported: No
Format: Controlled by program
Units: Text

Label of the group to which the auto wind load applies.

Field: GroupAvgZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The average global Z coordinate of all point objects included in the specified group.

Field: FX

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto wind force acting in the global X direction at the specified point.

Field: FY

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto wind force acting in the global Y direction at the specified point.

Field: FZ

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto wind force acting in the global Z direction at the specified point.

Field: MX

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto wind force acting about the global X axis at the specified point.

Field: MY

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto wind force acting about the global Y axis at the specified point.

Field: MZ

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto wind force acting about the global Z axis at the specified point.

Field: X

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global X coordinate of the point at which the auto wind group forces and moments are reported.

Field: Y

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Y coordinate of the point at which the auto wind group forces and moments are reported.

Field: Z

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z coordinate of the point at which the auto wind group forces and moments are reported.

Table: Auto Wind Loads To Horizontal Diaphragms

Field: LoadCase

Field is Imported: No
Format: Controlled by program
Units: Text

Label of the load case to which the specified auto wind load applies.

Field: AutoLdType

Field is Imported: No
Format: Controlled by program
Units: Text

This item is either User or the name of the code considered for the specified load case.

Field: Diaphragm

Field is Imported: No
Format: Controlled by program
Units: Text

Horizontal rigid diaphragm constraint to which the specified wind load applies.

Field: DiaphragmZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate of the specified diaphragm.

Field: FX

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto wind force acting in the global X direction at the specified point.

Field: FY

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto wind force acting in the global Y direction at the specified point.

Field: FZ

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto wind force acting in the global Z direction at the specified point.

Field: MX

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto wind force acting about the global X axis at the specified point.

Field: MY

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto wind force acting about the global Y axis at the specified point.

Field: MZ

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto wind force acting about the global Z axis at the specified point.

Field: X

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global X coordinate of the point at which the auto wind diaphragm forces and moments are reported.

Field: Y

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Y coordinate of the point at which the auto wind diaphragm forces and moments are reported.

Field: Z

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z coordinate of the point at which the auto wind diaphragm forces and moments are reported.

Table: Auto Wind Loads To Joints

Field: LoadCase

Field is Imported: No
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: AutoLdType

Field is Imported: No
Format: Controlled by program
Units: Text

This item is either User or the name of the code considered for the specified load case.

Field: JointElem

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the joint element in the SAP analysis model to which the specified auto wind force is applied.

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the joint object associated with the specified joint element, if any.

Field: FX

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto wind force acting in the global X direction at the specified point.

Field: FY

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto wind force acting in the global Y direction at the specified point.

Field: FZ

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The applied auto wind force acting in the global Z direction at the specified point.

Field: MX

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto wind force acting about the global X axis at the specified point.

Field: MY

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto wind force acting about the global Y axis at the specified point.

Field: MZ

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The applied auto wind force acting about the global Z axis at the specified point.

Field: X

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global X coordinate of the point at which the auto wind joint element forces and moments are reported.

Field: Y

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Y coordinate of the point at which the auto wind joint element forces and moments are reported.

Field: Z

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z coordinate of the point at which the auto wind joint element forces and moments are reported.

Table: Bridge Abutment Definitions

Field: Abutment

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge abutment property.

Field: LocType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Reference, Girder or Equal indicating the horizontal location of the abutment supports.Reference means that a single support is located at the bridge object reference line location. Girder means that abutment supports are provided at each girder location. Equal means that a specified number of abutment supports are provided equally spaced across the width of the bridge deck.

Field: NumSupp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of equally spaced supports. This item only applies when the LocType item is Equal.

Field: Closure

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if a closure (vertical diaphragm) is provided at the abutment. Otherwise it is No.

Field: CloseThick

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the abutment closure. This item only applies when the Closure item is Yes.

Field: AbutType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The item is either Link or User indicating how the abutment properties are specified. Link means that the properties are described by specifying a link property. User means that each degree of freedom is specified to be Fixed, Free or Partially Fixed with a spring stiffness.

Field: LinkProp

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a link property. This item only applies if the AbutType item is Link.

Field: U1Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Free, Fixed or Partial Fixed indicating the support condition for the U1 degree of freedom.

Field: U2Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Free, Fixed or Partial Fixed indicating the support condition for the U2 degree of freedom.

Field: U3Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Free, Fixed or Partial Fixed indicating the support condition for the U3 degree of freedom.

Field: R1Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Free, Fixed or Partial Fixed indicating the support condition for the R1 degree of freedom.

Field: R2Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Free, Fixed or Partial Fixed indicating the support condition for the R2 degree of freedom.

Field: R3Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Free, Fixed or Partial Fixed indicating the support condition for the R3 degree of freedom.

Field: U1Stiff

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The stiffness of the partial fixity spring for the U1 degree of freedom.

Field: U2Stiff

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The stiffness of the partial fixity spring for the U2 degree of freedom.

Field: U3Stiff

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The stiffness of the partial fixity spring for the U3 degree of freedom.

Field: R1Stiff

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The stiffness of the partial fixity spring for the R1 degree of freedom.

Field: R2Stiff

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The stiffness of the partial fixity spring for the R2 degree of freedom.

Field: R3Stiff

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The stiffness of the partial fixity spring for the R3 degree of freedom.

Table: Bridge Bent Definitions 1 - General

Field: Bent

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge bent.

Field: BeamLength

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the bent cap beam.

Field: BeamSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The frame section property assigned to the bent cap beam.

Field: RefLoc

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance from the left end of the bent cap beam to the bent reference point. The bent reference point is located at the top of the bent cap beam.When a bridge object is created, the bent reference point aligns with the bridge object reference line.

Field: Closure

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if a closure (vertical diaphragm) is provided at the bent. Otherwise it is No.

Field: CloseThick

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the bent closure. This item only applies when the Closure item is Yes.

Field: NumCols

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of columns in the bridge bent.

Table: Bridge Bent Definitions 2 - Column Data

Field: Bent

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge bent.

Field: ColNum

Field is Imported: No
Format: Controlled by program
Units: Text

The bridge bent column number.

Field: Section

Field is Imported: Yes
Format: Controlled by program
Units: Text

The frame section property assigned to the bent column.

Field: Distance

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance from the left end of the bent cap beam to the center of the considered bent column.

Field: Height

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The height of the considered bent column measured from the base of the column to the top of the bent cap beam.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise in degrees from a line parallel to the bent to the positive local 2 axis of the column.

Field: ColSupport

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Pinned, Fixed or the name of a defined Bridge Column Support property.

Field: R1Release

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Free, Fixed or Partial Fixed indicating the release condition for the R1 degree of freedom at the top of the column.

Field: R2Release

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Free, Fixed or Partial Fixed indicating the release condition for the R2 degree of freedom at the top of the column.

Field: R3Release

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Free, Fixed or Partial Fixed indicating the release condition for the R3 degree of freedom at the top of the column.

Field: R1Stiff

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The stiffness of the partial fixity spring for the R1 degree of freedom.

Field: R2Stiff

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The stiffness of the partial fixity spring for the R2 degree of freedom.

Field: R3Stiff

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The stiffness of the partial fixity spring for the R3 degree of freedom.

Table: Bridge Column Support Definitions

Field: Support

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge column support.

Field: SuppType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The item is either Link or User indicating how the column support properties are specified. Link means that the properties are described by specifying a link property. User means that each degree of freedom is specified to be Fixed, Free or Partially Fixed with a spring stiffness.

Field: LinkProp

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a link property. This item only applies if the SuppType item is Link.

Field: U1Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Free, Fixed or Partial Fixed indicating the support condition for the U1 degree of freedom.

Field: U2Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Free, Fixed or Partial Fixed indicating the support condition for the U2 degree of freedom.

Field: U3Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Free, Fixed or Partial Fixed indicating the support condition for the U3 degree of freedom.

Field: R1Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Free, Fixed or Partial Fixed indicating the support condition for the R1 degree of freedom.

Field: R2Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Free, Fixed or Partial Fixed indicating the support condition for the R2 degree of freedom.

Field: R3Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Free, Fixed or Partial Fixed indicating the support condition for the R3 degree of freedom.

Field: U1Stiff

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The stiffness of the partial fixity spring for the U1 degree of freedom.

Field: U2Stiff

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The stiffness of the partial fixity spring for the U2 degree of freedom.

Field: U3Stiff

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The stiffness of the partial fixity spring for the U3 degree of freedom.

Field: R1Stiff

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The stiffness of the partial fixity spring for the R1 degree of freedom.

Field: R2Stiff

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The stiffness of the partial fixity spring for the R2 degree of freedom.

Field: R3Stiff

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The stiffness of the partial fixity spring for the R3 degree of freedom.

Table: Bridge Hinge Definitions

Field: Hinge

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge hinge property.

Field: LocType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Reference, Girder or Equal indicating the horizontal location of the hinge springs.Reference means that a single spring is located at the bridge object reference line location. Girder means that hinge springs are provided at each girder location. Equal means that a specified number of hinge springs are provided equally spaced across the width of the bridge deck.

Field: NumSupp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of equally spaced springs. This item only applies when the LocType item is Equal.

Field: Closure

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if a closure (vertical diaphragm) is provided at the hinge. Otherwise it is No. The specified closure occurs on each side of the hinge.

Field: CloseThick

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the hinge closure on each side of the hinge. This item only applies when the Closure item is Yes.

Field: HingeType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The item is either Link or User indicating how the hinge properties are specified. Link means that the properties are described by specifying a link property. User means that each degree of freedom is specified to be Fixed, Free or Partially Fixed with a spring stiffness.

Field: LinkProp

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a link property. This item only applies if the HingeType item is Link.

Field: U1Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Free, Fixed or Partial Fixed indicating the support condition for the U1 degree of freedom.

Field: U2Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Free, Fixed or Partial Fixed indicating the support condition for the U2 degree of freedom.

Field: U3Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Free, Fixed or Partial Fixed indicating the support condition for the U3 degree of freedom.

Field: R1Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Free, Fixed or Partial Fixed indicating the support condition for the R1 degree of freedom.

Field: R2Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Free, Fixed or Partial Fixed indicating the support condition for the R2 degree of freedom.

Field: R3Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Free, Fixed or Partial Fixed indicating the support condition for the R3 degree of freedom.

Field: U1Stiff

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The stiffness of the partial fixity spring for the U1 degree of freedom.

Field: U2Stiff

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The stiffness of the partial fixity spring for the U2 degree of freedom.

Field: U3Stiff

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The stiffness of the partial fixity spring for the U3 degree of freedom.

Field: R1Stiff

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The stiffness of the partial fixity spring for the R1 degree of freedom.

Field: R2Stiff

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The stiffness of the partial fixity spring for the R2 degree of freedom.

Field: R3Stiff

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The stiffness of the partial fixity spring for the R3 degree of freedom.

Field: ResType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The item is either Link or User indicating how the restrainer properties are specified. Link means that the properties are described by specifying a link property. User means that each degree of freedom is length, area and modulus of elasticity is specified.

Field: ResLinkProp

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a link property. This item only applies if the ResType item is Link.

Field: ResLength

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The length of the restrainer. This item only applies if the ResType item is User.

Field: ResArea

Field is Imported: Yes
Format: Area (Section Dimensions section of form)
Units: Length2

The cross sectional area of the restrainer. This item only applies if the ResType item is User.

Field: ResE

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity of the restrainer. This item only applies if the ResType item is User.

Table: Bridge Layout Line 1 - General

Field: LayoutLine

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge layout line.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The coordinate system in which the X, Y and Z coordinates of the initial point on the bridge layout line are specified.

Field: X

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The X coordinate of the initial point on the bridge layout line in the specified coordinate system.

Field: Y

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Y coordinate of the initial point on the bridge layout line in the specified coordinate system.

Field: Z

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Z coordinate of the initial point on the bridge layout line in the specified coordinate system.

Field: GlobalX

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The X coordinate of the initial point on the bridge layout line in the global coordinate system.

Field: GlobalY

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Y coordinate of the initial point on the bridge layout line in the global coordinate system.

Field: GlobalZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Z coordinate of the initial point on the bridge layout line in the global coordinate system.

Table: Bridge Layout Line 2 - Horizontal Layout Data

Field: LayoutLine

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge layout line.

Field: SegType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The horizontal layout segment type. This is one of the following:Initial Station and Bearing,Straight at Previous Bearing to End,Straight at Previous Bearing To Station,Straight at New Bearing To Station,Curve Right to New Bearing at Station,Curve Left to New Bearing at Station.

Field: Station

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

A station along the layout line.

Field: Radius

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The radius of a curve in the layout line. This item is only applicable if the SegType item is Curve Right to New Bearing at Station or Curve Left to New Bearing at Station.Note that these curves may be circular curves with spiral transitions. The radius specified is the radius of the circular portion of the curve.

Field: Bearing

Field is Imported: Yes
Format: Controlled by program
Units: Text

The bearing angle of the layout line at the specified station.This item is only applicable if the SegType item is Initial Station and Bearing, Straight at New Bearing To Station, Curve Right to New Bearing at Station or Curve Left to New Bearing at Station.In a valid bearing the first character is either N or S and the last character is either E or W. N, S, E and W signify North, South, East and West respectively.The second through second-to-last characters specify an angle between 0 and 90 degrees, inclusive. The angle is specified as an integer number of degrees followed by an integer number of minutes followed by a real number of seconds.The minutes and the seconds must each be less than 60. The degrees can not exceed 90, and, if either the minutes or seconds is nonzero then the degrees can not exceed 89.Example of valid bearings are N624329E, N62*43'29"E, N62E, S070403W, S07*04'03"W, S7*4'3"W, S7W, S074W, S07043W, N243627.25W, and N24*36'27.25"W.

Field: CoordSys

Field is Imported: No
Format: Controlled by program
Units: Text

The coordinate system in which the X, and Y coordinates of the specified station on the bridge layout line are reported.

Field: X

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The X coordinate of the specified station on the bridge layout line in the specified coordinate system.

Field: Y

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Y coordinate of the specified station on the bridge layout line in the specified coordinate system.

Field: GlobalX

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The X coordinate of the specified station on the bridge layout line in the global coordinate system.

Field: GlobalY

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Y coordinate of the specified station on the bridge layout line in the global coordinate system.

Table: Bridge Layout Line 3 - Vertical Layout Data

Field: LayoutLine

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge layout line.

Field: SegType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The vertical layout segment type. This is one of the following:Initial Station, Elevation Z and Grade,Constant at Previous Grade to End,Constant At Previous Grade to Station,Constant At New Grade to Station,Constant Grade to New Elevation at Station,Parabolic to New Grade at Station.

Field: Station

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

A station along the layout line.

Field: Grade

Field is Imported: Yes
Format: Controlled by program
Units: Percent

The grade (in percent) at the specified station along the layout line.This item is not applicable for import when the SegType item is Constant Grade to New Elevation at Station.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The coordinate system in which the Z coordinate of the specified station on the bridge layout line is reported.

Field: Z

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Z coordinate of the specified station on the bridge layout line in the specified coordinate system.This item is only applicable for import when the SegType item is Constant Grade to New Elevation at Station.

Field: GlobalZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Z coordinate of the specified station on the bridge layout line in the global coordinate system.

Table: Bridge Layout Line 4 - Layout Line Points

Field: LayoutLine

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a bridge layout line.

Field: Point

Field is Imported: No
Format: Controlled by program
Units: Unitless

A point along the bridge layout line. These points are calculated by the program from the bridge layout line definition data.

Field: CoordSys

Field is Imported: No
Format: Controlled by program
Units: Text

The coordinate system in which the X, Y and Z coordinates of the specified point along the bridge layout line are reported.

Field: X

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The X coordinate of the specified point along the bridge layout line in the specified coordinate system.

Field: Y

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Y coordinate of the specified point along the bridge layout line in the specified coordinate system.

Field: Z

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Z coordinate of the specified point along the bridge layout line in the specified coordinate system.

Field: GlobalX

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The X coordinate of the specified point along the bridge layout line in the global coordinate system.

Field: GlobalY

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Y coordinate of the specified point along the bridge layout line in the global coordinate system.

Field: GlobalZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Z coordinate of the specified point along the bridge layout line in the global coordinate system.

Table: Bridge Object Definitions 01 - General

Field: BridgeObj

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge object.

Field: NumSpans

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of spans defined in the bridge object.

Field: NumBents

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of bents defined in the bridge object.

Field: NumHinges

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of hinges defined in the bridge object.

Field: NumTendons

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of prestress tendons defined in the bridge object.

Field: SuperElev

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if super elevation is defined in the bridge object. Otherwise it is No.

Table: Bridge Object Definitions 02 - Reference Line

Field: BridgeObj

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge object.

Field: SpanName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a span in the specified bridge object.

Field: SpanType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is one of the following span types: 'Start Abutment', 'Span to Bent', 'Span to Station', or 'Span to Abutment'.The first item for a bridge object must have a 'Start Abutment' SpanType and the last item must have a 'Span to Abutment' SpanType.

Field: LayoutLine

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge layout line.

Field: Station

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

A station on the specified layout line.

Field: HorizOff

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The horizontal offset from the specified station on the bridge layout line to the reference point on the bridge section associated with the specified span.

Field: VertOff

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The vertical offset from the specified station on the bridge layout line to the reference point on the bridge section associated with the specified span.

Table: Bridge Object Definitions 03 - Spans 1 - General

Field: BridgeObj

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge object.

Field: SpanName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a span in the specified bridge object.

Field: BridgeSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the bridge section assigned to the specified span.

Field: Variation

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if a variation is assigned to the span. Otherwise it is No.

Table: Bridge Object Definitions 04 - Spans 2 - Parametric Variations

Field: BridgeObj

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge object.

Field: SpanName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a span in the specified bridge object.

Field: SameAs

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is Yes if the variation is the same as that assigned to the span. Otherwise it is No.

Field: Parameter

Field is Imported: Yes
Format: Controlled by program
Units: Text

The parameter to which the variation applies. The parameter items are consistent with the field names in the Bridge Section tables.

Field: Variation

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge parametric variation.

Table: Bridge Object Definitions 05 - Spans 3 - User Variations

Field: BridgeObj

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge object.

Field: SpanName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a span in the specified bridge object.

Field: SameAs

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is Yes if the variation is the same as that assigned to the span. Otherwise it is No.

Field: PolyType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Structural or Opening indicating the type of polygon to which the variation applies.

Field: PolyNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of the polygon to which the variation applies.Structural and Opening polygons are numbered separately. Both are numbered consecutively starting from 1.

Field: Point

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The point number of the point to which the variation applies in the considered polygon.Points are numbered consecutively starting from 1.

Field: XorY

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either X or Y indicating which the point coordinate direction to which the variation applies.

Field: Variation

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge parametric variation.

Table: Bridge Object Definitions 06 - Abutments

Field: BridgeObj

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge object.

Field: SpanName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a span in the specified bridge object.

Field: AbutProp

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of an bridge abutment property.

Field: AbutBrg

Field is Imported: Yes
Format: Controlled by program
Units: Text

The bearing of the abutment, that is the bearing of a line parallel to the abutment.In a valid bearing the first character is either N or S and the last character is either E or W. N, S, E and W signify North, South, East and West respectively.The second through second-to-last characters specify an angle between 0 and 90 degrees, inclusive. The angle is specified as an integer number of degrees followed by an integer number of minutes followed by a real number of seconds.The minutes and the seconds must each be less than 60. The degrees can not exceed 90, and, if either the minutes or seconds is nonzero then the degrees can not exceed 89.Example of valid bearings are N624329E, N62*43'29"E, N62E, S070403W, S07*04'03"W, S7*4'3"W, S7W, S074W, S07043W, N243627.25W, and N24*36'27.25"W.

Table: Bridge Object Definitions 07 - Bents

Field: BridgeObj

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge object.

Field: SpanName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a span in the specified bridge object.

Field: BentProp

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge bent property.

Field: BentBrg

Field is Imported: Yes
Format: Controlled by program
Units: Text

The bearing of the bent, that is the bearing of a line parallel to the bent.In a valid bearing the first character is either N or S and the last character is either E or W. N, S, E and W signify North, South, East and West respectively.The second through second-to-last characters specify an angle between 0 and 90 degrees, inclusive. The angle is specified as an integer number of degrees followed by an integer number of minutes followed by a real number of seconds.The minutes and the seconds must each be less than 60. The degrees can not exceed 90, and, if either the minutes or seconds is nonzero then the degrees can not exceed 89.Example of valid bearings are N624329E, N62*43'29"E, N62E, S070403W, S07*04'03"W, S7*4'3"W, S7W, S074W, S07043W, N243627.25W, and N24*36'27.25"W.

Field: HorizOff

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The horizontal offset from the bridge object reference line to the bent reference point.

Field: VertOff

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The vertical offset from the bridge object reference line to the bent reference point.

Table: Bridge Object Definitions 08 - Hinges

Field: BridgeObj

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge object.

Field: SpanName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a span in the specified bridge object.

Field: HingeProp

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge hinge property.

Field: HingeDist

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance from the start of the specified span to the hinge location.

Field: HingeBrg

Field is Imported: Yes
Format: Controlled by program
Units: Text

The bearing of the hinge, that is the bearing of a line parallel to the hinge.In a valid bearing the first character is either N or S and the last character is either E or W. N, S, E and W signify North, South, East and West respectively.The second through second-to-last characters specify an angle between 0 and 90 degrees, inclusive. The angle is specified as an integer number of degrees followed by an integer number of minutes followed by a real number of seconds.The minutes and the seconds must each be less than 60. The degrees can not exceed 90, and, if either the minutes or seconds is nonzero then the degrees can not exceed 89.Example of valid bearings are N624329E, N62*43'29"E, N62E, S070403W, S07*04'03"W, S7*4'3"W, S7W, S074W, S07043W, N243627.25W, and N24*36'27.25"W.

Table: Bridge Object Definitions 09 - Super Elevation 1 - General

Field: BridgeObj

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge object.

Field: LayoutLine

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge layout line.

Field: IsConstant

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the superelevation of the bridge object along the specified bridge layout line is constant. Otherwise it is No.

Field: SuperElev

Field is Imported: Yes
Format: Controlled by program
Units: Percent

The constant superelevation for the bridge object along the specified bridge layout line. This item only applies when the IsConstant item is Yes.

Table: Bridge Object Definitions 10 - Super Elevation 2 - User

Field: BridgeObj

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge object.

Field: LayoutLine

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge layout line.

Field: Station

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

A station along the specified bridge layout line.

Field: SuperElev

Field is Imported: Yes
Format: Controlled by program
Units: Percent

The superelevation for the bridge object at the specified station along the specified bridge layout line.

Table: Bridge Object Definitions 11 - Prestress 1 - General

Field: BridgeObj

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge object.

Field: Tendon

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the tendon.

Field: LoadName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the load case to which the prestress loads for this tendon are applied.

Field: StartSpan

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the span where the tendon starts.

Field: StartType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Start of Span or User Definition indicating the start location of the tendon in the start span. If this item is User Definition then the start location is specified by the StartDist item.

Field: StartDist

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance from the start of the specified span to the start of the tendon. This item only applies when the StartType item is User Definition.

Field: EndSpan

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the span where the tendon ends.

Field: EndType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either End of Span or User Definition indicating the end location of the tendon in the end span. If this item is User Definition then the end location is specified by the EndDist item.

Field: EndDist

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance from the start of the specified span to the end of the tendon. This item only applies when the EndType item is User Definition.

Field: PreType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Prestress or Post Tension indicating the prestress type.

Field: JackFrom

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Start or End indicating where the jacking occurs.

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the steel-type material property associated with the tendon.

Field: TendonArea

Field is Imported: Yes
Format: Area (Section Dimensions section of form)
Units: Length2

The cross-sectional area of the tendon.

Field: LoadType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Force or Stress indicating the type of tendon load specified.

Field: Force

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The tendon force. This item only applies when the LoadType item is Force.

Field: Stress

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The tendon stress. This item only applies when the LoadType item is Stress.

Field: MaxDiscLen

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The maximum discretization length for the prestress tendon.

Field: ModelAs

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Loads or Elements indicating how the prestress tendon is modeled in the analysis model.

Field: Curvature

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The curvature coefficient used in calculating friction losses.

Field: Wobble

Field is Imported: Yes
Format: 1/Length (Miscellaneous section of form)
Units: 1/Length

The wobble coefficient used in calculating the wobble (length) effect portion of the friction losses.

Field: LossAnchor

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

.

Field: LossEShort

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The stress loss because of elastic shortening.This parameter is only included in the analysis when the tendon is modeled using loads.

Field: LossCreep

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The stress loss because of concrete creep.This parameter is only included in the analysis when the tendon is modeled using loads.

Field: LossShrink

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The stress loss because of concrete shrinkage.This parameter is only included in the analysis when the tendon is modeled using loads.

Field: LossSRelax

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The stress loss because of prestressing steel relaxation.This parameter is only included in the analysis when the tendon is modeled using loads.

Table: Bridge Object Definitions 12 - Prestress 2 - Vertical Layout

Field: BridgeObj

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge object.

Field: Tendon

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the tendon.

Field: SegType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The segment type for the specified segment of the tendon. This is one of the following:Start of TendonLinear to End of TendonLinearParabola Intermediate

PointParabola End PointParabola End Point and Initial SlopeParabola End Point and Final Slope.

Field: TendonDist

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance from the start of the tendon to the end of the specified tendon segment.

Field: VertOff

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The vertical offset of the tendon from the bridge section reference point at the specified tendon distance.

Field: Slope

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The slope of the tendon at either the beginning (initial) of the tendon segment or the end (final) of the tendon segment, as specified by the SegType item.this item only applies when the SegType item is either Parabola End Point and Initial Slope or Parabola End Point and Final Slope.

Table: Bridge Object Definitions 13 - Prestress 3 - Horizontal Layout

Field: BridgeObj

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge object.

Field: Tendon

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the tendon.

Field: SegType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The segment type for the specified segment of the tendon. This is one of the following:Start of TendonLinear to End of TendonLinearParabola Intermediate PointParabola End PointParabola End Point and Initial SlopeParabola End Point and Final Slope.

Field: TendonDist

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance from the start of the tendon to the end of the specified tendon segment.

Field: HorizOff

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The horizontal offset of the tendon from the bridge section reference point at the specified tendon distance.

Field: Slope

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The slope of the tendon at either the beginning (initial) of the tendon segment or the end (final) of the tendon segment, as specified by the SegType item.this item only applies when the SegType item is either Parabola End Point and Initial Slope or Parabola End Point and Final Slope.

Table: Bridge Object Definitions 14 - Diaphragms

Field: BridgeObj

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge object.

Field: SpanName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a span in the specified bridge object.

Field: DiaphDist

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance from the start of the specified span to the diaphragm location.

Field: DiaphBrg

Field is Imported: Yes
Format: Controlled by program
Units: Text

The bearing of the diaphragm, that is the bearing of a line parallel to the diaphragm.In a valid bearing the first character is either N or S and the last character is either E or W. N, S, E and W signify North, South, East and West respectively.The second through second-to-last characters specify an angle between 0 and 90 degrees, inclusive. The angle is specified as an integer number of degrees followed by an integer number of minutes followed by a real number of seconds.The minutes and the seconds must each be less than 60. The degrees can not exceed 90, and, if either the minutes or seconds is nonzero then the degrees can not exceed 89.Example of valid bearings are N624329E, N62*43'29"E, N62E, S070403W, S07*04'03"W, S7*4'3"W, S7W, S074W, S07043W, N243627.25W, and N24*36'27.25"W.

Table: Bridge Object Definitions 15 - Update Data

Field: BridgeObj

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge object.

Field: MaxDiscDeck

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The maximum discretized segment length for objects creating the deck span.

Field: MaxDiscBeam

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The maximum discretized segment length for line objects (frames) creating the bent cap beams.

Field: MaxDiscCol

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The maximum discretized segment length for line objects (frames) creating the bent columns.

Field: ModelType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Frame, Area or Solid indicating the type of object used to create the bridge deck.

Field: MaxElmMesh

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The maximum submesh size for elements of the bridge deck. This item only applies when either Area or Solid objects are used to create the deck span.

Table: Bridge Object Definitions 16 - Section Cut 1 - General

Field: BridgeObj

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge object.

Field: SectCutNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The unique number of a program-generated bridge object section cut.

Field: Distance

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance from the start of the bridge object to the section cut location.

Field: LocType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Before or After indicating the section cut is either just before or just after the specified distance.

Field: IsHinge

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This is Yes if a hinge occurs at the specified distance. Otherwise it is No.

Field: XGlobal

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global X coordinate of the section cut output point.

Field: YGlobal

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global Y coordinate of the section cut output point.

Field: ZGlobal

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global Z coordinate of the section cut output point.

Field: Section

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the frame section property associated with the section cut.

Field: Xcg

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The X coordinate of the section center of gravity in the bridge section local coordinate system.

Field: Ycg

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The Y coordinate of the section center of gravity in the bridge section local coordinate system.

Field: DirCosX1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The direction cosine for the global X axis relative to the bridge section cut local 1 axis.

Field: DirCosX2

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The direction cosine for the global X axis relative to the bridge section cut local 2 axis.

Field: DirCosX3

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The direction cosine for the global X axis relative to the bridge section cut local 3 axis.

Field: DirCosY1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The direction cosine for the global Y axis relative to the bridge section cut local 1 axis.

Field: DirCosY2

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The direction cosine for the global Y axis relative to the bridge section cut local 2 axis.

Field: DirCosY3

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The direction cosine for the global Y axis relative to the bridge section cut local 3 axis.

Field: DirCosZ1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The direction cosine for the global Z axis relative to the bridge section cut local 1 axis.

Field: DirCosZ2

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The direction cosine for the global Z axis relative to the bridge section cut local 2 axis.

Field: DirCosZ3

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The direction cosine for the global Z axis relative to the bridge section cut local 3 axis.

Table: Bridge Object Definitions 17 - Section Cut 2 - Groups

Field: BridgeObj

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge object.

Field: SectCutNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The unique number of a program-generated bridge object section cut.

Field: ObjectType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Point, Line, Area, Solid or Link indcating the type of object specified.

Field: ObjectName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a point, line, area, solid or link object.

Table: Bridge Object Definitions 18 - Section Cut 3 - Stress Points

Field: BridgeObj

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge object.

Field: SectCutNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The unique number of a program-generated bridge object section cut.

Field: PointLoc

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Top Left, Top Center, Top Right, Bottom Left, Bottom Ceneter, or Bottom Right indcating the location of the considered stress point.

Field: X

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The X coordinate of the stress point in the bridge section local coordinate system.

Field: Y

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Y coordinate of the stress point in the bridge section local coordinate system.

Field: ERatio

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The ratio of the modulus of elasticity of the bridge section base material divided by the modulus of elasticity of the bridge section material at the stress point.

Table: Bridge Parametric Variation Definitions

Field: Variation

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a bridge parametric variation.

Field: PointNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The point number specified in the current record.

Field: SegType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is one of the following indicating the segment type and point type: Start of Span, Linear to End of Span, Linear, Parabola Intermediate Point, Parabola End Point, Parabola End Point and Initial Slope, Parabola End Point and Final Slope, Circular Arc Intermediate Point, Circular Arc End Point, Circular Arc End Point and Initial Slope, Circular Arc End Point and Final Slope.

Field: Distance

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the start of a bridge span.

Field: DimChange

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The dimension change at the current distance.

Field: Slope

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The slope at the current distance. This item only applies when the SegType item is one of the following: Parabola End Point and Initial Slope, Parabola End Point and Final Slope, Circular Arc End Point and Initial Slope, Circular Arc End Point and Final Slope.

Table: Bridge Preferences

Field: NorthAngle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle in degrees measured counterclockwise from the positive global X axis to the North direction.

Field: MaxDiscCurv

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

For curves in the layout line the maximum discretization angle in degrees.

Table: Bridge Response

Field: Displs

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the group chosen for displacement output for all moving load analysis cases. If no displacement output is specified then this item is None.

Field: Reactions

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the group chosen for reaction output for all moving load analysis cases. If no reaction output is specified then this item is None.

Field: Springs

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the group chosen for spring force output for all moving load analysis cases. If no spring force output is specified then this item is None.

Field: Frames

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the group chosen for frame force output for all moving load analysis cases. If no frame force output is specified then this item is None.

Field: ShellRes

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the group chosen for shell resultant output for all moving load analysis cases. If no shell resultant output is specified then this item is None.

Field: ShellStr

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the group chosen for shell stress output for all moving load analysis cases. If no shell stress output is specified then this item is None.

Field: PlnAsoStr

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the group chosen for plane and asolid stress output for all moving load analysis cases. If no plane and asolid stress output is specified then this item is None.

Field: SolidStr

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the group chosen for solid stress output for all moving load analysis cases. If no solid stress output is specified then this item is None.

Field: LinkFD

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the group chosen for link force and deformation output for all moving load analysis cases. If no link force and deformation output is specified then this item is None.

Field: DisplsC

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if corresponding values are calculated for displacements. Otherwise it is No.

Field: ReactionsC

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if corresponding values are calculated for reactions. Otherwise it is No.

Field: SpringsC

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if corresponding values are calculated for spring forces. Otherwise it is No.

Field: FramesC

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if corresponding values are calculated for frame forces. Otherwise it is No.

Field: ShellResC

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if corresponding values are calculated for shell resultants. Otherwise it is No.

Field: ShellStrC

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if corresponding values are calculated for shell stresses. Otherwise it is No.

Field: PlnAsoStrC

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if corresponding values are calculated for plane and asolid stresses. Otherwise it is No.

Field: SolidStrC

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if corresponding values are calculated for solid stresses. Otherwise it is No.

Field: LinkFDC

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if corresponding values are calculated for link forces and deformations. Otherwise it is No.

Field: CalcMethod

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Exact or it is a positive integer. A positive integer means that the Quick calculation method is used, and the integer specifies the refinement level.

Field: AllowReduce

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item applies to all vehicles. It is Yes if the load from a vehicle is allowed to reduce the severity of the response. Otherwise it is No.The default and recommended value is No.

Table: Bridge Section Definitions 1 - User Section

Field: Section

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a bridge section.

Field: ShapeType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either 'Reference Point', 'Structural Polygon' or 'Opening Polygon' indicating the shape type.

Field: ShapeID

Field is Imported: Yes
Format: Controlled by program
Units: Text

An identifier that uniquely identifies a polygon from any other polygon of the same shape type. This item only applies when the ShapeType item is either 'Structural Polygon' or 'Opening Polygon'.

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the material property associated with a Structural Polygon shape type.

Field: Point

Field is Imported: No
Format: Controlled by program
Units: Text

The point number in the associated polygon.

Field: X

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The X coordinate (parallel to axis 3) of the specified point measured from the lower left-hand corner of the section.

Field: Y

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Y coordinate (parallel to axis 2) of the specified point measured from the lower left-hand corner of the section.

Table: Bridge Section Definitions 2 - Concrete Box Girder

Field: Section

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a bridge section.

Field: ExtGirdType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is one of the following indicating the box girder exterior girder type: Vertical, Sloped, 45Degrees, Radius and MaxSloped.

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the material property associated with the bridge section.

Field: NumIntGird

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of interior girders in the bridge section.

Field: TotalWidth

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The total width of the top slab of the bridge section.

Field: TotalDepth

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The total depth of the bridge section.

Field: ExtGRadClip

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

This item is the exterior girder radius or clip. It applies when the ExtGirdType item is Sloped, 45Degrees or Radius.For an ExtGirdType of Sloped it is the horizontal distance from the outside face of the exterior girder just below the top slab to the outside face of the exterior girder at the bottom of the section.For an ExtGirdType of 45Degrees it is the dimension of the 45 degree chamfer.For an ExtGirdType of Radius it is the radius of the exterior girder.

Field: TopSlabThk

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the bridge section top slab between the exterior girders (i.e., not including the overhangs).

Field: BotSlabThk

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the bridge section bottom slab.

Field: ExtGirdThk

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the bridge section exterior girders.

Field: IntGirdThk

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the bridge section interior girders.

Field: Fillet

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The dimension of the bridge section fillets.

Field: LOLength

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The length of the top slab overhang on the left side of the section.

Field: LOOuterThk

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the top slab overhang on the left side of the section at the outer edge of the overhang.

Field: LOInnerThk

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the top slab overhang on the left side of the section at the inner edge of the overhang.

Field: ROLength

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The length of the top slab overhang on the right side of the section.

Field: ROOuterThk

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the top slab overhang on the right side of the section at the outer edge of the overhang.

Field: ROInnerThk

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the top slab overhang on the right side of the section at the inner edge of the overhang.

Table: Bridge Section Definitions 3 - Concrete Tee Beam

Field: Section

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a bridge section.

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the material property associated with the bridge section.

Field: NumIntGird

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of interior girders in the bridge section.

Field: TotalWidth

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The total width of the top slab of the bridge section.

Field: TotalDepth

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The total depth of the bridge section.

Field: TopSlabThk

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the bridge section top slab between the exterior girders (i.e., not including the overhangs).

Field: ExtGDpAbvF

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The depth of the bridge section exterior girder above the flare (measured from the bottom of the top slab to the top of the flare).

Field: ExtGDpOfF

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The depth of the bridge section exterior girder flare.

Field: ExtGThAbvF

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the bridge section exterior girder above the flare.

Field: ExtGThBlwF

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the bridge section exterior girder below the flare.

Field: IntGDpAbvF

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The depth of the bridge section interior girder above the flare (measured from the bottom of the top slab to the top of the flare).

Field: IntGDpOfF

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The depth of the bridge section interior girder flare.

Field: IntGThAbvF

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the bridge section interior girder above the flare.

Field: IntGThBlwF

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the bridge section interior girder below the flare.

Field: Fillet

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The dimension of the bridge section fillets.

Field: LOLength

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The length of the top slab overhang on the left side of the section.

Field: LOOuterThk

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the top slab overhang on the left side of the section at the outer edge of the overhang.

Field: LOInnerThk

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the top slab overhang on the left side of the section at the inner edge of the overhang.

Field: ROLength

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The length of the top slab overhang on the right side of the section.

Field: ROOuterThk

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the top slab overhang on the right side of the section at the outer edge of the overhang.

Field: ROInnerThk

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the top slab overhang on the right side of the section at the inner edge of the overhang.

Table: Bridge Section Definitions 4 - Concrete Flat Slab

Field: Section

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a bridge section.

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the material property associated with the bridge section.

Field: TotalWidth

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The total width of the top slab of the bridge section.

Field: TopSlabThk

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the bridge section top slab (not including the overhangs).

Field: LOLength

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The length of the top slab overhang on the left side of the section.

Field: LOOuterThk

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the top slab overhang on the left side of the section at the outer edge of the overhang.

Field: ROLength

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The length of the top slab overhang on the right side of the section.

Field: ROOuterThk

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the top slab overhang on the right side of the section at the outer edge of the overhang.

Table: Bridge Section Definitions 5 - Rolled Steel Girders 1 - General

Field: Section

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a bridge section.

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the material property associated with the slab of the bridge section.

Field: NumIntGird

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of interior girders in the bridge section.

Field: TotalWidth

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The total width of the top slab of the bridge section.

Field: GirdLayout

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either 'Follow Layout Line' or 'Straight' indicating how the girders are laid out. This options allows straight girders on a curved bridge.

Field: GirdSpacing

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either 'Constant' or 'Variable' indicating the type of girder spacing.

Field: DiaphType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Steel Beam, K-Brace or X-Brace indicating the type of vertical cross diaphragm.

Field: DiaphChord

Field is Imported: Yes
Format: Controlled by program
Units: Text

For Steel Beam diaphragms this is the diaphragm frame section. For K-Brace diaphragms this is the frame section for the chord member. For X-brace diaphragms this is the frame section for the bottom chord member.

Field: DiaphDiag

Field is Imported: Yes
Format: Controlled by program
Units: Text

The frame section for the diagonal members in K_Brace and X_Brace diaphragms. This item does not apply to Steel Beam diaphragms.

Field: DiaphChordT

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either None or the frame section for the top chord member in an X_Brace diaphragm. If this item is None the no top chord element exists. This item does not apply to Steel Beam and K-Brace diaphragms.

Field: TopSlabThk

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the bridge section top slab (not including haunches or overhangs).

Field: HaunchThk

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The slab haunch thickness. This is the distance from the bottom ot the top slab to the top of the beam top flange.

Field: ExtGirdSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The frame section property used for exterior girders.

Field: IntGirdSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The frame section property used for interior girders.

Field: LOLengthTot

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The total length of the top slab overhang on the left side of the section.

Field: LOLengthSlp

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The length of the sloping portion of the slab overhang on the left side of the section.

Field: LOOuterThk

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the top slab overhang on the left side of the section at the outer edge of the overhang.

Field: ROLengthTot

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The total length of the top slab overhang on the right side of the section.

Field: ROLengthSlp

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The length of the sloping portion of the slab overhang on the right side of the section.

Field: ROOuterThk

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the top slab overhang on the right side of the section at the outer edge of the overhang.

Table: Bridge Section Definitions 6 - Rolled Steel Girders 2 - Spacing

Field: Section

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a bridge section.

Field: SpaceNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The girder space number starting from the left side of the bridge section.

Field: Spacing

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The girder spacing measured center of web to center of web.

Table: Cable Added Mass Assignments

Field: Cable

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Cable object.

Field: MassPerLen

Field is Imported: Yes
Format: Mass/Length (Mass and Weight section of form)
Units: Force-Sec2/Length2

Added mass per unit length applied to the frame object.

Table: Cable Insertion Point Assignments

Field: Cable

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Cable object.

Field: CardinalPt

Field is Imported: Yes
Format: Controlled by program
Units: Text

The cardinal point for the object. This item defines the relative position of the object section on the line representing the frame/cable object. It may be any one of the following:1 (bottom left),2 (bottom center),3 (bottom right),4 (middle left),5 (middle center),6 (middle right),7 (top left),8 (top center),9 (top right),10 (centroid), and11 (shear center).Note that the numbers 1 through 10 are analagous to those specified for the cardinal point in Intergraph FrameWorks.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The coordinate system in which the joint offsets are defined.

Field: JtOffsetXI

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The rigid frame joint offset in the X (1) direction at the I-end of the frame object. A positive offset is measured from the joint location to the end of the frame object (at the cardinal point) in the positive direction of the specified coordinate system.

Field: JtOffsetYI

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The rigid frame joint offset in the Y (2) direction at the I-end of the frame object. A positive offset is measured from the joint location to the end of the frame object (at the cardinal point) in the positive direction of the specified coordinate system.

Field: JtOffsetZI

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The rigid frame joint offset in the Z (3) direction at the I-end of the frame object. A positive offset is measured from the joint location to the end of the frame object (at the cardinal point) in the positive direction of the specified coordinate system.

Field: JtOffsetXJ

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The rigid frame joint offset in the X (1) direction at the J-end of the frame object. A positive offset is measured from the joint location to the end of the frame object (at the cardinal point) in the positive direction of the specified coordinate system.

Field: JtOffsetYJ

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The rigid frame joint offset in the Y (2) direction at the J-end of the frame object. A positive offset is measured from the joint location to the end of the frame object (at the cardinal point) in the positive direction of the specified coordinate system.

Field: JtOffsetZJ

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The rigid frame joint offset in the Z (3) direction at the J-end of the frame object. A positive offset is measured from the joint location to the end of the frame object (at the cardinal point) in the positive direction of the specified coordinate system.

Field: Transform

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the frame stiffness is transformed for offsets (cardinal point offset or joint offset) from it centroid. Otherwise it is No.

Table: Cable Loads - Distributed

Field: Cable

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Cable object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the coordinate system in which the load is defined. Local means that the load is specified in an object local axis direction.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Force or Moment indicating the type of load assigned.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either 1, 2, 3, X, Y, Z, X Proj, Y Proj, Z Proj, Gravity or Grav Proj indicating the direction of the load. 1, 2 and 3 indicate the local axes directions of the frame object. X, Y and Z indicate the X, Y and Z directions of the specified coordinate system. Gravity is in the negative global Z direction. X Proj, Y Proj or Z Proj are projected forces in the specified coordinate system. Projected forces are scaled by the sine of the angle between the frame object and the direction of load. Projected moments are scaled by the cosine of the angle between the frame object and the direction of load.

Field: DistType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either RelDist or AbsDist. It indicates which of the distance fields (RelDist or AbsDist) will be read on import.

Field: RelDistA

Field is Imported: Yes
Format: Relative Distance (Structure Dimensions section of form)
Units: Unitless

The specified relative distance from the I-end of the frame object to the starting point of the load segment considered. The relative distance is equal to the absolute distance divided by the beam length.

Field: RelDistB

Field is Imported: Yes
Format: Relative Distance (Structure Dimensions section of form)
Units: Unitless

The specified relative distance from the I-end of the frame object to the ending point of the load segment considered. The relative distance is equal to the absolute distance divided by the beam length.

Field: AbsDistA

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The specified absolute distance from the I-end of the frame object to the starting point of the load segment considered.

Field: AbsDistB

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The specified absolute distance from the I-end of the frame object to the ending point of the load segment considered.

Field: FOverLA

Field is Imported: Yes
Format: Force/Length (Forces section of form)
Units: Force/Length

The force intensity at the starting point of the load segment considered.

Field: FOverLB

Field is Imported: Yes
Format: Force/Length (Forces section of form)
Units: Force/Length

The force intensity at the ending point of the load segment considered.

Field: MOverLA

Field is Imported: Yes
Format: Moment/Length (Forces section of form)
Units: Force-Length/Length

The moment intensity at the starting point of the load segment considered.

Field: MOverLB

Field is Imported: Yes
Format: Moment/Length (Forces section of form)
Units: Force-Length/Length

The moment intensity at the ending point of the load segment considered.

Table: Cable Loads - Gravity

Field: Cable

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Cable object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the coordinate system in which the gravity loads are defined.

Field: MultiplierX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The applied gravity load in the X-direction of the specified coordinate system is equal to the self weight of the object times the MultiplierX scale factor.

Field: MultiplierY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The applied gravity load in the Y-direction of the specified coordinate system is equal to the self weight of the object times the MultiplierY scale factor.

Field: MultiplierZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The applied gravity load in the Z-direction of the specified coordinate system is equal to the self weight of the object times the MultiplierZ scale factor.

Table: Cable Loads - Point

Field: Cable

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Cable object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the coordinate system in which the load is defined. Local means that the load is specified in an object local axis direction.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Force or Moment indicating the type of load assigned.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either 1, 2, 3, X, Y, Z or Gravity indicating the direction of the load. 1, 2 and 3 indicate the local axes directions of the frame object. X, Y and Z indicate the X, Y and Z directions of the specified coordinate system. Gravity is in the negative global Z direction.

Field: DistType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either RelDist or AbsDist. It indicates which of the distance fields (RelDist or AbsDist) will be read on import.

Field: RelDist

Field is Imported: Yes
Format: Relative Distance (Structure Dimensions section of form)
Units: Unitless

The specified relative distance from the I-end of the frame object to the load location. The relative distance is equal to the absolute distance divided by the beam length.

Field: AbsDist

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The specified absolute distance from the I-end of the frame object to the load location.

Field: Force

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The point force applied at the specified location along the frame object.

Field: Moment

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

The point moment applied at the specified location along the frame object.

Table: Cable Loads - Strain

Field: Cable

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Cable object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: Component

Field is Imported: Yes
Format: Controlled by program
Units: Text

The line object local component to which the specified strain load is applied. This is either Strain11, Strain12, Strain13, Curvature1, Curvature2 or Curvature3.

Field: Strain

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strain load applied to the specified component of the object.

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified strain or curvature. If no joint pattern is specified then this item is reported as None.

Table: Cable Loads - Temperature

Field: Cable

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Cable object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Temperature, Gradient2, or Gradient3 indicating the type of temperature load applied to the frame object.

Field: Temp

Field is Imported: Yes
Format: Temperature (Forces section of form)
Units: Temp

The temperature assignment to the Frame object.

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

The label of a Joint Pattern of scale factors multiplying the temperature change and temperature gradient values. If no pattern is specified then a unit scale factor is assumed at every joint.

Table: Cable Local Axes Assignments 1 - Typical

Field: Cable

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Cable object.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle that the local 2 and 3 axes are rotated about the positive local 1 axis, from the default orientation or from the orientation determined by the plane reference vector. The rotation for a positive angle appears counterclockwise when the local +1 axis is pointing toward you.

Field: AdvanceAxes

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if an advanced method is used to define the local axes reference vectors for the frame object. Otherwise it is No meaning that the default reference vectors are used.Default means that the local 1-axis for the frame object goes from the I-end to the J-end of the object. The local 2-axis direction is specified by an angle measured from the global +Z axis (or from the global +X axis if the object local 1-axis is parallel to the global +Z axis). The rotation for a positive angle appears counterclockwise when the local +1 axis is pointing toward you.Advanced means that the local axes are defined with respect to user-defined reference vectors. Note that when the advanced system is used, the specified Angle is applied to the local axes orientation defined by the user specified reference vectors.

Table: Cable Local Axes Assignments 2 - Advanced

Field: Cable

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Cable object.

Field: LocalPlane

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item indicates the local plane that is to be determined by the plane reference vector. It is either 12 or 13, indicating the 1-2 or the 1-3 plane, respectively.

Field: PlOption1

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Coord Dir, Two Joints or User Vector indicating the first method used to determine the plane reference vector.

Field: PlCoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The coordinate system used to define the plane reference vector coordinate directions and the plane user vector.

Field: CoordDir1

Field is Imported: Yes
Format: Controlled by program
Units: Text

The primary coordinate direction taken at the object center in the specified coordinate system. It is used to determine the reference vector.It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: CoordDir2

Field is Imported: Yes
Format: Controlled by program
Units: Text

The secondary coordinate direction taken at the object center in the specified coordinate system. It is used to determine the reference vector.It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: PlVecJt1

Field is Imported: Yes
Format: Controlled by program
Units: Text

PlVecJt1 and PlVecJt2 are the labels of two joints that define the plane reference vector. Either of these joints may be specified as None to indicate the center of the specified object. If both PlVecJt1 and PlVecJt2 are specified as None then they are not used to define the plane reference vector.

Field: PlVecJt2

Field is Imported: Yes
Format: Controlled by program
Units: Text

PlVecJt1 and PlVecJt2 are the labels of two joints that define the plane reference vector. Either of these joints may be specified as None to indicate the center of the specified object. If both PlVecJt1 and PlVecJt2 are specified as None then they are not used to define the plane reference vector.

Field: PlVecX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The X direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Y direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Z direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Table: Cable Material Temperatures

Field: Cable

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Cable object.

Field: Temp

Field is Imported: Yes
Format: Temperature (Forces section of form)
Units: Temp

The Frame object material temperature .

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified material temperatures. If no joint pattern is specified then this item is reported as None.

Table: Cable Offset Along Length Assignments

Field: Cable

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Cable object.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Automatic or User indicating how the offsets alongthe length of the frame object are determined. Automatic means that the offset length is determeined automatically from the frame object connectivity. User defined means that the user specified the offsets.

Field: LengthI

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Offset along the length of the frame object at the I-end of the object.

Field: LengthJ

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Offset along the length of the frame object at the J-end of the object.

Field: RigidFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The rigid zone factor. This is the fraction of the end offset length assumed to be rigid for bending and shear deformations.

Table: Cable Output Station Assignments

Field: Cable

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Cable object.

Field: StationType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either MinNumSta or MaxStaSpcg. It indicates which of the output station fields (MinNumSta or MaxStaSpcg) will be read on import.

Field: MinNumSta

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The minimum number of output stations along the frame object. If the MaxStaSpcg item is specified for the frame object then this item is blank.

Field: MaxStaSpcg

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The maximum spacing between output stations along the frame object. If the MinNumSta item is specified for the frame object then this item is blank.

Table: Cable NL Hinge Assignments

Field: Cable

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Cable object.

Field: AssignHinge

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a hinge property assigned to the specified frame object.

Field: GenHinge

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the hinge property generated by the program for the specified frame object based on the assigned hinge property.

Field: DistType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either RelDist or AbsDist. It indicates which of the distance fields (RelDist or AbsDist) will be read on import.

Field: RelDist

Field is Imported: Yes
Format: Relative Distance (Structure Dimensions section of form)
Units: Unitless

The specified relative distance from the I-end of the frame object to the hinge location. The relative distance is equal to the absolute distance divided by the beam length.If you specify a hinge that falls on the end length offsets at the ends of the frame object, then the program automatically relocates the hinge at the inside face of the end offset.

Field: AbsDist

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The specified absolute distance from the I-end of the frame object to the hinge locationIf you specify a hinge that falls on the end length offsets at the ends of the frame object, then the program automatically relocates the hinge at the inside face of the end offset.

Field: ActualDist

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

that the program will use.Typically the ActualDist item is the same as the AbsDist item, however, if you specified that the hinge falls on the end length offset of the frame object, then the ActualDist and AbsDist items will be different.

Table: Cable P-Delta Force Assignments

Field: Cable

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Cable object.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Coordinate system used to define the projection of the P-Delta axial force.

Field: Direction

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Local 1, X Proj, Y Proj or Z Proj indicating the direction of the specified force.

Field: Force

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

P-Delta axial force in the specified direction. If the direction is a projection then this is the projection of the P-Delta axial force upon the indicated axis of the specified coordinate system.

Table: Cable Property Modifiers

Field: Cable

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Cable object.

Field: AMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Multiplier for cross-section (axial) area. This item is multiplied times the similar modifier specified for the section property; it does not replace the modifier specified for the section property.

Field: AS2Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Multiplier for shear area in the 2 direction. This item is multiplied times the similar modifier specified for the section property; it does not replace the modifier specified for the section property.

Field: AS3Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Multiplier for shear area in the 3 direction. This item is multiplied times the similar modifier specified for the section property; it does not replace the modifier specified for the section property.

Field: JMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Multiplier for torsional constant. This item is multiplied times the similar modifier specified for the section property; it does not replace the modifier specified for the section property.

Field: I22Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Multiplier for moment of inertia about the local 2-axis. This item is multiplied times the similar modifier specified for the section property; it does not replace the modifier specified for the section property.

Field: I33Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Multiplier for moment of inertia about the local 3-axis. This item is multiplied times the similar modifier specified for the section property; it does not replace the modifier specified for the section property.

Field: MassMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Multiplier for the element self mass. This item is multiplied times the similar modifier specified for the section property; it does not replace the modifier specified for the section property.

Field: WeightMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Multiplier for the element self weight. This item is multiplied times the similar modifier specified for the section property; it does not replace the modifier specified for the section property.

Table: Cable Reference Temperatures

Field: Cable

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Cable object.

Field: Temp

Field is Imported: Yes
Format: Temperature (Forces section of form)
Units: Temp

The Frame object reference temperature .

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified reference temperatures. If no joint pattern is specified then this item is reported as None.

Table: Cable Release Assignments 1 - General

Field: Cable

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Label of a Cable object.

Field: PI

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the axial degree of freedom is released at the I-end of the frame object.

Field: V2I

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the shear in the local 2-axis direction degree of freedom is released at the I-end of the frame object.

Field: V3I

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the shear in the local 3-axis direction degree of freedom is released at the I-end of the frame object.

Field: TI

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the torsion degree of freedom is released at the I-end of the frame object.

Field: M2I

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the moment about the local 2-axis degree of freedom is released at the I-end of the frame object.

Field: M3I

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the moment about the local 3-axis degree of freedom is released at the I-end of the frame object.

Field: PJ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the axial degree of freedom is released at the J-end of the frame object.

Field: V2J

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the shear in the local 2-axis direction degree of freedom is released at the J-end of the frame object.

Field: V3J

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the shear in the local 3-axis direction degree of freedom is released at the J-end of the frame object.

Field: TJ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the torsion degree of freedom is released at the I-end of the frame object.

Field: M2J

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the moment about the local 2-axis degree of freedom is released at the J-end of the frame object.

Field: M3J

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the moment about the local 3-axis degree of freedom is released at the J-end of the frame object.

Field: PartialFix

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if any of the releases assigned at the specified frame end have partial fixity. Otherwise it is No.

Table: Cable Release Assignments 2 - Partial Fixity

Field: Cable

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Cable object.

Field: PI

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

Partial fixity spring stiffness for axial deformations at the I-end of the frame object.

Field: V2I

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

Partial fixity spring stiffness for shear deformations in the local 2-axis direction at the I-end of the frame object.

Field: V3I

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

Partial fixity spring stiffness for shear deformations in the local 3-axis direction at the I-end of the frame object.

Field: TI

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

Partial fixity spring stiffness for torsional deformations at the I-end of the frame object.

Field: M2I

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

Partial fixity spring stiffness for moment (rotational) deformations about the local 2-axis at the I-end of the frame object.

Field: M3I

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

Partial fixity spring stiffness for moment (rotational) deformations about the local 3-axis at the I-end of the frame object.

Field: PJ

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

Partial fixity spring stiffness for axial deformations at the J-end of the frame object.

Field: V2J

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

Partial fixity spring stiffness for shear deformations in the local 2-axis direction at the J-end of the frame object.

Field: V3J

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

Partial fixity spring stiffness for shear deformations in the local 3-axis direction at the J-end of the frame object.

Field: TJ

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

Partial fixity spring stiffness for torsional deformations at the I-end of the frame object.

Field: M2J

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

Partial fixity spring stiffness for moment (rotational) deformations about the local 2-axis at the J-end of the frame object.

Field: M3J

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

Partial fixity spring stiffness for moment (rotational) deformations about the local 3-axis at the J-end of the frame object.

Table: Cable Section Assignments

Field: Cable

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Cable object.

Field: CableSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a cable section.

Field: MatProp

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Default, or the name of a Material. Default means that the material property for the cable object is taken from the material property designated for the cable section that is assigned to the cable object.

Table: Cable Section Definitions

Field: CableSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the cable section.

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the material property assigned to the cable section.

Field: Specify

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Diameter or Area indicating which cable section property is specified. All other cable section properties are computed from the specified property assuming a circular section shape.

Field: Diameter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The diameter of the cable section.

Field: Area

Field is Imported: Yes
Format: Area (Section Dimensions section of form)
Units: Length2

Cross-sectional area of the cable section.

Field: TorsConst

Field is Imported: No
Format: Length4 (Section Dimensions section of form)
Units: Length4

Torsional constant for the cable section.

Field: I

Field is Imported: No
Format: Length4 (Section Dimensions section of form)
Units: Length4

Moment of inertia for the cable section.

Field: AS

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

Shear area for the cable section.

Field: Color

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either a defined color or an integer representation of the color associated with the section.The possible defined colors are Black, Red, Orange, Yellow, Green, Cyan, Blue, Magenta, White, Dark Red, Dark Yellow, Dark Green, Dark Cyan, Dark Blue, Dark Magenta, Gray1, Gray2, Gray3, Gray4, Gray5, Gray6, Gray7 and Gray8. Gray1 is a light gray and Gray8 is a dark gray.

Field: TotalWt

Field is Imported: No
Format: Weight (Mass and Weight section of form)
Units: Force

Total weight of all objects in the model that are assigned the specified cable section.

Field: TotalMass

Field is Imported: No
Format: Mass (Mass and Weight section of form)
Units: Force-Sec2/Length

Total mass of all objects in the model that are assigned the specified cable section.

Field: AMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Area modifier for the specified cable section.

Field: A2Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear area modifier for shear parallel to the local 2-axis for the specified cable section.

Field: A3Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear area modifier for shear parallel to the local 3-axis for the specified cable section.

Field: JMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Torsional constant modifier for the specified cable section.

Field: I2Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment of inertia modifier for bending about the local 2-axis for the specified cable section.

Field: I3Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment of inertia modifier for bending about the local 3-axis for the specified cable section.

Field: MMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Mass multiplier for the specified cable section.

Field: WMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Weight multiplier for the specified cable section.

Table: Cable Shape Data

Field: Cable

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Cable object.

Field: CableType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is one of the following parameters which is specified to define the cable shape:Minimum Tension At I-End,Minimum Tension At J-End,Tension At I-End,Tension At J-End,Horizontal Tension Component,Maximum Vertical Sag,Low-Point Vertical Sag, orUndeformed Length.

Field: NumSegs

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of straight-line segments used to define the cable.

Field: TensionI

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The tension at the I-end of the cable.

Field: TensionJ

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The tension at the J-end of the cable.

Field: TensionHorz

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The horizontal component of tension in the cable. This force is constant along the cable length.

Field: SagMax

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The maximum vertical sag of the cable.

Field: SagLow

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The low point vertical sag of the cable.

Field: UnDefLength

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The undeformed length of the cable.

Field: AddedWt

Field is Imported: Yes
Format: Force/Length (Forces section of form)
Units: Force/Length

Weight per unit length of the cable that is added to the weight specified in the material property definition for the cable.This weight is only used for determination of the cable shape. It is not actually applied to the structural model. If the added weight is needed in the structural model then it should also be specified as a cable load acting on the model.

Field: ProjLoad

Field is Imported: Yes
Format: Force/Length (Forces section of form)
Units: Force/Length

A projected horizontal load per unit length of the cable.This load is only used for determination of the cable shape. It is not actually applied to the structural model. If the load is needed in the structural model then it should also be specified as a cable load acting on the model.

Field: UseDefGeom

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the initial shape of the cable used in the model is to be based on the deformed (loaded) cable geometry calculated from the specified cable parameters. It is No if the shape of the cable is based on undeformed (unloaded) geometry.In the special case where the specified undeformed length of the cable is shorter than the chord length of the cable and the cable shape is specified to be based on undeformed geometry, the cable shape used by the program is the shape that occurs after the cable has been stretched to the full chord length and before any load is applied.

Table: Cable Tension And Compression Limits

Field: Cable

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Cable object.

Field: TensLimit

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if a tension limit exists for the frame object. Otherwise it is No. For import, the Tension item is only read if this item is Yes.

Field: CompLimit

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if a compression limit exists for the frame object. Otherwise it is No. For import, the Compression item is only read if this item is Yes.

Field: Tension

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The tension limit for the frame object.

Field: Compression

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The compression limit for the frame object.

Table: Cable Vehicle Response Component Overwrites

Field: Cable

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Cable object.

Field: Usage

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either AASHTO HL - Superstructure, AASHTO HL - Reaction, or AASHTO H & HS Superstructure indicating the vehicle type and structural member type to which the overwrite applies.AASHTO HL - Superstructure refers the superstructure negative moments over supports.AASHTO HL - Reaction refers to reactions at interior supports (piers).AASHTO H & HS Superstructure refers to superstructure moments (positive or negative).

Field: Component

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either P, V2, V3, T, M2, M3 or indicating the output component to which the overwrite applies.

Field: Status

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Do Not Use, Use Positive Values, Use Negative Values, or Use All Values indicating the portion of the output for the specified component to which the overwrite applies.

Table: Case - Buckling 1 - General

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Buckling-type analysis case.

Field: NumBuckMode

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of buckling modes requested.

Field: EigenTol

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The eigenvalue convergence toloerance for the buckling analysis case.

Table: Case - Buckling 2 - Load Assignments

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Buckling-type analysis case.

Field: LoadType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Load case or Accel indicating the type of load specified.

Field: LoadName

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either the name of a load case, Accel UX, Accel UY, Accel UZ, Accel RX, Accel RY, or Accel RZ.Accel UX, UY and UZ are uniform translational accelerations acting in the global X, Y and Z directions, respectively. Accel RX, RY and RZ are uniform rotational accelerations acting about the global X, Y and Z directions, respectively. The force applied at each joint is proportional to the mass tributary to that joint.

Field: LoadSF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A unitless scale factor that multiplies the associated load case value.

Field: TransAccSF

Field is Imported: Yes
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

A scale factor (with translational acceleration units) that multiplies the associated translational acceleration value.

Field: RotAccSF

Field is Imported: Yes
Format: Acceleration-Rot (Time-Related section of form)
Units: rad/sec2

A scale factor (with rotational acceleration units) that multiplies the associated rotational acceleration value.

Table: Case - Direct History 1 - General

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Direct History-type analysis case.

Field: OutSteps

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of output time steps.

Field: StepSize

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The output time-step size.

Table: Case - Direct History 2 - Load Assignments

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Direct History-type analysis case.

Field: LoadType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Load case or Accel indicating the type of load specified.

Field: LoadName

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either the name of a load case or it is one of Accel U1, Accel U2, Accel U3, Accel R1, Accel R2, or Accel R3. The Accel items refer to ground acceleration loads in acceleration local coordinates. Note that the acceleration local coordinates are defined by the CoordSys and Angle items.

Field: Function

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a function defining the time variation of the ground acceleration or load case.

Field: LoadSF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Scale factor multiplying the ordinate values of the specified function. This item applies when the load item is a load case.

Field: TransAccSF

Field is Imported: Yes
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

Scale factor multiplying the ordinate values of the specified function. This item applies when the load item is a translational acceleration.

Field: RotAccSF

Field is Imported: Yes
Format: Acceleration-Rot (Time-Related section of form)
Units: rad/sec2

Scale factor multiplying the ordinate values of the specified function. This item applies when the load item is a rotational acceleration.

Field: TimeFactor

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

Scale factor multiplying the time (abscissa) values of the specified function.

Field: ArrivalTime

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

Arrival time for the specified function.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Coordinate system used to define the acceleration directions. This item only applies when the LoadType item is Acceleration.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

Coordinate angle between the acceleration local 1 axis and the +X-axis ofthe coordinate system specified by the CoordSys item. The rotation is about the Z-axis of the specified coordinate system. This item only applies when the LoadType item is Acceleration.

Table: Case - Direct History 3 - Proportional Damping

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Direct History-type analysis case.

Field: SpecifyType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Direct, Period or Frequency indicating the method used to specify the mass and stiffness coefficients. Direct means that they are directly specified. Period means that they are specified using two periods and two associated damping ratios. Frequency means that they are specified using two frequencies and two associated damping ratios.

Field: MassCoeff

Field is Imported: Yes
Format: Controlled by program
Units: 1/Sec

The specified mass coefficient.

Field: StiffCoeff

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The specified stiffness coefficient.

Field: Period1

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The first period value used when the SpecifyType item is Period.

Field: Frequency1

Field is Imported: No
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

The first frequency value used when the SpecifyType item is Frequency.

Field: Damping1

Field is Imported: No
Format: Damping Ratios (Damping Items section of form)
Units: Unitless

The first damping ratio value used when the SpecifyType item is either Period or Frequency.

Field: Period2

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The second period value used when the SpecifyType item is Period.

Field: Frequency2

Field is Imported: No
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

The second frequency value used when the SpecifyType item is Frequency.

Field: Damping2

Field is Imported: No
Format: Damping Ratios (Damping Items section of form)
Units: Unitless

The second damping ratio value used when the SpecifyType item is either Period or Frequency.

Table: Case - Direct History 4 - Integration Parameters

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Direct History-type analysis case.

Field: IntMethod

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Newmark, Wilson, Collocation, HilberHughesTaylor or ChungHulbert indicating the time integration method used.

Field: Gamma

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The value of the Gamma integration parameter. This item is an input value for the Newmark, Collocation and ChungHulbert integration methods.Gamma is not an input value for the HilberHughesTaylor integration method. In this case it is calculated from Alpha.

Field: Beta

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The value of the Beta integration parameter. This item is an input value for the Newmark, Collocation and ChungHulbert integration methods.Beta is not an input value for the HilberHughesTaylor integration method. In this case it is calculated from Alpha.

Field: Theta

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The value of the Theta integration parameter. This item is an input value for the Wilson and Collocation integration methods.

Field: Alpha

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The value of the Alpha integration parameter. This item is an input value for the HilberHughesTaylor and ChungHulbert integration methods.

Field: AlphaM

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The value of the AlphaM integration parameter. This item is an input value for the ChungHulbert integration method.

Table: Case - Direct History 5 - Nonlinear Parameters

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Direct History-type analysis case.

Field: GeoNonLin

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either None, P-Delta, or Large Displ indicating the type of geometric nonlinearity used for this analysis case, if any.

Field: DTMax

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Maximum allowed substep size.

Field: DTMin

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Minimum allowed substep size.

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Maximum iterations per substep.

Field: ItConvTol

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Iteration convergence tolerance.

Field: EvLumpTol

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Event lumping tolerance.

Field: FrameTC

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if frame object tension or compression only is considered. Otherwise it is No.

Field: FrameHinge

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if frame object hinges are considered. Otherwise it is No.

Field: CableTC

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if cable object tension or compression only is considered. Otherwise it is No.

Field: LinkTC

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if hook and gap object tension and compression only is considered. Otherwise it is No.

Field: LinkOther

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if other link object nonlinearity is considered. Otherwise it is No. This item includes all link nonlinearity not included in the LinkTC item.

Table: Case - Modal 1 - General

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Modal-type analysis case.

Field: ModeType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Eigen or Ritz indicating the type of modes requested.

Field: MaxNumModes

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum number of modes requested.

Field: MinNumModes

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The minimum number of modes requested.

Field: EigenShift

Field is Imported: Yes
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

The eigenvalue shift frequency. This item only applies when the ModeType is Eigen.

Field: EigenCutoff

Field is Imported: Yes
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

The eigenvalue cutoff frequency radius. This item only applies when the ModeType is Eigen.

Field: EigenTol

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The relative convergence tolerance on eigenvalues. This item only applies when the ModeType is Eigen.

Table: Case - Modal 2 - Load Assignments - Eigen

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Modal-type analysis case.

Field: LoadType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is Acceleration indicating the type of load specified.

Field: LoadName

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Accel UX, Accel UY, or Accel UZ.

Field: TargetPar

Field is Imported: Yes
Format: Controlled by program
Units: Percent

The target mass participation ratio.

Field: StatCorrect

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if static correction modes are to be calculated. Otherwise it is No.

Table: Case - Modal 3 - Load Assignments - Ritz

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Modal-type analysis case.

Field: LoadType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Load case, Accel or Link indicating the type of load specified.

Field: LoadName

Field is Imported: Yes
Format: Controlled by program
Units: Text

If the LoadType item is Load, then this is the name of a load case.If the LoadType item is Acceleration, then this is either Accel UX, Accel UY or Accel UZ.If the LoadType item is Link, then this All Links.

Field: MaxCycles

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum number of generation cycles to be performed for the specified ritz starting vector. Inputting 0 means their is no limit on the number of cycles.

Field: TargetPar

Field is Imported: Yes
Format: Controlled by program
Units: Percent

The target dynamic participation ratio.

Table: Case - Modal History 1 - General

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Modal History-type analysis case.

Field: HistoryType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Transient, Periodic or Static indicating the type of modal history. For linear modal histories all three types are applicable. For nonlinear modal histories only the Transient type is applicable.

Field: OutSteps

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of output time steps.

Field: StepSize

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The output time-step size.

Field: DampingType

Field is Imported: No
Format: Controlled by program
Units: Text

This item is either Constant, Inter-Period, Inter-Freq or Pro-Direct, Pro-Period, or Pro-Freq indicating the method used to specify the modal damping.Inter-Period means to interpolate based on damping given at specified periods. Inter-Freq means to interpolate based on damping given at specified frequencies.Pro-Direct means mass and stiffness proportional coefficients are directly specified. Pro-Period means that mass and stiffness proportional coefficients are calculated based on two specified period and damping sets. Pro-Freq means that mass and stiffness proportional coefficients are calculated based on two specified frequency and damping sets.

Field: ConstDamp

Field is Imported: Yes
Format: Damping Ratios (Damping Items section of form)
Units: Unitless

This item only applies if the DampingType item is Constant. It is the constant damping value.

Table: Case - Modal History 2 - Load Assignments

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Modal History-type analysis case.

Field: LoadType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Load case or Accel indicating the type of load specified.

Field: LoadName

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either the name of a load case or it is one of Accel U1, Accel U2, Accel U3, Accel R1, Accel R2, or Accel R3. The Accel items refer to ground acceleration loads in acceleration local coordinates. Note that the acceleration local coordinates are defined by the CoordSys and Angle items.

Field: Function

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a function defining the time variation of the ground acceleration or load case.

Field: LoadSF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Scale factor multiplying the ordinate values of the specified function. This item applies when the load item is a load case.

Field: TransAccSF

Field is Imported: Yes
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

Scale factor multiplying the ordinate values of the specified function. This item applies when the load item is a translational acceleration.

Field: RotAccSF

Field is Imported: Yes
Format: Acceleration-Rot (Time-Related section of form)
Units: rad/sec2

Scale factor multiplying the ordinate values of the specified function. This item applies when the load item is a rotational acceleration.

Field: TimeFactor

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

Scale factor multiplying the time (abscissa) values of the specified function.

Field: ArrivalTime

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

Arrival time for the specified function.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Coordinate system used to define the acceleration directions. This item only applies when the LoadType item is Acceleration.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

Coordinate angle between the acceleration local 1 axis and the +X-axis ofthe coordinate system specified by the CoordSys item. The rotation is about the Z-axis of the specified coordinate system. This item only applies when the LoadType item is Acceleration.

Table: Case - Modal History 3 - Interpolated Damping

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Modal History-type analysis case.

Field: Period

Field is Imported: Yes
Format: Period (Time-Related section of form)
Units: Sec

The period at which the specified damping ratio applies.

Field: Frequency

Field is Imported: Yes
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

The frequency at which the specified damping ratio applies.

Field: Damping

Field is Imported: Yes
Format: Damping Ratios (Damping Items section of form)
Units: Unitless

The damping ratio as a fraction of critical damping (0.05 = 5%).

Table: Case - Modal History 4 - Proportional Damping

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Modal History-type analysis case.

Field: SpecifyType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Direct, Period or Frequency indicating the method used to specify the mass and stiffness coefficients. Direct means that they are directly specified. Period means that they are specified using two periods and two associated damping ratios. Frequency means that they are specified using two frequencies and two associated damping ratios.

Field: MassCoeff

Field is Imported: Yes
Format: Controlled by program
Units: 1/Sec

The specified mass coefficient.

Field: StiffCoeff

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The specified stiffness coefficient.

Field: Period1

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The first period value used when the SpecifyType item is Period.

Field: Frequency1

Field is Imported: No
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

The first frequency value used when the SpecifyType item is Frequency.

Field: Damping1

Field is Imported: No
Format: Damping Ratios (Damping Items section of form)
Units: Unitless

The first damping ratio value used when the SpecifyType item is either Period or Frequency.

Field: Period2

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The second period value used when the SpecifyType item is Period.

Field: Frequency2

Field is Imported: No
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

The second frequency value used when the SpecifyType item is Frequency.

Field: Damping2

Field is Imported: No
Format: Damping Ratios (Damping Items section of form)
Units: Unitless

The second damping ratio value used when the SpecifyType item is either Period or Frequency.

Table: Case - Modal History 5 - Damping Overrides

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Modal History-type analysis case.

Field: Mode

Field is Imported: Yes
Format: Controlled by program
Units: Text

The mode number to which the specified damping applies.

Field: Damping

Field is Imported: Yes
Format: Damping Ratios (Damping Items section of form)
Units: Unitless

Fraction of critical damping for the specified mode (0.05 = 5% critical damping).

Table: Case - Modal History 6 - Nonlinear Parameters

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Modal History-type analysis case.

Field: PeriodStat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Period at which, and below, modes are treated as static.

Field: DTMax

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Maximum allowed substep size.

Field: DTMin

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Minimum allowed substep size.

Field: FConvTol

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Relative force convergence tolerance.

Field: EConvTol

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Relative energy convergence tolerance.

Field: ForceItMax

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Maximum number of force iterations for large substeps.

Field: ForceItMin

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Minimum number of force iterations for large substeps.

Field: ConvFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Convergence factor.

Field: FrameTC

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if frame object tension or compression only is considered. Otherwise it is No.

Field: FrameHinge

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if frame object hinges are considered. Otherwise it is No.

Field: CableTC

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if cable object tension or compression only is considered. Otherwise it is No.

Field: LinkTC

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if hook and gap object tension and compression only is considered. Otherwise it is No.

Field: LinkOther

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if other link object nonlinearity is considered. Otherwise it is No. This item includes all link nonlinearity not included in the LinkTC item.

Table: Case - Moving Load 1 - Lane Assignments

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Moving Load-type analysis case.

Field: AssignNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The lane assignment number.

Field: VehClass

Field is Imported: Yes
Format: Controlled by program
Units: Text

The vehicle class used for this lane assignment.

Field: ScaleFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A scale factor that multiplies the vehicle loads in the associated vehicle class.

Field: MinLoaded

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Minimum number of lanes to be loaded by the specified vehicle class for this lane assignment.

Field: MaxLoaded

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Maximum number of lanes to be loaded by the specified vehicle class for this lane assignment.

Field: NumLanes

Field is Imported: No
Format: Controlled by program
Units: Unitless

Total number of lanes loaded by the specified vehicle class for this lane assignment.

Table: Case - Moving Load 2 - Lanes Loaded

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Moving Load-type analysis case.

Field: AssignNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The lane assignment number.

Field: Lane

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a lane that is loaded by the vehicle class associated with this lane assignment.

Table: Case - Moving Load 3 - MultiLane Factors

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Moving Load-type analysis case.

Field: NumberLanes

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of loaded lanes considered.

Field: ScaleFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The multiple-lane scale factor applied to the Moving Load analysis case if the number of loaded lanes is that specified by the NumberLanes item.

Table: Case - Power Spectral Density 1 - General

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Power Spectral Density-type analysis case.

Field: SolType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Modal or Direct indicating the type of solution.

Field: FirstFreq

Field is Imported: Yes
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

This item is the specified first frequency. The analysis is performed for the specified FirstFreq and LastFreq and if FreqInc is greater than 1 for intermediate frequencies and for any additional frequencies specified that fall between the FirstFreq and the LastFreq.

Field: LastFreq

Field is Imported: Yes
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

This item is the specified last frequency. The analysis is performed for the specified FirstFreq and LastFreq and if FreqInc is greater than 1 for intermediate frequencies and for any additional frequencies specified that fall between the FirstFreq and the LastFreq.

Field: NumFreqInc

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

This item is the specified number of frequency increments. If this item is set to 1 then the analysis is performed for the specified FirstFreq and LastFreq.

Field: DampingType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Constant or Interpolated indicating the type of hysteretic damping specified.

Field: AddFreqs

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if additional frequencies have been specified. Otherwise it is No.

Table: Case - Power Spectral Density 2 - Load Assignments

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Power Spectral Density-type analysis case.

Field: LoadType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Load case or Accel indicating the type of load specified.

Field: LoadName

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either the name of a load case or it is one of Accel U1, Accel U2, Accel U3, Accel R1, Accel R2, or Accel R3. The Accel items refer to ground acceleration loads in acceleration local coordinates. Note that the acceleration local coordinates are defined by the CoordSys and Angle items.

Field: Function

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a function of frequency versus value items.

Field: LoadSF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Scale factor multiplying the ordinate values of the specified function. This item applies when the load item is a load case.

Field: TransAccSF

Field is Imported: Yes
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

Scale factor multiplying the ordinate values of the specified function. This item applies when the load item is a translational acceleration.

Field: RotAccSF

Field is Imported: Yes
Format: Acceleration-Rot (Time-Related section of form)
Units: rad/sec2

Scale factor multiplying the ordinate values of the specified function. This item applies when the load item is a rotational acceleration.

Field: PhaseAngle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Coordinate system used to define the acceleration directions. This item only applies when the LoadType item is Accel.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

Coordinate angle between the acceleration local 1 axis and the +X-axis ofthe coordinate system specified by the CoordSys item. The rotation is about the Z-axis of the specified coordinate system. This item only applies when the LoadType item is Accel.

Table: Case - Power Spectral Density 3 - Added Frequencies General

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Power Spectral Density-type analysis case.

Field: AddMFreq

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if modal frequencies are added. Otherwise it is No.

Field: AddMDev

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if modal frequency deviations are added. Otherwise it is No.

Field: AddSpFreq

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if specified frequencies are added. Otherwise it is No.

Table: Case - Power Spectral Density 4 - Added Frequency Deviations

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Power Spectral Density-type analysis case.

Field: Deviation

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The specified modal deviations. These are specified as a fraction of the frequency value. For example a +2% deviation is entered as 0.02 and a -3% deviation is entered as -0.03. The specified deviation must be greater than -1.0.

Table: Case - Power Spectral Density 5 - Added Specified Frequencies

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Power Spectral Density-type analysis case.

Field: Frequency

Field is Imported: Yes
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

The specified frequencies.

Table: Case - Power Spectral Density 6 - Constant Damping

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Power Spectral Density-type analysis case.

Field: MassCoeff

Field is Imported: Yes
Format: Controlled by program
Units: 1/Sec2

The mass proportional coefficient for constant hysteretic damping.

Field: StiffCoeff

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stiffness proportional coefficient for constant hysteretic damping.

Table: Case - Power Spectral Density 7 - Interpolated Damping

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Power Spectral Density-type analysis case.

Field: FreqUnits

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Hz or RPM indicating the units of the frequency when it is displayed on the form. Hz is the same as cycles per second and RPM is revolutions per minute. Note that the frequency is always displayed in Hz in the tables.

Field: Frequency

Field is Imported: Yes
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

The frequency at which the specified mass and stiffness proportional coefficients apply.

Field: MassCoeff

Field is Imported: Yes
Format: Controlled by program
Units: 1/Sec2

The mass proportional coefficient for interpolated hysteretic damping.

Field: StiffCoeff

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stiffness proportional coefficient for interpolated hysteretic damping.

Table: Case - Response Spectrum 1 - General

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Response Spectrum-type analysis case.

Field: ModalCombo

Field is Imported: Yes
Format: Controlled by program
Units: Text

The modal combination method. This is either CQC, SRSS, ABS, GMC, 10 Percent or Double Sum.

Field: GMCf1

Field is Imported: Yes
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

GMCf1 and GMCf2 are frequencies that define the rigid-response content of the ground motion when the GMC modal combination method is used.

Field: GMCf2

Field is Imported: Yes
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

GMCf1 and GMCf2 are frequencies that define the rigid-response content of the ground motion when the GMC modal combination method is used.

Field: td

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The earthquake duration used in applying the Double Sum modal combination method.

Field: DirCombo

Field is Imported: Yes
Format: Controlled by program
Units: Text

The directional combination method. This is either SRSS or ABS.

Field: ABSSF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The scale factor used for the ABS directional combination method.

Field: DampingType

Field is Imported: No
Format: Controlled by program
Units: Text

This item is either Constant, Inter-Period, Inter-Freq or Pro-Direct, Pro-Period, or Pro-Freq indicating the method used to specify the modal damping.Inter-Period means to interpolate based on damping given at specified periods. Inter-Freq means to interpolate based on damping given at specified frequencies.Pro-Direct means mass and stiffness proportional coefficients are directly specified. Pro-Period means that mass and stiffness proportional coefficients are calculated based on two specified period and damping sets.

Pro-Freq means that mass and stiffness proportional coefficients are calculated based on two specified frequency and damping sets.

Field: ConstDamp

Field is Imported: Yes
Format: Damping Ratios (Damping Items section of form)
Units: Unitless

This item only applies if the DampingType is Constant. It is the constant modal damping (as a fraction of critical damping, 0.05 = 5%) applied to all modes. The damping reported here does not include any additional modal damping that may come from link objects in the structure.

Table: Case - Response Spectrum 2 - Load Assignments

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Response Spectrum-type analysis case.

Field: LoadType

Field is Imported: No
Format: Controlled by program
Units: Text

This is Acceleration indicating the type of load specified.

Field: LoadName

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Accel U1, Accel U2, Accel U3, Accel R1, Accel R2, or Accel R3.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the coordinate system used to define the local acceleration directions.

Field: Function

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a function that defines the response spectrum curve used for the specified acceleration.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The coordinate angle between the response spectrum local 1 axis and the positive X-axis in the coordinate system specified by the CoordSys item. Positive angles are measured counterclockwise from the coordinate system X axis to the response spectrum local 1 axis.
.

Field: TransAccSF

Field is Imported: Yes
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

A scale factor multiplying the translational acceleration values of the associated response spectrum function.

Field: RotAccSF

Field is Imported: Yes
Format: Acceleration-Rot (Time-Related section of form)
Units: rad/sec2

A scale factor multiplying the rotational acceleration values of the associated response spectrum function.

Table: Case - Response Spectrum 3 - Interpolated Damping

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Response Spectrum-type analysis case.

Field: Period

Field is Imported: Yes
Format: Period (Time-Related section of form)
Units: Sec

The period at which the specified damping ratio applies.

Field: Frequency

Field is Imported: Yes
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

The frequency at which the specified damping ratio applies.

Field: Damping

Field is Imported: Yes
Format: Damping Ratios (Damping Items section of form)
Units: Unitless

The damping ratio as a fraction of critical damping (0.05 = 5%).

Table: Case - Response Spectrum 4 - Proportional Damping

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Response Spectrum-type analysis case.

Field: SpecifyType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Direct, Period or Frequency indicating the method used to specify the mass and stiffness coefficients. Direct means that they are directly specified. Period means that they are specified using two periods and two associated damping ratios. Frequency means that they are specified using two frequencies and two associated damping ratios.

Field: MassCoeff

Field is Imported: Yes
Format: Controlled by program
Units: 1/Sec

The specified mass coefficient.

Field: StiffCoeff

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The specified stiffness coefficient.

Field: Period1

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The first period value used when the SpecifyType item is Period.

Field: Frequency1

Field is Imported: No
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

The first frequency value used when the SpecifyType item is Frequency.

Field: Damping1

Field is Imported: No
Format: Damping Ratios (Damping Items section of form)
Units: Unitless

The first damping ratio value used when the SpecifyType item is either Period or Frequency.

Field: Period2

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The second period value used when the SpecifyType item is Period.

Field: Frequency2

Field is Imported: No
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

The second frequency value used when the SpecifyType item is Frequency.

Field: Damping2

Field is Imported: No
Format: Damping Ratios (Damping Items section of form)
Units: Unitless

The second damping ratio value used when the SpecifyType item is either Period or Frequency.

Table: Case - Response Spectrum 5 - Damping Overrides

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Response Spectrum-type analysis case.

Field: Mode

Field is Imported: Yes
Format: Controlled by program
Units: Text

The mode number to which the specified damping applies.

Field: Damping

Field is Imported: Yes
Format: Damping Ratios (Damping Items section of form)
Units: Unitless

Fraction of critical damping for the specified mode (0.05 = 5% critical damping).

Table: Case - Static 1 - Load Assignments

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Static-type analysis case.

Field: LoadType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Load case, Accel, or Mode indicating the type of load specified. The Mode load type only applies to Nonlinear static analysis cases.

Field: LoadName

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either the name of a load case, Accel UX, Accel UY, Accel UZ, or a mode number.Accel UX, UY and UZ are uniform translational accelerations acting in the global X, Y and Z directions, respectively. Accel RX, RY and RZ are uniform rotational accelerations acting about the global X, Y and Z directions, respectively. The force applied at each joint is proportional to the mass tributary to that joint.A mode number, together with an associated Modal analysis case implies a force at each joint in proportion to the product of the modal displacement, the modal circular frequency squared, and the mass tributary to that joint. The force is assumed to act in the direction of the modal displacement.

Field: LoadSF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A unitless scale factor that multiplies the associated load case (or mode) value.

Field: TransAccSF

Field is Imported: Yes
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

A scale factor (with translational acceleration units) that multiplies the associated acceleration value.

Field: RotAccSF

Field is Imported: Yes
Format: Acceleration-Rot (Time-Related section of form)
Units: rad/sec2

A scale factor (with rotational acceleration units) that multiplies the associated rotational acceleration value.

Table: Case - Static 2 - Nonlinear Load Application

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Static-type analysis case.

Field: LoadApp

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Full Load or Displ Ctrl indicating the type of load application.

Field: DisplType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Conjugate or Monitored indicating the control displacement type.

Field: TargetDispl

Field is Imported: Yes
Format: Translational Displ (Displacements section of form)
Units: Length

The target translational displacement for the displacement-controlled nonlinear static case.

Field: TargetRot

Field is Imported: Yes
Format: Rotational Displ (Displacements section of form)
Units: Radians

The target rotational displacement for the displacement-controlled nonlinear static case.

Field: MonitorDOF

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either U1, U2, U3, R1, R2, or R3. It is the degree of freedom of the specified joint for which the displacement is monitored.

Field: MonitorJt

Field is Imported: Yes
Format: Controlled by program
Units: Text

The label of the joint at which the displacement is monitored.

Field: GenDispl

Field is Imported: Yes
Format: Controlled by program
Units: Text

The label of a generalized displacement for which the displacement is monitored.

Table: Case - Static 3 - Nonlinear Stage Information

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Static-type analysis case.

Field: Stage

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stage number considered.

Field: Operation

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Add or Remove indicating whether the specified group is to be added to the structure or removed from the structure.

Field: GroupName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the group that is to be added to or removed from the structure for the specified stage.

Table: Case - Static 4 - Nonlinear Parameters

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Static-type analysis case.

Field: Unloading

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Unload Entire, Local Redist or Restart Secant indicating the unloading method used when a hinge drops load.

Field: GeoNonLin

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either None, P-Delta, or Large Displ indicating the type of geometric nonlinearity used for this analysis case, if any.

Field: ResultsSave

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Final State or Multiple States indicating the how much of the analysis results are saved.This item does not apply for staged construction analysis; see the StageSave item instead. .

Field: MinNumState

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The specified minimum number of saved states. This item only applies if the ResultsSave item is Multiple States.

Field: MaxNumState

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The specified maximum number of saved states. This item only applies if the ResultsSave item is Multiple States.

Field: PosIncOnly

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if positive displacement increments only are saved. Otherwise it is No. This item only applies if the ResultsSave item is Multiple States.

Field: MaxTotal

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Maximum total number of steps per stage.

Field: MaxNull

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Maximum number of null (zero) steps per stage.

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Maximum number of iterations per step.

Field: ItConvTol

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Relative iteration convergence tolerance.

Field: EvLumpTol

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Relative event lumping tolerance.

Field: StageSave

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either End of Final Stage, End of Each Stage, Start and End of Each Stage, or Two or More Times In Each Stage indicating the results that are saved for the staged construction analysis.This item only applies for staged construction analysis.

Field: StageMinIns

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The minimum number of steps used to apply an instantaneous load in a staged construction analysis. This item only applies for staged construction analysis when the StageSave item is Two or More Times In Each Stage.

Field: StageMinTD

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The minimum number of steps used for analysis of time dependent items in a staged construction analysis. This item only applies for staged construction analysis when the StageSave item is Two or More Times In Each Stage.

Field: FrameTC

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if frame object tension or compression only is considered. Otherwise it is No.

Field: FrameHinge

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if frame object hinges are considered. Otherwise it is No.

Field: CableTC

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if cable object tension or compression only is considered. Otherwise it is No.

Field: LinkTC

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if hook and gap object tension and compression only is considered. Otherwise it is No.

Field: LinkOther

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if other link object nonlinearity is considered. Otherwise it is No. This item includes all link nonlinearity not included in the LinkTC item.

Field: TimeDepMat

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if specified time dependent material properties are considered. Otherwise it is No.This item only applies for staged construction analysis.

Field: GeomIsFinal

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the structural geometry specified is the geometry at the end of the final stage and iteration is uded to obtain the initial geometry. Otherwise it is No.This item only applies for staged construction analysis.

Table: Case - Static 5 - Nonlinear Stage Definitions

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a static nonlinear staged construction analysis case.

Field: Stage

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stage number considered.

Field: Duration

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The duration of the stage in days.

Field: Comment

Field is Imported: Yes
Format: Controlled by program
Units: Text

User comments associated with this stage.

Table: Case - Static 6 - Nonlinear Stage Data

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a static nonlinear staged construction analysis case.

Field: Stage

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stage number considered.

Field: Operation

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Add Structure, Remove Structure, Load Added In Group or Load All In Group indicating an operation that is performed in the specified stage.Load Added In Group means that only the objects in the specified group that are added in the specified stage are to be loaded. If no objects in the specified group are added in the specified stage then no load is applied when using the Load Added In Group option.Load All In Group means that all objects in the specified group will be loaded whether or not they were added in the specified stage.

Field: Group

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the group for which the specified operation is performed.

Field: Age

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

This item only applies when the Operation item is Add Structure. It is the age of the added structure, at the time it is added, in days.

Field: LoadType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Load case or Accel indicating the type of load specified.

Field: LoadName

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either the name of a load case, Accel UX, Accel UY, or Accel UZ. Accel UX, UY and UZ imply a uniform acceleration acting in the global X, Y and Z directions, respectively. The force applied at each joint is proportional to the mass tributary to that joint..

Field: LoadSF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A unitless scale factor that multiplies the associated load case value.

Field: TransAccSF

Field is Imported: Yes
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

A scale factor (with translational acceleration units) that multiplies the associated acceleration value.

Table: Case - Multistep Static 1 - Load Assignments

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Multistep Static-type analysis case.

Field: LoadType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Load case, or Accel indicating the type of load specified.

Field: LoadName

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either the name of a load case, Accel UX, Accel UY, Accel UZ, or a mode number.Accel UX, UY and UZ are uniform translational acceleration acting in the global X, Y and Z directions, respectively. Accel RX, RY and RZ are uniform rotational acceleration acting in the global X, Y and Z directions, respectively. The force applied at each joint is proportional to the mass tributary to that joint.

Field: LoadSF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A unitless scale factor that multiplies the associated load case value.

Field: TransAccSF

Field is Imported: Yes
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

A scale factor (with translational acceleration units) that multiplies the associated acceleration value.

Field: RotAccSF

Field is Imported: Yes
Format: Acceleration-Rot (Time-Related section of form)
Units: rad/sec2

.

Table: Case - Steady State 1 - General

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Steady State-type analysis case.

Field: SolType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Modal or Direct indicating the type of solution.

Field: FirstFreq

Field is Imported: Yes
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

This item is the specified first frequency. The analysis is performed for the specified FirstFreq and LastFreq and if FreqInc is greater than 1 for intermediate frequencies and for any additional frequencies specified that fall between the FirstFreq and the LastFreq.

Field: LastFreq

Field is Imported: Yes
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

This item is the specified last frequency. The analysis is performed for the specified FirstFreq and LastFreq and if FreqInc is greater than 1 for intermediate frequencies and for any additional frequencies specified that fall between the FirstFreq and the LastFreq.

Field: NumFreqInc

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

This item is the specified number of frequency increments. If this item is set to 1 then the analysis is performed for the specified FirstFreq and LastFreq.

Field: DampingType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Constant or Interpolated indicating the type of hysteretic damping specified.

Field: AddFreqs

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if additional frequencies have been specified. Otherwise it is No.

Table: Case - Steady State 2 - Load Assignments

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Steady State-type analysis case.

Field: LoadType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Load case or Accel indicating the type of load specified.

Field: LoadName

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either the name of a load case or it is one of Accel U1, Accel U2, Accel U3, Accel R1, Accel R2, or Accel R3. The Accel items refer to ground acceleration loads in acceleration local coordinates. Note that the acceleration local coordinates are defined by the CoordSys and Angle items.

Field: Function

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a function of frequency versus value items.

Field: LoadSF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Scale factor multiplying the ordinate values of the specified function. This item applies when the load item is a load case.

Field: TransAccSF

Field is Imported: Yes
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

Scale factor multiplying the ordinate values of the specified function. This item applies when the load item is a translational acceleration.

Field: RotAccSF

Field is Imported: Yes
Format: Acceleration-Rot (Time-Related section of form)
Units: rad/sec2

Scale factor multiplying the ordinate values of the specified function. This item applies when the load item is a rotational acceleration.

Field: PhaseAngle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Coordinate system used to define the acceleration directions. This item only applies when the LoadType item is Accel.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

Coordinate angle between the acceleration local 1 axis and the +X-axis ofthe coordinate system specified by the CoordSys item. The rotation is about the Z-axis of the specified coordinate system. This item only applies when the LoadType item is Accel.

Table: Case - Steady State 3 - Added Frequencies General

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Steady State-type analysis case.

Field: AddMFreq

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if modal frequencies are added. Otherwise it is No.

Field: AddMDev

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if modal frequency deviations are added. Otherwise it is No.

Field: AddSpFreq

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if specified frequencies are added. Otherwise it is No.

Table: Case - Steady State 4 - Added Frequency Deviations

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Steady State-type analysis case.

Field: Deviation

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The specified modal deviations. These are specified as a fraction of the frequency value. For example a +2% deviation is entered as 0.02 and a -3% deviation is entered as -0.03. The specified deviation must be greater than -1.0.

Table: Case - Steady State 5 - Added Specified Frequencies

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Steady State-type analysis case.

Field: Frequency

Field is Imported: Yes
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

The specified frequencies.

Table: Case - Steady State 6 - Constant Damping

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Steady State-type analysis case.

Field: MassCoeff

Field is Imported: Yes
Format: Controlled by program
Units: 1/Sec2

The mass proportional coefficient for constant hysteretic damping.

Field: StiffCoeff

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stiffness proportional coefficient for constant hysteretic damping.

Table: Case - Steady State 7 - Interpolated Damping

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Steady State-type analysis case.

Field: FreqUnits

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Hz or RPM indicating the units of the frequency when it is displayed on the form. Hz is the same as cycles per second and RPM is revolutions per minute. Note that the frequency is always displayed in Hz in the tables.

Field: Frequency

Field is Imported: Yes
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

The frequency at which the specified mass and stiffness proportional coefficients apply.

Field: MassCoeff

Field is Imported: Yes
Format: Controlled by program
Units: 1/Sec2

The mass proportional coefficient for interpolated hysteretic damping.

Field: StiffCoeff

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stiffness proportional coefficient for interpolated hysteretic damping.

Table: Combination Definitions

Field: ComboName

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the combination.

Field: ComboType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Linear Add, Envelope, Abs Add or SRSS indicating the type of combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Linear Static, NonLin Static, Modal, Response Spectrum, Linear Modal Hist, NonLin Modal Hist, Linear Dynamic, NonLin Dynamic, Moving Load, Buckling, Steady State, or Response Combo indicating the type of the associated analysis case.

Field: CaseName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of an analysis case or combination that is included in the combination.

Field: ScaleFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A scale factor that is applied to the associated analysis case for the specified combination.

Field: SteelDesign

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the combination is selected for Steel design. Otherwise it is No.

Field: ConcDesign

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the combination is selected for Concrete design. Otherwise it is No.

Field: AlumDesign

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the combination is selected for Aluminum design. Otherwise it is No.

Field: ColdDesign

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the combination is selected for Cold Formed Steel design. Otherwise it is No.

Table: Connectivity - Area

Field: Area

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an area object.

Field: Joint1

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint 1 for the Area object.

Field: Joint2

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint 2 for the Area object.

Field: Joint3

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint 3 for the Area object.

Field: Joint4

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint 4 for the Area object.

Field: AreaArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

Area of the area object.

Field: Perimeter

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

Perimeter of the Area object.

Field: Volume

Field is Imported: No
Format: Length3 (Section Dimensions section of form)
Units: Length3

Volume of the area object (area times membrane thickness).

Field: CentroidX

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global X coordinate of the centroid of the Area object.

Field: CentroidY

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global Y coordinate of the centroid of the Area object.

Field: CentroidZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global Z coordinate of the centroid of the Area object.

Table: Connectivity - Cable

Field: Cable

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Cable object.

Field: JointI

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint I for the Cable object.

Field: JointJ

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint J for the Cable object.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

Total length of the cable object.

Table: Connectivity - Frame

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: JointI

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint I for the Frame object.

Field: JointJ

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint J for the Frame object.

Field: IsCurved

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is yes if the frame object is curved. Otherwise it is No.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

Total length of the frame object.

Field: CentroidX

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global X coordinate of the centroid of the Frame object.

Field: CentroidY

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global Y coordinate of the centroid of the Frame object.

Field: CentroidZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global Z coordinate of the centroid of the Frame object.

Table: Connectivity - Link

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Link object.

Field: JointI

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint I for the Link object.

Field: JointJ

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint J for the Link object.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

Total length of the link object.

Field: CentroidX

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global X coordinate of the centroid of the Link object.

Field: CentroidY

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global Y coordinate of the centroid of the Link object.

Field: CentroidZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global Z coordinate of the centroid of the Link object.

Table: Connectivity - Solid

Field: Solid

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Solid object.

Field: Joint1

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint 1 for the Solid object.

Field: Joint2

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint 2 for the Solid object.

Field: Joint3

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint 3 for the Solid object.

Field: Joint4

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint 4 for the Solid object.

Field: Joint5

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint 5 for the Solid object.

Field: Joint6

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint 6 for the Solid object.

Field: Joint7

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint 7 for the Solid object.

Field: Joint8

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint 8 for the Solid object.

Field: Volume

Field is Imported: No
Format: Length3 (Section Dimensions section of form)
Units: Length3

Total volume of the solid object.

Field: CentroidX

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global X coordinate of the centroid of the Solid object.

Field: CentroidY

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global Y coordinate of the centroid of the Solid object.

Field: CentroidZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global Z coordinate of the centroid of the Solid object.

Table: Connectivity - Tendon

Field: Tendon

Field is Imported: Yes
Format: Controlled by program
Units: Text

.

Field: JointI

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint I for the Tendon object.

Field: JointJ

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of joint J for the Tendon object.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

Total length of the tendon object.

Table: Constraint Definitions - Beam

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a Beam constraint.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the coordinate system in which the Beam constraint is defined.

Field: Axis

Field is Imported: Yes
Format: Controlled by program
Units: Text

Axis in the specified coordinate system that is parallel to the axis of the Beam constraint. This may be X, Y, Z or Auto. If Auto then the axis is automatically determined from the joints assigned to the constraint.

Table: Constraint Definitions - Body

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a Body constraint.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the coordinate system in which the Body constraint is defined.

Field: UX

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UX is constrained. Otherwise it is No.

Field: UY

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UY is constrained. Otherwise it is No.

Field: UZ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UZ is constrained. Otherwise it is No.

Field: RX

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RX is constrained. Otherwise it is No.

Field: RY

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RY is constrained. Otherwise it is No.

Field: RZ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RZ is constrained. Otherwise it is No.

Table: Constraint Definitions - Bridge Abutment

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a Bridge Abutment constraint.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the coordinate system in which the Bridge Abutment constraint is defined.

Field: UX

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UX is constrained. Otherwise it is No.

Field: UY

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UY is constrained. Otherwise it is No.

Field: UZ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UZ is constrained. Otherwise it is No.

Field: RX

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RX is constrained. Otherwise it is No.

Field: RY

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RY is constrained. Otherwise it is No.

Field: RZ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RZ is constrained. Otherwise it is No.

Table: Constraint Definitions - Bridge Beam

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a Bridge Beam constraint.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the coordinate system in which the Bridge Beam constraint is defined.

Field: UX

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UX is constrained. Otherwise it is No.

Field: UY

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UY is constrained. Otherwise it is No.

Field: UZ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UZ is constrained. Otherwise it is No.

Field: RX

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RX is constrained. Otherwise it is No.

Field: RY

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RY is constrained. Otherwise it is No.

Field: RZ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RZ is constrained. Otherwise it is No.

Table: Constraint Definitions - Bridge Bent

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a Bridge Bent constraint.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the coordinate system in which the Bridge Bent constraint is defined.

Field: UX

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UX is constrained. Otherwise it is No.

Field: UY

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UY is constrained. Otherwise it is No.

Field: UZ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UZ is constrained. Otherwise it is No.

Field: RX

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RX is constrained. Otherwise it is No.

Field: RY

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RY is constrained. Otherwise it is No.

Field: RZ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RZ is constrained. Otherwise it is No.

Table: Constraint Definitions - Bridge Diaphragm

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a Bridge Diaphragm constraint.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the coordinate system in which the Bridge Diaphragm constraint is defined.

Field: UX

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UX is constrained. Otherwise it is No.

Field: UY

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UY is constrained. Otherwise it is No.

Field: UZ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UZ is constrained. Otherwise it is No.

Field: RX

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RX is constrained. Otherwise it is No.

Field: RY

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RY is constrained. Otherwise it is No.

Field: RZ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RZ is constrained. Otherwise it is No.

Table: Constraint Definitions - Bridge Hinge

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a Bridge Hinge constraint.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the coordinate system in which the Bridge Hinge constraint is defined.

Field: UX

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UX is constrained. Otherwise it is No.

Field: UY

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UY is constrained. Otherwise it is No.

Field: UZ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UZ is constrained. Otherwise it is No.

Field: RX

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RX is constrained. Otherwise it is No.

Field: RY

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RY is constrained. Otherwise it is No.

Field: RZ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RZ is constrained. Otherwise it is No.

Table: Constraint Definitions - Diaphragm

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a Diaphragm constraint.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the coordinate system in which the Diaphragm constraint is defined.

Field: Axis

Field is Imported: Yes
Format: Controlled by program
Units: Text

Axis in the specified coordinate system that is perpendicular to the plane of the Diaphragm constraint. This may be X, Y, Z or Auto. If Auto then the axis is automatically determined from the joints assigned to the constraint.

Field: MultiLevel

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either Yes or No.If this item is Yes, then when the diaphragm constraint is assigned to selected joints using the Assign menu > Joint > Constraints command the program automatically creates new diaphragm constraint assignments at each different Z level among the selected joints. The Z level is determined in the constraint coordinate system.The new diaphragms constraint names have a prefix of the orignal diaphragm name and a suffix of the elevation. The elevation portion of the name is in the databse units for the model, that is the units in which the model was created.Each selected point is assigned the diaphragm constraint for its Z elevation. The net result is a series of diaphragm assignments at different Z elevations.Note that this special multilevel assignment only works when the constraint assignment is made using the Assign menu > Joint > Constraints command. Any multilevel assignment made through the database is ignored and an error message is generated in the import log.

Table: Constraint Definitions - Equal

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a Equal constraint.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the coordinate system in which the Equal constraint is defined.

Field: UX

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UX is constrained. Otherwise it is No.

Field: UY

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UY is constrained. Otherwise it is No.

Field: UZ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UZ is constrained. Otherwise it is No.

Field: RX

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RX is constrained. Otherwise it is No.

Field: RY

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RY is constrained. Otherwise it is No.

Field: RZ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RZ is constrained. Otherwise it is No.

Table: Constraint Definitions - Line

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a Line constraint.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the coordinate system in which the Body constraint is defined.

Field: UX

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UX is constrained. Otherwise it is No.

Field: UY

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UY is constrained. Otherwise it is No.

Field: UZ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UZ is constrained. Otherwise it is No.

Field: RX

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RX is constrained. Otherwise it is No.

Field: RY

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RY is constrained. Otherwise it is No.

Field: RZ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RZ is constrained. Otherwise it is No.

Table: Constraint Definitions - Local

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a Local constraint.

Field: U1

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF U1 is constrained. Otherwise it is No.

Field: U2

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF U2 is constrained. Otherwise it is No.

Field: U3

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF U3 is constrained. Otherwise it is No.

Field: R1

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF R1 is constrained. Otherwise it is No.

Field: R2

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF R2 is constrained. Otherwise it is No.

Field: R3

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF R3 is constrained. Otherwise it is No.

Table: Constraint Definitions - Plate

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a Plate constraint.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the coordinate system in which the Plate constraint is defined.

Field: Axis

Field is Imported: Yes
Format: Controlled by program
Units: Text

Axis in the specified coordinate system that is perpendicular to the plane of the Plate constraint. This may be X, Y, Z or Auto. If Auto then the axis is automatically determined from the joints assigned to the constraint.

Table: Constraint Definitions - Rod

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a Rod constraint.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the coordinate system in which the Rod constraint is defined.

Field: Axis

Field is Imported: Yes
Format: Controlled by program
Units: Text

Axis in the specified coordinate system that is parallel to the axis of the Rod constraint. This may be X, Y, Z or Auto. If Auto then the axis is automatically determined from the joints assigned to the constraint.

Table: Constraint Definitions - Weld

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a Weld constraint.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the coordinate system in which the Weld constraint is defined.

Field: UX

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UX is constrained. Otherwise it is No.

Field: UY

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UY is constrained. Otherwise it is No.

Field: UZ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF UZ is constrained. Otherwise it is No.

Field: RX

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RX is constrained. Otherwise it is No.

Field: RY

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RY is constrained. Otherwise it is No.

Field: RZ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if DOF RZ is constrained. Otherwise it is No.

Field: Tolerance

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The distance tolerance for the weld constraint. All joints within this distance of each other are "welded", that is, they are constrained by an internal body constraint.

Table: Coordinate Systems

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a coordinate system.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Cartesian, Cylindrical or General indicating the type of coordinate system.

Field: X

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global X-coordinate of the origin of the coordinate system specified.

Field: Y

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global Y-coordinate of the origin of the coordinate system specified.

Field: Z

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global Z-coordinate of the origin of the coordinate system specified.

Field: AboutZ

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The rotation of a coordinate system relative to the global coordinate system is defined as follows: (1) Rotate the coordinate system about the positive global Z-axis as defined by the AboutZ item. (2) Rotate the coordinate system about the positive global Y-axis as defined by the AboutY item. (3) Rotate the coordinate system about the positive global X-axis as defined by the AboutY item. Note thatthe order in which these rotations are performed is important.

Field: AboutY

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The rotation of a coordinate system relative to the global coordinate system is defined as follows: (1) Rotate the coordinate system about the positive global Z-axis as defined by the AboutZ item. (2) Rotate the coordinate system about the positive global Y-axis as defined by the AboutY item. (3) Rotate the coordinate system about the positive global X-axis as defined by the AboutY item. Note thatthe order in which these rotations are performed is important.

Field: AboutX

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The rotation of a coordinate system relative to the global coordinate system is defined as follows: (1) Rotate the coordinate system about the positive global Z-axis as defined by the AboutZ item. (2) Rotate the coordinate system about the positive global Y-axis as defined by the AboutY item. (3) Rotate the coordinate system about the positive global X-axis as defined by the AboutY item. Note thatthe order in which these rotations are performed is important.

Table: Database Documentation

Field: TableKey

Field is Imported: Yes
Format: Controlled by program
Units: Text

The table name key. This key is used internally by the program and CAN NOT be changed by the user.

Field: TableName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the database table as it appears in the database and in the printed output.

Field: FieldKey

Field is Imported: Yes
Format: Controlled by program
Units: Text

The field name key. This key is used internally by the program and CAN NOT be changed by the user.

Field: FieldName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the database field as it appears in the database and in the printed output.

Field: Description

Field is Imported: Yes
Format: Controlled by program
Units: Text

Description of a field in the associated database table.

Field: FieldFormat

Field is Imported: Yes
Format: Controlled by program
Units: Text

The format type associated with the field.

Field: FieldImport

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the field is imported. Otherwise it is No.

Field: FieldRepeat

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

If the table needs to be broken up when printed, then if this item is Yes the associated field will be repeated.

Field: FieldGroup

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Fields with the same group number are typically printed together in the printed output.

Field: TableType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Input, Documentation or Output indicating the type of table.

Field: TableArea

Field is Imported: Yes
Format: Controlled by program
Units: Text

The area of the Database Tables form which includes the check box that activates display of the associated table.

Field: TableChkBox

Field is Imported: Yes
Format: Controlled by program
Units: Text

The check box that activates display of the associated table.

Table: Database Field Names

Field: TableName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The table name.

Field: FieldKey

Field is Imported: Yes
Format: Controlled by program
Units: Text

The field name key. This key is used internally by the program and CAN NOT be changed by the user.

Field: FieldName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the database field as it appears in the database.

Table: Database Format Types

Field: FormatType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Type of item as specified in the Program Default Database Number Formatting Options form which is accessed using the Options menu > Database > Set Program Default DB Formatting command.

Field: Units

Field is Imported: Yes
Format: Controlled by program
Units: Text

The units specified in the Database Display Format Form for the item.

Field: DecPlaces

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of decimal places specified in the Database Display Format Form for the item.

Field: MinSigFig

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The minimum number of significant figures specified in the Database Display Format Form for the item.

Field: ZeroTol

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The zero tolerance specified in the Database Display Format Form for the item.

Field: AlwaysE

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

The value specified for the Always Use E Format item in the Database Display Format Form for the item.

Field: ConvFactor

Field is Imported: No
Format: Controlled by program
Units: Unitless

The units conversion factor. Multiplying the value in the database table by this factor gives the value in the units specified in the Units field.

Field: UnitsCurr

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the database data is always displayed in the current units. Otherwise it is No.

Field: OverrideE

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the program is not to automatically convert to E format when the specified value is too small to display with the specified number of significant figures and decimal places. Otherwise it is No.When this item is Yes a value to small to display with the specified number of significant figures and decimal places is displayed with less significant figures and decimal places. If the value is smallerthan 1 / (10 ^ NumDecimalPlaces) / 2, then it is reported as zero, regardless of the specified zero tolerance. If the value is greater than 1 / (10 ^ NumDecimalPlaces) / 2 but less than 1 / (10 ^ NumDecimalPlaces) then it is reported as 1 / (10 ^ NumDecimalPlaces).

Table: Database Table Names

Field: TableKey

Field is Imported: Yes
Format: Controlled by program
Units: Text

The table name key. This key is used internally by the program and CAN NOT be changed by the user.

Field: TableName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the database table as it appears in the database.

Table: Frame Added Mass Assignments

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: MassPerLen

Field is Imported: Yes
Format: Mass/Length (Mass and Weight section of form)
Units: Force-Sec2/Length2

Added mass per unit length applied to the frame object.

Table: Frame Auto Subdivision Assignments

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: AutoDivide

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the frame object is to be (internally) automatically subdivided by the program for analysis. .

Field: AtJoints

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if automatic subdivision is to occur at intermediate joints along the frame object.

Field: AtFrames

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if automatic subdivision is to occur at intesections with other frame objects.

Field: NumSegments

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The minimum number of segments that the frame is to be divided into. If this item is zero then it does not apply.

Field: MaxLength

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The maximum length of segments that the frame is to be divided into. If this item is zero then it does not apply.

Field: MaxDegrees

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The maximum number of degrees that segments of curved frame members are to be divided into. If this item is zero then it does not apply.

Table: Frame Bridge Object Flags

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: AutoBridge

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the frame object is automatically created from a bridge object. Otherwise it is No.

Field: BridgeObj

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the bridge object with which this frame object is associated.

Field: BOSpan

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the span in the bridge object with which this frame object is associated.

Field: BOItemType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Span or Bent indicating the portion of the bridge object with which this frame object is associated.

Field: BOBent

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the bridge bent with which this frame object is associated. This item is only applicable if the BOItemType is Bent.

Field: BOBentCol

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The column number in the bridge bent with which this frame object is associated. This item is only applicable if the BOItemType is Bent and the frame object represents a column in the bent.

Field: BOEndI

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the bridge object starts at the I-End of the frame object. Otherwise it is No.

Field: BOEndJ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the bridge object ends at the J-End of the frame object. Otherwise it is No.

Field: BOSpanEndI

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the bridge object span indicated by the BOSpan item starts at the I-End of the frame object.

Field: BOSpanEndJ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the bridge object span indicated by the BOSpan item ends at the J-End of the frame object.

Table: Frame Curve Data

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: CurveType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is one of the following curve types:Circular Arc - 3rd Point Coords,Circular Arc - Planar Point & Radius, orParabolic Arc - 3rd Point Coords.

Field: NumSegs

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of straight-line segments used to define the curve.

Field: XGlobal

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global X coordinate of the third point.

Field: YGlobal

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Y coordinate of the third point.

Field: ZGlobal

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z coordinate of the third point.

Field: Radius

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The circular curve radius. This item only applies when the curve type is Circular Arc - Planar Point & Radius.

Table: Frame Design Procedures

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignProc

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either From Material or No Design indicating the design procedure for the frame object.

Table: Frame End Skew Angle Assignments

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: SkewI

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle in degrees measured counterclockwise from the positive local 3-axis to a line parallel to the I-End of the frame object. (-90 < SkewI < 90).

Field: SkewJ

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle in degrees measured counterclockwise from the positive local 3-axis to a line parallel to the J-End of the frame object. (-90 < SkewJ < 90).

Table: Frame Insertion Point Assignments

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: CardinalPt

Field is Imported: Yes
Format: Controlled by program
Units: Text

The cardinal point for the object. This item defines the relative position of the object section on the line representing the frame/cable object. It may be any one of the following:1 (bottom left),2 (bottom center),3 (bottom right),4 (middle left),5 (middle center),6 (middle right),7 (top left),8 (top center),9 (top right),10 (centroid), and11 (shear center).Note that the numbers 1 through 10 are analagous to those specified for the cardinal point in Intergraph FrameWorks.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The coordinate system in which the joint offsets are defined.

Field: JtOffsetXI

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The rigid frame joint offset in the X (1) direction at the I-end of the frame object. A positive offset is measured from the joint location to the end of the frame object (at the cardinal point) in the positive direction of the specified coordinate system.

Field: JtOffsetYI

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The rigid frame joint offset in the Y (2) direction at the I-end of the frame object. A positive offset is measured from the joint location to the end of the frame object (at the cardinal point) in the positive direction of the specified coordinate system.

Field: JtOffsetZI

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The rigid frame joint offset in the Z (3) direction at the I-end of the frame object. A positive offset is measured from the joint location to the end of the frame object (at the cardinal point) in the positive direction of the specified coordinate system.

Field: JtOffsetXJ

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The rigid frame joint offset in the X (1) direction at the J-end of the frame object. A positive offset is measured from the joint location to the end of the frame object (at the cardinal point) in the positive direction of the specified coordinate system.

Field: JtOffsetYJ

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The rigid frame joint offset in the Y (2) direction at the J-end of the frame object. A positive offset is measured from the joint location to the end of the frame object (at the cardinal point) in the positive direction of the specified coordinate system.

Field: JtOffsetZJ

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The rigid frame joint offset in the Z (3) direction at the J-end of the frame object. A positive offset is measured from the joint location to the end of the frame object (at the cardinal point) in the positive direction of the specified coordinate system.

Field: Mirror2

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the section assigned to the line object is assumed to be mirrored about its own local 2-axis. Otherwise it is No.

Field: Transform

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the frame stiffness is transformed for offsets (cardinal point offset or joint offset) from it centroid. Otherwise it is No.

Table: Frame Loads - Distributed

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the coordinate system in which the load is defined. Local means that the load is specified in an object local axis direction.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Force or Moment indicating the type of load assigned.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either 1, 2, 3, X, Y, Z, X Proj, Y Proj, Z Proj, Gravity or Grav Proj indicating the direction of the load. 1, 2 and 3 indicate the local axes directions of the frame object. X, Y and Z indicate the X, Y and Z directions of the specified coordinate system. Gravity is in the negative global Z direction. X Proj, Y Proj or Z Proj are projected forces in the specified coordinate system. Projected forces are scaled by the sine of the angle between the frame object and the direction of load. Projected moments are scaled by the cosine of the angle between the frame object and the direction of load.

Field: DistType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either RelDist or AbsDist. It indicates which of the distance fields (RelDist or AbsDist) will be read on import.

Field: RelDistA

Field is Imported: Yes
Format: Relative Distance (Structure Dimensions section of form)
Units: Unitless

The specified relative distance from the I-end of the frame object to the starting point of the load segment considered. The relative distance is equal to the absolute distance divided by the beam length.

Field: RelDistB

Field is Imported: Yes
Format: Relative Distance (Structure Dimensions section of form)
Units: Unitless

The specified relative distance from the I-end of the frame object to the ending point of the load segment considered. The relative distance is equal to the absolute distance divided by the beam length.

Field: AbsDistA

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The specified absolute distance from the I-end of the frame object to the starting point of the load segment considered.

Field: AbsDistB

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The specified absolute distance from the I-end of the frame object to the ending point of the load segment considered.

Field: FOverLA

Field is Imported: Yes
Format: Force/Length (Forces section of form)
Units: Force/Length

The force intensity at the starting point of the load segment considered.

Field: FOverLB

Field is Imported: Yes
Format: Force/Length (Forces section of form)
Units: Force/Length

The force intensity at the ending point of the load segment considered.

Field: MOverLA

Field is Imported: Yes
Format: Moment/Length (Forces section of form)
Units: Force-Length/Length

The moment intensity at the starting point of the load segment considered.

Field: MOverLB

Field is Imported: Yes
Format: Moment/Length (Forces section of form)
Units: Force-Length/Length

The moment intensity at the ending point of the load segment considered.

Table: Frame Loads - Gravity

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the coordinate system in which the gravity loads are defined.

Field: MultiplierX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The applied gravity load in the X-direction of the specified coordinate system is equal to the self weight of the object times the MultiplierX scale factor.

Field: MultiplierY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The applied gravity load in the Y-direction of the specified coordinate system is equal to the self weight of the object times the MultiplierY scale factor.

Field: MultiplierZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The applied gravity load in the Z-direction of the specified coordinate system is equal to the self weight of the object times the MultiplierZ scale factor.

Table: Frame Loads - Open Structure Wind

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: LoadCase

Field is Imported: No
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: CoordSys

Field is Imported: No
Format: Controlled by program
Units: Text

Label of the coordinate system in which the load is defined. Local means that the load is specified in an object local axis direction.

Field: Type

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Force or Moment indicating the type of load assigned.

Field: Dir

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 1, 2, 3, X, Y, Z, X Proj, Y Proj, Z Proj, Gravity or Grav Proj indicating the direction of the load. 1, 2 and 3 indicate the local axes directions of the frame object. X, Y and Z indicate the X, Y and Z directions of the specified coordinate system. Gravity is in the negative global Z direction. X Proj, Y Proj or Z Proj are projected forces in the specified coordinate system. Projected forces are scaled by the sine of the angle between the frame object and the direction of load. Projected moments are scaled by the cosine of the angle between the frame object and the direction of load.

Field: DistType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either RelDist or AbsDist. It indicates which of the distance fields (RelDist or AbsDist) will be read on import.

Field: RelDistA

Field is Imported: No
Format: Relative Distance (Structure Dimensions section of form)
Units: Unitless

The specified relative distance from the I-end of the frame object to the starting point of the load segment considered. The relative distance is equal to the absolute distance divided by the beam length.

Field: RelDistB

Field is Imported: No
Format: Relative Distance (Structure Dimensions section of form)
Units: Unitless

The specified relative distance from the I-end of the frame object to the ending point of the load segment considered. The relative distance is equal to the absolute distance divided by the beam length.

Field: AbsDistA

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The specified absolute distance from the I-end of the frame object to the starting point of the load segment considered.

Field: AbsDistB

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The specified absolute distance from the I-end of the frame object to the ending point of the load segment considered.

Field: FOverLA

Field is Imported: No
Format: Force/Length (Forces section of form)
Units: Force/Length

The force intensity at the starting point of the load segment considered.

Field: FOverLB

Field is Imported: No
Format: Force/Length (Forces section of form)
Units: Force/Length

The force intensity at the ending point of the load segment considered.

Table: Frame Loads - Point

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the coordinate system in which the load is defined. Local means that the load is specified in an object local axis direction.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Force or Moment indicating the type of load assigned.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either 1, 2, 3, X, Y, Z or Gravity indicating the direction of the load. 1, 2 and 3 indicate the local axes directions of the frame object. X, Y and Z indicate the X, Y and Z directions of the specified coordinate system. Gravity is in the negative global Z direction.

Field: DistType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either RelDist or AbsDist. It indicates which of the distance fields (RelDist or AbsDist) will be read on import.

Field: RelDist

Field is Imported: Yes
Format: Relative Distance (Structure Dimensions section of form)
Units: Unitless

The specified relative distance from the I-end of the frame object to the load location. The relative distance is equal to the absolute distance divided by the beam length.

Field: AbsDist

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The specified absolute distance from the I-end of the frame object to the load location.

Field: Force

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The point force applied at the specified location along the frame object.

Field: Moment

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

The point moment applied at the specified location along the frame object.

Table: Frame Loads - Strain

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: Component

Field is Imported: Yes
Format: Controlled by program
Units: Text

The line object local component to which the specified strain load is applied. This is either Strain11, Strain12, Strain13, Curvature1, Curvature2 or Curvature3.

Field: Strain

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strain load applied to the specified component of the object.

Field: Curvature

Field is Imported: Yes
Format: 1/Length (Miscellaneous section of form)
Units: 1/Length

The strain load (curvature) applied to the specified component of the object.

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified strain or curvature. If no joint pattern is specified then this item is reported as None.

Table: Frame Loads - Temperature

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Temperature, Gradient2, or Gradient3 indicating the type of temperature load applied to the frame object.

Field: Temp

Field is Imported: Yes
Format: Temperature (Forces section of form)
Units: Temp

The temperature assignment to the Frame object.

Field: TempGrad2

Field is Imported: Yes
Format: Temperature Gradient (Forces section of form)
Units: Temp/Length

The temperature gradient in the local 2 direction (units are delta temperature/thickness 2-2) assignment to the Frame object.

Field: TempGrad3

Field is Imported: Yes
Format: Temperature Gradient (Forces section of form)
Units: Temp/Length

The temperature gradient in the local 3 direction (units are delta temperature/thickness 3-3) assignment to the Frame object.

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

The label of a Joint Pattern of scale factors multiplying the temperature change and temperature gradient values. If no pattern is specified then a unit scale factor is assumed at every joint.

Table: Frame Local Axes Assignments 1 - Typical

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle that the local 2 and 3 axes are rotated about the positive local 1 axis, from the default orientation or from the orientation determined by the plane reference vector. The rotation for a positive angle appears counterclockwise when the local +1 axis is pointing toward you.

Field: MirrorAbt2

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This is Yes if, for design, the frame section is assumed to be mirrored (flipped) about the local 2-axis. This item does not affect the analysis, it only affects the design.

Field: MirrorAbt3

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This is Yes if, for design, the frame section is assumed to be mirrored (flipped) about the local 3-axis. This item does not affect the analysis, it only affects the design.

Field: AdvanceAxes

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if an advanced method is used to define the local axes reference vectors for the frame object. Otherwise it is No meaning that the default reference vectors are used.Default means that the local 1-axis for the frame object goes from the I-end to the J-end of the object. The local 2-axis direction is specified by an angle measured from the global +Z axis (or from the global +X axis if the object local 1-axis is parallel to the global +Z axis). The rotation for a positive angle appears counterclockwise when the local +1 axis is pointing toward you.Advanced means that the local axes are defined with respect to user-defined reference vectors. Note that when the advanced system is used, the specified

Angle is applied to the local axes orientation defined by the user specified reference vectors.

Table: Frame Local Axes Assignments 2 - Advanced

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: LocalPlane

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item indicates the local plane that is to be determined by the plane reference vector. It is either 12 or 13, indicating the 1-2 or the 1-3 plane, respectively.

Field: PlOption1

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Coord Dir, Two Joints or User Vector indicating the first method used to determine the plane reference vector.

Field: PlCoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The coordinate system used to define the plane reference vector coordinate directions and the plane user vector.

Field: CoordDir1

Field is Imported: Yes
Format: Controlled by program
Units: Text

The primary coordinate direction taken at the object center in the specified coordinate system. It is used to determine the reference vector.It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: CoordDir2

Field is Imported: Yes
Format: Controlled by program
Units: Text

The secondary coordinate direction taken at the object center in the specified coordinate system. It is used to determine the reference vector.It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: PlVecJt1

Field is Imported: Yes
Format: Controlled by program
Units: Text

PlVecJt1 and PlVecJt2 are the labels of two joints that define the plane reference vector. Either of these joints may be specified as None to indicate the center of the specified object. If both PlVecJt1 and PlVecJt2 are specified as None then they are not used to define the plane reference vector.

Field: PlVecJt2

Field is Imported: Yes
Format: Controlled by program
Units: Text

PlVecJt1 and PlVecJt2 are the labels of two joints that define the plane reference vector. Either of these joints may be specified as None to indicate the center of the specified object. If both PlVecJt1 and PlVecJt2 are specified as None then they are not used to define the plane reference vector.

Field: PlVecX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The X direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Y direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Z direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Table: Frame Material Temperatures

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Temp

Field is Imported: Yes
Format: Temperature (Forces section of form)
Units: Temp

The Frame object material temperature .

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified material temperatures. If no joint pattern is specified then this item is reported as None.

Table: Frame NL Hinge Assignments

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: AssignHinge

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a hinge property assigned to the specified frame object.

Field: GenHinge

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the hinge property generated by the program for the specified frame object based on the assigned hinge property.

Field: DistType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either RelDist or AbsDist. It indicates which of the distance fields (RelDist or AbsDist) will be read on import.

Field: RelDist

Field is Imported: Yes
Format: Relative Distance (Structure Dimensions section of form)
Units: Unitless

The specified relative distance from the I-end of the frame object to the hinge location. The relative distance is equal to the absolute distance divided by the beam length.If you specify a hinge that falls on the end length offsets at the ends of the frame object, then the program automatically relocates the hinge at the inside face of the end offset.

Field: AbsDist

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The specified absolute distance from the I-end of the frame object to the hinge locationIf you specify a hinge that falls on the end length offsets at the ends of the frame object, then the program automatically relocates the hinge at the inside face of the end offset.

Field: ActualDist

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

that the program will use.Typically the ActualDist item is the same as the AbsDist item, however, if you specified that the hinge falls on the end length offset of the frame object, then the ActualDist and AbsDist items will be different.

Table: Frame Offset Along Length Assignments

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Automatic or User indicating how the offsets alongthe length of the frame object are determined. Automatic means that the offset length is determeined automatically from the frame object connectivity. User defined means that the user specified the offsets.

Field: LengthI

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Offset along the length of the frame object at the I-end of the object.

Field: LengthJ

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Offset along the length of the frame object at the J-end of the object.

Field: RigidFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The rigid zone factor. This is the fraction of the end offset length assumed to be rigid for bending and shear deformations.

Table: Frame Output Station Assignments

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: StationType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either MinNumSta or MaxStaSpcg. It indicates which of the output station fields (MinNumSta or MaxStaSpcg) will be read on import.

Field: MinNumSta

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The minimum number of output stations along the frame object. If the MaxStaSpcg item is specified for the frame object then this item is blank.

Field: MaxStaSpcg

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The maximum spacing between output stations along the frame object. If the MinNumSta item is specified for the frame object then this item is blank.

Table: Frame P-Delta Force Assignments

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Coordinate system used to define the projection of the P-Delta axial force.

Field: Direction

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Local 1, X Proj, Y Proj or Z Proj indicating the direction of the specified force.

Field: Force

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

P-Delta axial force in the specified direction. If the direction is a projection then this is the projection of the P-Delta axial force upon the indicated axis of the specified coordinate system.

Table: Frame Property Modifiers

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: AMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Multiplier for cross-section (axial) area. This item is multiplied times the similar modifier specified for the section property; it does not replace the modifier specified for the section property.

Field: AS2Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Multiplier for shear area in the 2 direction. This item is multiplied times the similar modifier specified for the section property; it does not replace the modifier specified for the section property.

Field: AS3Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Multiplier for shear area in the 3 direction. This item is multiplied times the similar modifier specified for the section property; it does not replace the modifier specified for the section property.

Field: JMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Multiplier for torsional constant. This item is multiplied times the similar modifier specified for the section property; it does not replace the modifier specified for the section property.

Field: I22Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Multiplier for moment of inertia about the local 2-axis. This item is multiplied times the similar modifier specified for the section property; it does not replace the modifier specified for the section property.

Field: I33Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Multiplier for moment of inertia about the local 3-axis. This item is multiplied times the similar modifier specified for the section property; it does not replace the modifier specified for the section property.

Field: MassMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Multiplier for the element self mass. This item is multiplied times the similar modifier specified for the section property; it does not replace the modifier specified for the section property.

Field: WeightMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Multiplier for the element self weight. This item is multiplied times the similar modifier specified for the section property; it does not replace the modifier specified for the section property.

Table: Frame Reference Temperatures

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Temp

Field is Imported: Yes
Format: Temperature (Forces section of form)
Units: Temp

The Frame object reference temperature .

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified reference temperatures. If no joint pattern is specified then this item is reported as None.

Table: Frame Release Assignments 1 - General

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Label of a Frame object.

Field: PI

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the axial degree of freedom is released at the I-end of the frame object.

Field: V2I

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the shear in the local 2-axis direction degree of freedom is released at the I-end of the frame object.

Field: V3I

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the shear in the local 3-axis direction degree of freedom is released at the I-end of the frame object.

Field: TI

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the torsion degree of freedom is released at the I-end of the frame object.

Field: M2I

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the moment about the local 2-axis degree of freedom is released at the I-end of the frame object.

Field: M3I

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the moment about the local 3-axis degree of freedom is released at the I-end of the frame object.

Field: PJ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the axial degree of freedom is released at the J-end of the frame object.

Field: V2J

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the shear in the local 2-axis direction degree of freedom is released at the J-end of the frame object.

Field: V3J

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the shear in the local 3-axis direction degree of freedom is released at the J-end of the frame object.

Field: TJ

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the torsion degree of freedom is released at the I-end of the frame object.

Field: M2J

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the moment about the local 2-axis degree of freedom is released at the J-end of the frame object.

Field: M3J

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes or No indicating whether the moment about the local 3-axis degree of freedom is released at the J-end of the frame object.

Field: PartialFix

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if any of the releases assigned at the specified frame end have partial fixity. Otherwise it is No.

Table: Frame Release Assignments 2 - Partial Fixity

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: PI

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

Partial fixity spring stiffness for axial deformations at the I-end of the frame object.

Field: V2I

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

Partial fixity spring stiffness for shear deformations in the local 2-axis direction at the I-end of the frame object.

Field: V3I

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

Partial fixity spring stiffness for shear deformations in the local 3-axis direction at the I-end of the frame object.

Field: TI

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

Partial fixity spring stiffness for torsional deformations at the I-end of the frame object.

Field: M2I

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

Partial fixity spring stiffness for moment (rotational) deformations about the local 2-axis at the I-end of the frame object.

Field: M3I

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

Partial fixity spring stiffness for moment (rotational) deformations about the local 3-axis at the I-end of the frame object.

Field: PJ

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

Partial fixity spring stiffness for axial deformations at the J-end of the frame object.

Field: V2J

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

Partial fixity spring stiffness for shear deformations in the local 2-axis direction at the J-end of the frame object.

Field: V3J

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

Partial fixity spring stiffness for shear deformations in the local 3-axis direction at the J-end of the frame object.

Field: TJ

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

Partial fixity spring stiffness for torsional deformations at the I-end of the frame object.

Field: M2J

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

Partial fixity spring stiffness for moment (rotational) deformations about the local 2-axis at the J-end of the frame object.

Field: M3J

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

Partial fixity spring stiffness for moment (rotational) deformations about the local 3-axis at the J-end of the frame object.

Table: Frame Section Assignments

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: SectionType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either I/Wide Flange, Channel, Tee, Angle, Double Angle, Box/Tube, Pipe, Rectangular, Circle, General, Auto Select List, or Nonprismatic indicating the type of frame section assigned to the object.

Field: AutoSelect

Field is Imported: Yes
Format: Controlled by program
Units: Text

If the frame section type is an auto select list then this column contains the name of the auto select section list assigned to the object. Otherwise it is N.A.

Field: AnalSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is the name of the analysis section assigned to the frame object. The analysis section is the frame section property that was used in the last analysis performed. If no analysis has been performed then it is the name of the frame section assigned to the object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

This is the name of the design section currently associated with the object. If no design has been run then this item is reported as N.A.

Field: MatProp

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Default, or the name of a Material. Default means that the material property for the frame object is taken from the material property designated for the frame section that is assigned to the frame object.

Table: Frame Section Properties 01 - General

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the frame section, for example, W8X10 or FSEC1.

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the material property assigned to the frame section.

Field: Shape

Field is Imported: Yes
Format: Controlled by program
Units: Text

The section shape type. It is one of the following: I/Wide Flange, Channel, Tee, Angle, Double Angle, Box/Tube, Pipe, Rectangular, Circle, General, Double Channel, Auto Select, SD Section, Nonprismatic, Bridge Section, Cold Formed C, Cold Formed 2C(I), Cold Formed Z, Cold Formed L, Cold Formed 2L(T), and Cold Formed Hat.

Field: t3

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Overall depth of the section measured perpendicular to the local 3-axis. This dimension is the primary dimension affecting I33.

Field: t2

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Overall width of the section measured perpendicular to the local 2-axis. This dimension is the primary dimension affecting I22.

Field: tf

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Flange thickness for the section. This applies to both the top and bottom flanges of all sections except I/Wide Flange sections for which it only applies to the top flange. The flanges are oriented parallel to the section local 3-axis.

Field: tw

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Web thickness for the section. For double angles it is the web thickness of one of the angles. For double channels it is the web thickness of one of the channels. For pipes it is the wall thickness of the pipe. For cold formed sections it is the thickness of the section. The webs are oriented parallel to the section local 2-axis.

Field: t2b

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

This item only applies to I/Wide Flange sections. It is the width of the bottom flange.

Field: tfb

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

This item only applies to I/Wide Flange sections. It is the thickness of the bottom flange.

Field: dis

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

This is the separation distance between double angles or double channels.

Field: Radius

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The radius used in a cold formed section.

Field: LipDepth

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The lip depth for a cold formed section.

Field: LipAngle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The lip angle in degrees for a cold formed Z section.

Field: Area

Field is Imported: Yes
Format: Area (Section Dimensions section of form)
Units: Length2

Cross-section area of the section.

Field: TorsConst

Field is Imported: Yes
Format: Length4 (Section Dimensions section of form)
Units: Length4

Torsional constant.

Field: I33

Field is Imported: Yes
Format: Length4 (Section Dimensions section of form)
Units: Length4

Moment of inertia for bending about the local 3 axis.

Field: I22

Field is Imported: Yes
Format: Length4 (Section Dimensions section of form)
Units: Length4

Moment of inertia for bending about the local d axis.

Field: AS2

Field is Imported: Yes
Format: Area (Section Dimensions section of form)
Units: Length2

Shear area for shear in the local 2-axis direction.

Field: AS3

Field is Imported: Yes
Format: Area (Section Dimensions section of form)
Units: Length2

Shear area for shear in the local 3-axis direction.

Field: S33

Field is Imported: Yes
Format: Length3 (Section Dimensions section of form)
Units: Length3

Section modulus for bending about the local 3 axis.

Field: S22

Field is Imported: Yes
Format: Length3 (Section Dimensions section of form)
Units: Length3

Section modulus for bending about the local 2 axis.

Field: Z33

Field is Imported: Yes
Format: Length3 (Section Dimensions section of form)
Units: Length3

Plastic modulus for bending about the local 3 axis.

Field: Z22

Field is Imported: Yes
Format: Length3 (Section Dimensions section of form)
Units: Length3

Plastic modulus for bending about the local 2 axis.

Field: R33

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Radius of gyration about the local 3 axis.

Field: R22

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Radius of gyration about the local 2 axis.

Field: ConcCol

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is either Yes, indicating that the frame section is a concrete column, or it is No. If it is Yes then additional information about the section is included in the Concrete Column Properties table.

Field: ConcBeam

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is either Yes, indicating that the frame section is a concrete beam, or it is No. If it is Yes then additional information about the section is included in the Concrete Beam Properties table.

Field: Color

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either a defined color or an integer representation of the color associated with the section.The possible defined colors are Black, Red, Orange, Yellow, Green, Cyan, Blue, Magenta, White, Dark Red, Dark Yellow, Dark Green, Dark Cyan, Dark Blue, Dark Magenta, Gray1, Gray2, Gray3, Gray4, Gray5, Gray6, Gray7 and Gray8. Gray1 is a light gray and Gray8 is a dark gray.

Field: TotalWt

Field is Imported: No
Format: Weight (Mass and Weight section of form)
Units: Force

Total weight of all objects in the model that are assigned the specified frame section property.

Field: TotalMass

Field is Imported: No
Format: Mass (Mass and Weight section of form)
Units: Force-Sec2/Length

Total mass of all objects in the model that are assigned the specified frame section property.

Field: FromFile

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the section properties are obtained from a section property database file. Otherwise it is No.

Field: AMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Area modifier for the specified frame section property. This item is used for analysis only, not design. For nonprismatic sections this item is taken by the analysis as 1 regardless of what you input.

Field: A2Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear area modifier for shear parallel to the local 2-axis for the specified frame section property. This item is used for analysis only, not design. For nonprismatic sections this item is taken by the analysis as 1 regardless of what you input.

Field: A3Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear area modifier for shear parallel to the local 3-axis for the specified frame section property. This item is used for analysis only, not design. For nonprismatic sections this item is taken by the analysis as 1 regardless of what you input.

Field: JMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Torsional constant modifier for the specified frame section property. This item is used for analysis only, not design. For nonprismatic sections this item is taken by the analysis as 1 regardless of what you input.

Field: I2Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment of inertia modifier for bending about the local 2-axis for the specified frame section property. This item is used for analysis only, not design. For nonprismatic sections this item is taken by the analysis as 1 regardless of what you input.

Field: I3Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment of inertia modifier for bending about the local 3-axis for the specified frame section property. This item is used for analysis only, not design. For nonprismatic sections this item is taken by the analysis as 1 regardless of what you input.

Field: MMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Mass multiplier for the specified frame section property. This item is used for analysis only, not design. For nonprismatic sections this item is taken by the analysis as 1 regardless of what you input.

Field: WMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Weight multiplier for the specified frame section property. This item is used for analysis only, not design. For nonprismatic sections this item is taken by the analysis as 1 regardless of what you input.

Field: SectInFile

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the section as it appears in the section property database file.

Field: FileName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name (full path) of the section property database file from which the section properties are to be obtained. This item only applies when the FromFile item is Yes.

Table: Frame Section Properties 02 - Concrete Column

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a frame section property assigned to a frame object.

Field: ReinfConfig

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Rectangular or Circular indicating the configuration of the column longitudinal reinforcing.

Field: LatReinf

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Ties or Spiral indicating the type of column lateral (shear) reinforcing.

Field: Cover

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The distance from the edge of the column to the center of the longitudinal reinforcement. In the special case of circular reinforcement in a rectangular column, the cover is taken to be the minimum distance from the edge of the column to a circle drawn through the center of each rebar in the circular reinforcement pattern. .

Field: NumBars3Dir

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

This item applies to a rectangular reinforcing configuration. It is the number of longitudinal bars (including the corner bar) on each face of the column that is parallel to the local 3-axis of the column.

Field: NumBars2Dir

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

This item applies to a rectangular reinforcing configuration. It is the number of longitudinal bars (including the corner bar) on each face of the column that is parallel to the local 2-axis of the column.

Field: NumBarsCirc

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

This item applies to a circular reinforcing configuration. It is the total number of longitudinal reinforcing bars in the column.

Field: BarSize

Field is Imported: Yes
Format: Controlled by program
Units: Text

The specified size of longitudinal reinforcing bars in the column.

Field: ReinfType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the column longitudinal reinforcing is to be designed or checked.

Table: Frame Section Properties 03 - Concrete Beam

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a frame section property assigned to a frame object.

Field: TopCover

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The distance from the top of the beam to the centroid of the top longitudinal reinforcement.

Field: BotCover

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The distance from the bottom of the beam to the centroid of the bottom longitudinal reinforcement.

Field: TopLeftArea

Field is Imported: Yes
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total area of longitudinal reinforcement at the top left end of the beam.

Field: TopRghtArea

Field is Imported: Yes
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total area of longitudinal reinforcement at the top right end of the beam.

Field: BotLeftArea

Field is Imported: Yes
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total area of longitudinal reinforcement at the bottom left end of the beam.

Field: BotRghtArea

Field is Imported: Yes
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total area of longitudinal reinforcement at the bottom right end of the beam.

Table: Frame Section Properties 04 - Auto Select

Field: ListName

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the auto select section list.

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a frame section that is assigned to the auto select section list.

Table: Frame Section Properties 05 - Nonprismatic

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the frame section.

Field: NumSegments

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of segments that define the nonprismatic section.

Field: SegmentNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The segment number.

Field: StartSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the frame section property at the beginning of the specified segment.

Field: EndSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the frame section property at the end of the specified segment.

Field: LengthType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Absolute or Variable indicating the type of length specified. For import this item determines which of the two length fields, AbsLength or VarLength will be read.

Field: AbsLength

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The specified absolute (fixed) length of the segment, if any.

Field: VarLength

Field is Imported: Yes
Format: Relative Distance (Structure Dimensions section of form)
Units: Unitless

The specified variable length of the segment, if any.

Field: EI33Var

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Linear, Parabolic or Cubic indicating the variation of E*I33 along the specified segment.

Field: EI22Var

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Linear, Parabolic or Cubic indicating the variation of E*I22 along the specified segment.

Table: Frame Section Properties 06 - Polygon Data

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the frame section.

Field: Polygon

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The polygon number.

Field: Point

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The point number in the associated polygon.

Field: X

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The X coordinate (parallel to axis 3) of the specified point measured from the lower left-hand corner of the section.

Field: Y

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The Y coordinate (parallel to axis 2) of the specified point measured from the lower left-hand corner of the section.

Field: Opening

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the polygon represents an opening in the section. Otherwise it is No.

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

The material property associated with the polygon. This item is only applicable when the Opening item is No.

Field: RefPtX

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The X coordinate (parallel to axis 3) of section reference point measured from the lower left-hand corner of the section.

Field: RefPtY

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The Y coordinate (parallel to axis 2) of section reference point measured from the lower left-hand corner of the section.

Table: Frame Section Properties - Bridge Object Flags

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the frame section.

Field: AutoBridge

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the frame section is an automatically created bridge section. Otherwise it is No.

Field: BridgeSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the bridge section with which this frame section is associated.

Field: BridgeObj

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the bridge object with which this frame section is associated.

Field: BOSpan

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the span in the bridge object with which this frame section is associated.

Field: BOSpanDist

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance along the bridge object span indicated by the BOSpan item at which this frame section applies.

Table: Frame Spring Assignments

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either 1, 2, or 3 indicating one of the local axes directions for the frame object.

Field: Stiffness

Field is Imported: Yes
Format: Trans Stiffness/Length (Stiffness section of form)
Units: Force/Length/Length

The line spring stiffness assigned to the frame object in the specified direction.

Table: Frame Tension And Compression Limits

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: TensLimit

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if a tension limit exists for the frame object. Otherwise it is No. For import, the Tension item is only read if this item is Yes.

Field: CompLimit

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if a compression limit exists for the frame object. Otherwise it is No. For import, the Compression item is only read if this item is Yes.

Field: Tension

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The tension limit for the frame object.

Field: Compression

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The compression limit for the frame object.

Table: Frame Vehicle Response Component Overwrites

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Usage

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either AASHTO HL - Superstructure, AASHTO HL - Reaction, or AASHTO H & HS Superstructure indicating the vehicle type and structural member type to which the overwrite applies.AASHTO HL - Superstructure refers the superstructure negative moments over supports.AASHTO HL - Reaction refers to reactions at interior supports (piers).AASHTO H & HS Superstructure refers to superstructure moments (positive or negative).

Field: Component

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either P, V2, V3, T, M2, M3 or indicating the output component to which the overwrite applies.

Field: Status

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Do Not Use, Use Positive Values, Use Negative Values, or Use All Values indicating the portion of the output for the specified component to which the overwrite applies.

Table: Function - Plot Functions

Field: PlotFunc

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a plot function.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is the type of plot function. It may be LoadFunc, Energy, BaseReac, Joint, Frame, AreaShell, AreaPlane, AreaASolid, Solid, Link, SectionCut or GenDispl.

Field: ObjectLabel

Field is Imported: Yes
Format: Controlled by program
Units: Text

For Joint, Frame, AreaShell, AreaPlane, AreaASolid, Solid and Link-type plot functions this is the label of the object for which the plot function is defined. For Section Cut plot functions it is the name of the section cut. For Generalized Displacement plot functions it is the name of the generalized displacement. The field is not filled for Load Function, Energy and BaseReac-type plot functions.

Field: DistType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either RelDist or AbsDist. It indicates which of the distance fields (RelDist or AbsDist) will be read on import.

Field: RelDist

Field is Imported: Yes
Format: Relative Distance (Structure Dimensions section of form)
Units: Unitless

The relative distance from the I-end of the frame object to the location where the frame forces are to be reported. If this location does not fall at an output station then the output forces are reported at the output station closest to the specified location. The relative distance is equal to the absolute distance divided by the length of the frame object.

Field: AbsDist

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The absolute distance from the I-end of the frame object to the location where the frame forces are to be reported. If this location does not fall at an output station then the output forces are reported at the output station closest to the specified location.

Field: Component

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item depends on the type of plot function. The following values are possible for each plot function:Load Function: Acc Dir 1, Acc Dir 2, Acc DirZ, or the name of any load case.Energy: Input, Kinetic, Potential, Modal Damping, Link Damper, Link Hysteretic and Error.Base: VX, VY, VZ, MX, MY, MZJoint: RelDispU1, RelDispU2, RelDispU3, RelDispR1, RelDispR2, RelDispR3, RelVelU1, RelVelU2, RelVelU3, RelVelR1, RelVelR2, RelVelR3, RelAccelU1, RelAccelU2, RelAccelU3, RelAccelR1, RelAccelR2, RelAccelR3, AbsDispU1, AbsDispU2, AbsDispU3, AbsDispR1, AbsDispR2, AbsDispR3, AbsVelU1, AbsVelU2, AbsVelU3, AbsVelR1, AbsVelR2, AbsVelR3, AbsAccelU1, AbsAccelU2, AbsAccelU3, AbsAccelR1, AbsAccelR2, AbsAccelR3, SpringF1, SpringF2, SpringF3, SpringM1, SpringM2, SpringM3, ReactionF1, ReactionF2, ReactionF3, ReactionM1, ReactionM2, ReactionM3.Frame: P, V2, V3, T, M2, M3AreaShell Resultants: F11, F22, F12, FMax, FMin, FVM, M11, M22, M12, MMax, MMin, V13, V23, VMax.AreaShell Top Stresses: TopS11, TopS22, TopS12, TopSMax, TopSMin, TopSVM, TopS13, TopS23, TopSVMax.AreaShell Bottom Stresses: BotS11, BotS22, BotS12, BotSMax, BotSMin, BotSVM, BotS13, BotS23, BotSVMax.AreaPlane: S11, S22, S33, S12, SMax, SMin, SVM.AreaAsolid: S11, S22, S33, S12, SMax, SMin, SVM.Solid: S11, S22, S33, S12, S13, S23, SMax, SMid, SMin, SVM.Link: DeformU1, DeformU2, DeformU3, DeformR1, DeformR2, DeformR3, PI, V2I, V3I, TI, M2I, M3I, PJ, V2J, V3J, TJ, M2J, M3J,Section Cut: F1, F2, F3, M1, M2, M3,Generalized Displacement: Not Used.

Field: Mode

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either All, indicating that all modes are considered in the output, or it is a single mode number, indicating that only the specified mode is considered in the output.

Field: RefItem

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either 'CSys Origin' or the name of a joint attached to the specified object. This item only applies for area objects and solid objects. It is the reference location from which the output location is determined using the specified offsets.If the the specified coordinate system is 'Local' then this item must be a joint.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the coordinate system in which the offsets to the output point are specified. This item only applies for area objects and solid objects.

Field: OffsetX

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The offset from the specified reference point to the output location in the coordinate system X direction. If the Local coordinate system is specified then this is the offset in the local 1 direction.This item only applies for area objects and solid objects.

Field: OffsetY

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The offset from the specified reference point to the output location in the coordinate system Y direction. If the Local coordinate system is specified then this is the offset in the local 2 direction.This item only applies for area objects and solid objects.

Field: OffsetZ

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The offset from the specified reference point to the output location in the coordinate system Z direction. If the Local coordinate system is specified then this is the offset in the local 3 direction.This item only applies for area objects and solid objects.

Field: ClosestJt

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the output location is to be the closest analysis model joint associated with the specified object to the output location specified by the offsets.This item only applies for area objects and solid objects.

Table: Function - Power Spectral Density - From File

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the power spectral density function from file.

Field: Frequency

Field is Imported: No
Format: Controlled by program
Units: Unitless

Frequency for a step in the power spectral density function.

Field: Value

Field is Imported: No
Format: Controlled by program
Units: Unitless

The power spectral density function value at the specified time. The units for this item are the reciprocal of the frequency units.

Field: FreqUnits

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Hz or RPM indicating the units of the frequency in the file. Note that for power spectral density functions the units of the Value item are the reciprocal of the units for the Frequency item.

Field: HeaderLines

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of lines SAP2000 will ignore at the beginning of the file.

Field: PrefixChars

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of characters SAP2000 will ignore at the beginning of each line in the file.

Field: PtsPerLine

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

How many function values, or sets of time and function values, depending on the DataType, are specified on each line of the file.

Field: DataType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Equal Interval or Freq and Value. Equal Interval means that the file contains function values that are spaced at an equal frequency value that is specified in the Interval column. Freq and Value means that the file contains sets of frequency and function values.

Field: FormatType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Free of Fixed indicating the format type for the data in the file.

Field: FixedLength

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

This is the number of characters per item that applies if the format type is Fixed.

Field: Interval

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

An equal frequency interval between function values. This item applies when DataType is Equal Interval.

Field: FileName

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the text file containing the function.

Table: Function - Power Spectral Density - User

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the user-defined power spectral density function.

Field: Frequency

Field is Imported: Yes
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

Frequency in Hz for a step in the power spectral density function.

Field: Value

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The power spectral density function value at the specified time. The units for this item are the reciprocal of the frequency units.

Table: Function - Response Spectrum - BOCA96

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the BOCA96 response spectrum function.

Field: Period

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The response spectrum function period value.

Field: Accel

Field is Imported: No
Format: Controlled by program
Units: Unitless

The response spectrum function acceleration value. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the response spectrumcase.

Field: Aa

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The BOCA96 seismic coefficient representing the effective peak acceleration.

Field: Av

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The BOCA96 seismic coefficient representing the effective peak velocity-related acceleration.

Field: R

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The BOCA96 reponse modification factor.

Field: S

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The BOCA96 coefficient for the soil profile characteristics of the site.

Table: Function - Response Spectrum - EuroCode8

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the EuroCode8 response spectrum function.

Field: Period

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The response spectrum function period value.

Field: Accel

Field is Imported: No
Format: Controlled by program
Units: Unitless

The response spectrum function acceleration value. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the response spectrumcase.

Field: Ag

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The EuroCode8 design ground acceleration.

Field: SoilClass

Field is Imported: Yes
Format: Controlled by program
Units: Text

The EuroCode8 subsoil class. This is either A, B or C.

Field: DampFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The EuroCode8 damping correction factor.

Table: Function - Response Spectrum - From File

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the response spectrum function from file.

Field: Frequency

Field is Imported: No
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

The response spectrum function frequency value.

Field: Period

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The response spectrum function acceleration value. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the response spectrumcase.

Field: Accel

Field is Imported: No
Format: Controlled by program
Units: Unitless

The response spectrum function acceleration value. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the response spectrumcase.

Field: HeaderLines

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Number of header lines in the file that SAP2000 will ignore.

Field: DataType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Freq vs Accel or Period vs Accel.

Field: FileName

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the text file containing the function.

Table: Function - Response Spectrum - IBC2003

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the IBC2003 response spectrum function.

Field: Period

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The response spectrum function period value.

Field: Accel

Field is Imported: No
Format: Controlled by program
Units: Unitless

The response spectrum function acceleration value. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the response spectrumcase.

Field: SDS

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The IBC2003 design earthquake spectral response at short periods.

Field: SD1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The IBC2003 design earthquake spectral response at a one second period.

Table: Function - Response Spectrum - NBCC95

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the NBCC95 response spectrum function.

Field: Period

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The response spectrum function period value.

Field: Accel

Field is Imported: No
Format: Controlled by program
Units: Unitless

The response spectrum function acceleration value. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the response spectrumcase.

Field: V

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The NBCC95 zonal velocity ratio.

Field: Za

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The NBCC95 acceleration-related seismic zone.

Field: Zv

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The NBCC95 velocity-related seismic zone.

Table: Function - Response Spectrum - NEHRP97

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the NEHRP97 response spectrum function.

Field: Period

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The response spectrum function period value.

Field: Accel

Field is Imported: No
Format: Controlled by program
Units: Unitless

The response spectrum function acceleration value. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the response spectrumcase.

Field: SDS

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The NEHRP97 design earthquake spectral response at short periods.

Field: SD1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The NEHRP97 design earthquake spectral response at a one second period.

Table: Function - Response Spectrum - NZS4203

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the NZS4203 response spectrum function.

Field: Period

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The response spectrum function period value.

Field: Accel

Field is Imported: No
Format: Controlled by program
Units: Unitless

The response spectrum function acceleration value. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the response spectrumcase.

Field: ScaleFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The NZS4203 scaling factor. The ordinates of the response spectrum are calculated using 1992 NZS4203 Equations 4.6.3 and 4.6.4. If you are using Equation 4.6.3 then you input the scaling factor as Sp * R * Z * Ls. If you are using Equation 4.6.4 then you input the scaling factor as Sm * Sp * R * Z * Lu.

Field: SoilCat

Field is Imported: Yes
Format: Controlled by program
Units: Text

The NZS4203 site subsoil category. This is either A, B or C.

Table: Function - Response Spectrum - UBC94

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the UBC94 response spectrum function.

Field: Period

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The response spectrum function period value.

Field: Accel

Field is Imported: No
Format: Controlled by program
Units: Unitless

The response spectrum function acceleration value. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the response spectrumcase.

Field: Z

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC94 seismic zone.

Field: SoilType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The UBC94 soil type. This is either 1, 2 or 3.

Table: Function - Response Spectrum - UBC97

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the UBC97 response spectrum function.

Field: Period

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The response spectrum function period value.

Field: Accel

Field is Imported: No
Format: Controlled by program
Units: Unitless

The response spectrum function acceleration value. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the response spectrumcase.

Field: Ca

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC97 seismic coefficient Ca.

Field: Cv

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The UBC97 seismic coefficient Cv.

Table: Function - Response Spectrum - User

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the user-defined response spectrum function.

Field: Period

Field is Imported: Yes
Format: Period (Time-Related section of form)
Units: Sec

The response spectrum function period value.

Field: Accel

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The response spectrum function acceleration value. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the response spectrumcase.

Table: Function - Steady State - From File

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the steady state function from file.

Field: Frequency

Field is Imported: No
Format: Controlled by program
Units: Unitless

Frequency for a step in the steady state function.

Field: Value

Field is Imported: No
Format: Controlled by program
Units: Unitless

The steady state function value at the specified time. This item is unitless.

Field: FreqUnits

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Hz or RPM indicating the units of the frequency in the file.

Field: HeaderLines

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of lines SAP2000 will ignore at the beginning of the file.

Field: PrefixChars

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of characters SAP2000 will ignore at the beginning of each line in the file.

Field: PtsPerLine

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

How many function values, or sets of time and function values, depending on the DataType, are specified on each line of the file.

Field: DataType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Equal Interval or Freq and Value. Equal Interval means that the file contains function values that are spaced at an equal frequency value that is specified in the Interval column. Freq and Value means that the file contains sets of frequency and function values.

Field: FormatType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Free of Fixed indicating the format type for the data in the file.

Field: FixedLength

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

This is the number of characters per item that applies if the format type is Fixed.

Field: Interval

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

An equal frequency interval between function values. This item applies when DataType is Equal Interval.

Field: FileName

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the text file containing the function.

Table: Function - Steady State - User

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the user-defined steady state function.

Field: Frequency

Field is Imported: Yes
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

Frequency in Hz for a step in the steady state function.

Field: Value

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The steady state function value at the specified time. This item is unitless.

Table: Function - Time History - Cosine

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Cosine time history function.

Field: Time

Field is Imported: No
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

Time value for a step in the time history function.

Field: Value

Field is Imported: No
Format: Controlled by program
Units: Unitless

The time history function value at the specified time. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the time history case.

Field: Period

Field is Imported: Yes
Format: Period (Time-Related section of form)
Units: Sec

The period of the Cosine function, that is, the time in seconds that it takes for the function to complete one cycle.

Field: StepsPerCyc

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of function value points provided for each cycle of the function.

Field: NumCycles

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of cycles in the function.

Field: Amplitude

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum function value in the function.

Table: Function - Time History - From File

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the time history function from file.

Field: Time

Field is Imported: No
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

Time value for a step in the time history function.

Field: Value

Field is Imported: No
Format: Controlled by program
Units: Unitless

The time history function value at the specified time. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the time history case.

Field: HeaderLines

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of lines SAP2000 will ignore at the beginning of the file.

Field: PrefixChars

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of characters SAP2000 will ignore at the beginning of each line in the file.

Field: PtsPerLine

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

How many function values, or sets of time and function values, depending on the DataType, are specified on each line of the file.

Field: DataType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Equal Interval or Time and Value. Equal Interval means that the file contains function values that are spaced at an equal time value that is specified in the Interval column. Time and Value means that the file contains sets of time and function values.

Field: FormatType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Free of Fixed indicating the format type for the data in the file.

Field: FixedLength

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

This is the number of characters per item that applies if the format type is Fixed.

Field: Interval

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

An equal time interval between function values. This item applies when DataType is Equal Interval.

Field: FileName

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the text file containing the function.

Table: Function - Time History - Ramp

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Ramp time history function.

Field: Time

Field is Imported: No
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

Time value for a step in the time history function.

Field: Value

Field is Imported: No
Format: Controlled by program
Units: Unitless

The time history function value at the specified time. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the time history case.

Field: RampTime

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The time it takes for the ramp function to initially reach its maximum value.

Field: Amplitude

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum function value in the function.

Field: MaxTime

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The time at the end of the ramp function.

Table: Function - Time History - Sawtooth

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Sawtooth time history function.

Field: Time

Field is Imported: No
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

Time value for a step in the time history function.

Field: Value

Field is Imported: No
Format: Controlled by program
Units: Unitless

The time history function value at the specified time. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the time history case.

Field: Period

Field is Imported: Yes
Format: Period (Time-Related section of form)
Units: Sec

The period of the Sawtooth function, that is, the time in seconds that it takes for the function to complete one cycle.

Field: RampTime

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The time it takes for the Sawtooth function to ramp up from a function value of zero to its maximum amplitude.

Field: NumCycles

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of cycles in the function.

Field: Amplitude

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum function value in the function.

Table: Function - Time History - Sine

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Sine time history function.

Field: Time

Field is Imported: No
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

Time value for a step in the time history function.

Field: Value

Field is Imported: No
Format: Controlled by program
Units: Unitless

The time history function value at the specified time. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the time history case.

Field: Period

Field is Imported: Yes
Format: Period (Time-Related section of form)
Units: Sec

The period of the Sine function, that is, the time in seconds that it takes for the function to complete one cycle.

Field: StepsPerCyc

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of function value points provided for each cycle of the function.

Field: NumCycles

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of cycles in the function.

Field: Amplitude

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum function value in the function.

Table: Function - Time History - Triangular

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the Triangular time history function.

Field: Time

Field is Imported: No
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

Time value for a step in the time history function.

Field: Value

Field is Imported: No
Format: Controlled by program
Units: Unitless

The time history function value at the specified time. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the time history case.

Field: Period

Field is Imported: Yes
Format: Period (Time-Related section of form)
Units: Sec

The period of the Triangular function, that is, the time in seconds that it takes for the function to complete one cycle.

Field: NumCycles

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of cycles in the function.

Field: Amplitude

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum function value in the function.

Table: Function - Time History - User

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the user-defined time history function.

Field: Time

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

Time value for a step in the time history function.

Field: Value

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The time history function value at the specified time. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the time history case.

Table: Function - Time History - User Periodic

Field: Name

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the user-defined periodic time history function.

Field: Time

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

Time value for a step in the time history function.

Field: Value

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The time history function value at the specified time. Note that this item is unitless. The acceleration units are in the scale factor that you specify for the function when you define the time history case.

Field: NumCycles

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of cycles in the function.

Table: General Grids

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the coordinate system with which the general grid system is associated.

Field: GridID

Field is Imported: Yes
Format: Controlled by program
Units: Text

The label for the grid line.

Field: LineType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Straight or Arc indicating the line type. If it is Straight then the X1, Y1, X2 and Y2 items are specified to define the line. If it is Arc then the X1, Y1, X2, Y2, XC and YC items are specified to define the arc.

Field: X1

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The X coordinate of end point 1 on the grid line in the specified coordinate system. Note that the default bubble location is at the endpoint 2 end of the grid line.

Field: Y1

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Y coordinate of end point 1 on the grid line in the specified coordinate system. Note that the default bubble location is at the endpoint 2 end of the grid line.

Field: X2

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The X coordinate of end point 2 on the grid line in the specified coordinate system. Note that the default bubble location is at the endpoint 2 end of the grid line.

Field: Y2

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Y coordinate of end point 2 on the grid line in the specified coordinate system. Note that the default bubble location is at the endpoint 2 end of the grid line.

Field: XC

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

This item only applies to arcs. It is the X coordinate of a third point on the arc in the specified coordinate system.

Field: YC

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

This item only applies to arcs. It is the Y coordinate of a third point on the arc in the specified coordinate system.

Field: PrimaryGrid

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This is either Yes indicating that the grid line is a primary grid line or it is No indicating that it is a secondary grid line. Secondary grid lines do not display bubbles or grid ID text.

Field: LineColor

Field is Imported: Yes
Format: Controlled by program
Units: Text

The color of the grid line.

Field: ColorByUser

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This is either Yes indicating that the grid line color was specified by the user, or it is No indicating that grid line color was set by the program.

Field: BubbleSize

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The diameter of the grid line bubble.

Field: SwitchBub

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This is either Yes indicating that the grid line bubble is to be switched from the default 2-end of the grid line to the 1-end, or it is No indicating that the bubble is to be at the 2-End.

Field: Visible

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This is either Yes indicating that the grid line is visible or it is No indicating that it is not visible.

Table: Generalized Displacement Definitions 1 - Translational

Field: GenDispl

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the generalized displacement.

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a joint included in the generalized displacement.

Field: U1SF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The scale factor that multiplies the translation of the U1 degree of freedom of the joint.

Field: U2SF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The scale factor that multiplies the translation of the U2 degree of freedom of the joint.

Field: U3SF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The scale factor that multiplies the translation of the U3 degree of freedom of the joint.

Field: R1SF

Field is Imported: Yes
Format: Gen Displ L/Rad (Displacements section of form)
Units: Length/rad

The scale factor that multiplies the rotation of the R1 degree of freedom of the joint.

Field: R2SF

Field is Imported: Yes
Format: Gen Displ L/Rad (Displacements section of form)
Units: Length/rad

The scale factor that multiplies the rotation of the R1 degree of freedom of the joint.

Field: R3SF

Field is Imported: Yes
Format: Gen Displ L/Rad (Displacements section of form)
Units: Length/rad

The scale factor that multiplies the rotation of the R1 degree of freedom of the joint.

Table: Generalized Displacement Definitions 2 - Rotational

Field: GenDispl

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the generalized displacement.

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a joint included in the generalized displacement.

Field: U1SF

Field is Imported: Yes
Format: Gen Displ Rad/L (Displacements section of form)
Units: Rad/Length

The scale factor that multiplies the translation of the U1 degree of freedom of the joint.

Field: U2SF

Field is Imported: Yes
Format: Gen Displ Rad/L (Displacements section of form)
Units: Rad/Length

The scale factor that multiplies the translation of the U2 degree of freedom of the joint.

Field: U3SF

Field is Imported: Yes
Format: Gen Displ Rad/L (Displacements section of form)
Units: Rad/Length

The scale factor that multiplies the translation of the U3 degree of freedom of the joint.

Field: R1SF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The scale factor that multiplies the rotation of the R1 degree of freedom of the joint.

Field: R2SF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The scale factor that multiplies the rotation of the R1 degree of freedom of the joint.

Field: R3SF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The scale factor that multiplies the rotation of the R1 degree of freedom of the joint.

Table: Grid Lines

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the coordinate system for which the grid lines are defined.

Field: AxisDir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either X, R, Y, T or Z indicating the axis direction used to locate the grid line. X and Y only apply to Cartesian coordinate systems. R and T only apply to Cylindrical coordinate systems. Z applies to both Cartesian and Cylindrical coordinate systems.

Field: XRYZCoord

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Location of the grid line along the axis specified by the AxisDir item when the AxisDir item is X, R, Y or Z.

Field: TAngle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

Location (angle) of the grid line when the AxisDir item is T.

Field: Visible

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the grid line is visible. Otherwise it is No.

Table: Groups 1 - Definitions

Field: GroupName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a group.

Field: Selection

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the group is specified to be used for selection. Otherwise it is No.

Field: SectionCut

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the group is specified to be used for defining section cuts. Otherwise it is No.

Field: Steel

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the group is specified to be used for defining steel frame design groups. Otherwise it is No.

Field: Concrete

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the group is specified to be used for defining concrete frame design groups. Otherwise it is No.

Field: Aluminum

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the group is specified to be used for defining aluminum design groups. Otherwise it is No.

Field: ColdFormed

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the group is specified to be used for defining cold formed design groups. Otherwise it is No.

Field: Stage

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the group is specified to be used for defining starges for nonlinear static analysis. Otherwise it is No.

Field: Bridge

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the group is specified to be used for reporting bridge response output. Otherwise it is No.

Field: AutoSeismic

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the group is specified to be used for reporting auto seismic loads. Otherwise it is No.

Field: AutoWind

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the group is specified to be used for reporting auto wind loads. Otherwise it is No.

Field: MassWeight

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the group is specified to be used for reporting group masses and weight. Otherwise it is No.

Table: Groups 2 - Assignments

Field: GroupName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a group.

Field: ObjectType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The type of object specified, e.g., joint, frame, area, solid or link.

Field: ObjectLabel

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of an object that is part of the specified group.

Table: Groups 3 - Masses and Weights

Field: GroupName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a group.

Field: SelfMass

Field is Imported: Yes
Format: Mass (Mass and Weight section of form)
Units: Force-Sec2/Length

The cummulative self mass of all objects in the group.

Field: SelfWeight

Field is Imported: Yes
Format: Weight (Mass and Weight section of form)
Units: Force

The cummulative self weight of all objects in the group.

Field: TotalMassX

Field is Imported: Yes
Format: Mass (Mass and Weight section of form)
Units: Force-Sec2/Length

The cummulative total X-direction mass of all objects in the group.

Field: TotalMassY

Field is Imported: Yes
Format: Mass (Mass and Weight section of form)
Units: Force-Sec2/Length

The cummulative total Y-direction mass of all objects in the group.

Field: TotalMassZ

Field is Imported: Yes
Format: Mass (Mass and Weight section of form)
Units: Force-Sec2/Length

The cummulative total Z-direction mass of all objects in the group.

Table: Hinge Props 01 - Overview

Field: HingeName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a frame object nonlinear hinge.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either User or it is something like 'Gen (FH1) B1.' The second item indicates a generated hinge.For the generated hinge the 'Gen' item is short for generated. The item in parenthesis, FH1 in this example, is the name of the default or user-defined hinge property from which the generated hinge properties were derived. The last item, B1 in this case, is the name of the frame object to which the hinge is assigned.Only user defined hinge properties are imported.

Field: NumDOFs

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of active degrees of freedom in the frame nonlinear hinge.

Field: P

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either No, Yes or Yes, default. It indicates if the P degree of freedom is active in the hinge and, if so, whether or not it is based on default hinge properties.No means the degree of freedom is not active. Yes means the degree of freedom is active, and it is not defined using a default hinge property. Yes, default means the degree of freedom is active, and it is defined using a default hinge property.For import, note that if the PMM or Fiber degree of freedom is Yes (or Yes, default) then the P, M2 and M3 degrees of freedom must all be No.

Field: V2

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either No, Yes or Yes, default. It indicates if the V2 degree of freedom is active in the hinge and, if so, whether or not it is based on default hinge properties.No means the degree of freedom is not active. Yes means the degree of freedom is active, and it is not defined using a default hinge property. Yes, default means the degree of freedom is active, and it is defined using a default hinge property.For import, note that if the PMM or Fiber degree of freedom is Yes (or Yes, default) then the P, M2 and M3 degrees of freedom must all be No.

Field: V3

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either No, Yes or Yes, default. It indicates if the V3 degree of freedom is active in the hinge and, if so, whether or not it is based on default hinge properties.No means the degree of freedom is not active. Yes means the degree of freedom is active, and it is not defined using a default hinge property. Yes, default means the degree of freedom is active, and it is defined using a default hinge property.For import, note that if the PMM or Fiber degree of freedom is Yes (or Yes, default) then the P, M2 and M3 degrees of freedom must all be No.

Field: T

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either No, Yes or Yes, default. It indicates if the T degree of freedom is active in the hinge and, if so, whether or not it is based on default hinge properties.No means the degree of freedom is not active. Yes means the degree of freedom is active, and it is not defined using a default hinge property. Yes, default means the degree of freedom is active, and it is defined using a default hinge property.For import, note that if the PMM or Fiber degree of freedom is Yes (or Yes, default) then the P, M2 and M3 degrees of freedom must all be No.

Field: M2

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either No, Yes or Yes, default. It indicates if the M2 degree of freedom is active in the hinge and, if so, whether or not it is based on default hinge properties.No means the degree of freedom is not active. Yes means the degree of freedom is active, and it is not defined using a default hinge property. Yes, default means the degree of freedom is active, and it is defined using a default hinge property.For import, note that if the PMM or Fiber degree of freedom is Yes (or Yes, default) then the P, M2 and M3 degrees of freedom must all be No.

Field: M3

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either No, Yes or Yes, default. It indicates if the M3 degree of freedom is active in the hinge and, if so, whether or not it is based on default hinge properties.No means the degree of freedom is not active. Yes means the degree of freedom is active, and it is not defined using a default hinge property. Yes, default means the degree of freedom is active, and it is defined using a default hinge property.For import, note that if the PMM or Fiber degree of freedom is Yes (or Yes, default) then the P, M2 and M3 degrees of freedom must all be No.

Field: PMM

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either No, Yes or Yes, default. It indicates if the PMM degree of freedom is active in the hinge and, if so, whether or not it is based on default hinge properties.No means the degree of freedom is not active. Yes means the degree of freedom is active, and it is not defined using a default hinge property. Yes, default means the degree of freedom is active, and it is defined using a default hinge property.For import, note that if the PMM or Fiber degree of freedom is Yes (or Yes, default) then the P, M2 and M3 degrees of freedom must all be No.

Field: Fiber

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either No, Yes or Yes, default. It indicates if the PMM degree of freedom is active in the hinge and, if so, whether or not it is based on default hinge properties.No means the degree of freedom is not active. Yes means the degree of freedom is active, and it is not defined using a default hinge property. Yes, default means the degree of freedom is active, and it is defined using a default hinge property.For import, note that if the PMM or Fiber degree of freedom is Yes (or Yes, default) then the P, M2 and M3 degrees of freedom must all be No.

Table: Hinge Props 02 - General

Field: HingeName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a frame object nonlinear hinge.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either User or it is something like 'Gen (FH1) B1.' The second item indicates a generated hinge.For the generated hinge the 'Gen' item is short for generated. The item in parenthesis, FH1 in this example, is the name of the default or user-defined hinge property from which the generated hinge properties were derived. The last item, B1 in this case, is the name of the frame object to which the hinge is assigned.Only user defined hinge properties are imported.

Field: DOF

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either P, V2, V3, T, M2, M3, PMM or Fiber indicating the degree of freedom considered.

Field: RigidPlast

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

If the force-deformation behavior of the hinge is rigid-plastic then this item is Yes. Otherwise it is No. Currently all hinges are rigid-plastic, i.e., this item is always Yes.

Field: Symmetric

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either Yes, indicating that the hinge is symmetric, or it is No. Symmetric means that the negative force deformation behavior is the same as the positive force deformation behavior.

Field: FDType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Force-Displ, Moment-Rot, Stress-Strain or Moment-Curve indicating the type of force-deformation specified..

Field: UseYldForce

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either Yes or No. Yes means that the specified forces or moments used to define the hinge force deformation curve are to be scaled using the program calculated yield force of the frame section to which the hinge is assigned.

Field: UseYldDispl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is either Yes or No. Yes means that the specified displacements or rotations used to define the hinge force deformation curve are to be scaled using the program calculated (approximate) yield displacement or rotation of the frame section to which the hinge is assigned.

Field: FDPosForSF

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The scale factor use to scale positive forces when the force-deformation type is Force-Displ.

Field: FDPosDisSF

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The scale factor use to scale positive displacements when the force-deformation type is Force-Displ.

Field: FDNegForSF

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The scale factor use to scale negative forces when the force-deformation type is Force-Displ.

Field: FDNegDisSF

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The scale factor use to scale negative displacements when the force-deformation type is Force-Displ.

Field: MRPosMoSF

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

The scale factor use to scale positive moments when the force-deformation type is Moment-Rot.

Field: MRPosRoSF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The scale factor use to scale positive rotations when the force-deformation type is Moment-Rot.

Field: MRNegMoSF

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

The scale factor use to scale negative moments when the force-deformation type is Moment-Rot.

Field: MRNegRoSF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The scale factor use to scale negative rotations when the force-deformation type is Moment-Rot.

Field: SSPosStrsSF

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The scale factor use to scale positive stresses when the force-deformation type is Stress-Strain.

Field: SSPosStnSF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The scale factor use to scale positive strains when the force-deformation type is Stress-Strain.

Field: SSNegStrsSF

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The scale factor use to scale negative stresses when the force-deformation type is Stress-Strain.

Field: SSNegStnSF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The scale factor use to scale negative strains when the force-deformation type is Stress-Strain.

Field: MCPosMoSF

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

The scale factor use to scale positive moments when the force-deformation type is Moment-Curve.

Field: MCPosCuSF

Field is Imported: Yes
Format: 1/Length (Miscellaneous section of form)
Units: 1/Length

The scale factor use to scale positive curvature when the force-deformation type is Moment-Curve.

Field: MCNegMoSF

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

The scale factor use to scale negative moments when the force-deformation type is Moment-Curve.

Field: MCNegCuSF

Field is Imported: Yes
Format: 1/Length (Miscellaneous section of form)
Units: 1/Length

The scale factor use to scale negative curvature when the force-deformation type is Moment-Curve.

Field: LengthType

Field is Imported: Yes
Format: Controlled by program
Units: Text

For P, V2 and V3, this item only applies when the force-deformation type is Stress-Strain. For T, M2, M3 and PMM, this item only applies when the force-deformation type is Moment-Curvature. For Fiber this item is always applicable.It indicates whether on import the Absolute length field (SSAbsLen) or the Relative length field (SSRelLen) field will be read.

Field: SSAbsLen

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The absolute length of a hinge whose force-deformation type is Stress-Strain or Moment-Curvature.

Field: SSRelLen

Field is Imported: Yes
Format: Relative Distance (Structure Dimensions section of form)
Units: Unitless

The relative length of a hinge whose force-deformation type is Stress-Strain or Moment-Curvature. The relative distance is equal to the absolute distance divided by the frame object length.

Field: FiberOpt

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either 'From Section' or 'User Defined' indicating how the fiber properties are defined.

Table: Hinge Props 03 - Force-Deformation Data

Field: HingeName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a frame object nonlinear hinge.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either User or it is something like 'Gen (FH1) B1.' The second item indicates a generated hinge.For the generated hinge the 'Gen' item is short for generated. The item in parenthesis, FH1 in this example, is the name of the default or user-defined hinge property from which the generated hinge properties were derived. The last item, B1 in this case, is the name of the frame object to which the hinge is assigned.Only user defined hinge properties are imported.

Field: DOF

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either P, V2, V3, T, M2, M3, PMM or Fiber indicating the degree of freedom considered.

Field: FDPoint

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either -E, -D, -C, -B, A, B, C, D or E indicating a point on the specified hinge force deformation curve. The Force and Displ items listed in the next two columns (fields) apply to this point. Note that FD is short for Force-Displacement.

Field: Force

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The force, moment or stress used to define the specified point (see FDPoint column) on the hinge force deformation curve. Note that the units for this item are provided by its associated scale factor in the Hinge Force Deformation Information table.

Field: Displ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The displacement, rotation or strain used to define the specified point (see FDPoint column) on the hinge force deformation curve. Note that the units for this item are provided by its associated scale factor in the Hinge Force Deformation Information table.

Table: Hinge Props 04 - Acceptance Criteria

Field: HingeName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a frame object nonlinear hinge.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either User or it is something like 'Gen (FH1) B1.' The second item indicates a generated hinge.For the generated hinge the 'Gen' item is short for generated. The item in parenthesis, FH1 in this example, is the name of the default or user-defined hinge property from which the generated hinge properties were derived. The last item, B1 in this case, is the name of the frame object to which the hinge is assigned.Only user defined hinge properties are imported.

Field: DOF

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either P, V2, V3, T, M2, M3, PMM or Fiber indicating the degree of freedom considered.

Field: ACPoint

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either IO, LS or CP indicating a particular acceptance criteria. The ACPos and ACNeg items listed in the next two columns (fields) apply to this point. Note that the AC is short for Acceptance Criteria.IO is short for immediate occupancy, LS is short for life safety and CP is short for collapse prevention.

Field: ACPos

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The acceptable positive deformation for the specified acceptance criteria. Note that the units for this item are provided by its associated scale factor in the Hinge Force Deformation Information table.

Field: ACNeg

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The acceptable negative deformation for the specified acceptance criteria. Note that the units for this item are provided by its associated scale factor in the Hinge Force Deformation Information table.

Table: Hinge Props 05 - PMM Force-Def General

Field: HingeName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a frame object nonlinear hinge.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either User or it is something like 'Gen (FH1) B1.' The second item indicates a generated hinge.For the generated hinge the 'Gen' item is short for generated. The item in parenthesis, FH1 in this example, is the name of the default or user-defined hinge property from which the generated hinge properties were derived. The last item, B1 in this case, is the name of the frame object to which the hinge is assigned.Only user defined hinge properties are imported.

Field: SymType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Circular, Double or None indicating the symmetry condition for the moment rotation (or curvature) definition.

Field: AxForce

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

An axial force for which force-deformation data is supplied.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

An angle in degrees at which force-deformation data is supplied. & nl & nlIf the symmetry condition is Circular then a single angle at 0 degrees is specified.If the symmetry condition is Double (doubly symmetric) then two or more angles are specified where 0 <= angle <= 90. In this case angles must be specified at 0 and 90 degrees. Additional angles may be specified between 0 and 90 as desired.If the symmetry condition is None then four or more angles are specified where 0 <= angle < 360. In this case angles must be specified at 0, 90, 180 and 270 degrees. Additional angles may be specified between 0 and 360 as desired.

Table: Hinge Props 06 - PMM Force-Def And Acceptance

Field: HingeName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a frame object nonlinear hinge.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either User or it is something like 'Gen (FH1) B1.' The second item indicates a generated hinge.For the generated hinge the 'Gen' item is short for generated. The item in parenthesis, FH1 in this example, is the name of the default or user-defined hinge property from which the generated hinge properties were derived. The last item, B1 in this case, is the name of the frame object to which the hinge is assigned.Only user defined hinge properties are imported.

Field: AxForce

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The axial force to which this force-deformation point data applies.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle to which this force-deformation point data applies.

Field: PointID

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either A, B, C, D, E, IO, LS or CP indicating either a point on the specified hinge force deformation curve (A, B, C, D or E) or a particular acceptance criterion (IO, LS or CP).

Field: Force

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The force, moment or stress used to define the specified force deformation point. This item is only applicable when the Point ID item is A, B, C, D or E.

Field: Displ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The displacement, rotation or strain used to define the specified force deformation point. This item is only applicable when the Point ID item is A, B, C, D or E.

Field: AC

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

.

Table: Hinge Props 07 - PMM Surface - General

Field: HingeName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a frame object nonlinear hinge.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either User or it is something like 'Gen (FH1) B1.' The second item indicates a generated hinge.For the generated hinge the 'Gen' item is short for generated. The item in parenthesis, FH1 in this example, is the name of the default or user-defined hinge property from which the generated hinge properties were derived. The last item, B1 in this case, is the name of the frame object to which the hinge is assigned.Only user defined hinge properties are imported.

Field: PCurve

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Elastic-Plastic or it is Proportional. It refers to the axial force-deformation characteristics of the hinge. When specified as Proportional it means it is proportional to the moment rotation curve interpolated from the specified moment rotation surface at the point of first yield in the PMM surface.

Field: IntType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either User, From Material, Steel: AISC-LRFD, Steel: FEMA-356 or Conc: ACI 318-02.AISC-LRFD interaction surfaces are calculated using AISC LRFD93 Specification Equations H1-1a and H1-1b with phi equal to one.FEMA-273 interaction surfaces are calculated using FEMA-273 (October 1997) .Equation 5-4.ACI 318-99 interaction surfaces are constructed with phi equal to one.

Field: SymType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Circular, Double or None indicating the symmetry condition for the interaction surface definition.

Field: NumCurves

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Thhe number of separate P-M curves used to define a user-defined interaction surface.

Field: NumPoints

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of points on each P-M curve in a user-defined interaction surface.

Field: ScaleP

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The scale factor for the P values in a user-defined interaction surface.

Field: ScaleM2

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

The scale factor for the M2 values in a user-defined interaction surface.

Field: ScaleM3

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

The scale factor for the M3 values in a user-defined interaction surface.

Table: Hinge Props 08 - PMM Surface - Data

Field: HingeName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a frame object nonlinear hinge.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either User or it is something like 'Gen (FH1) B1.' The second item indicates a generated hinge.For the generated hinge the 'Gen' item is short for generated. The item in parenthesis, FH1 in this example, is the name of the default or user-defined hinge property from which the generated hinge properties were derived. The last item, B1 in this case, is the name of the frame object to which the hinge is assigned.Only user defined hinge properties are imported.

Field: CurveNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The curve number in the P-M2-M3 surface.

Field: PointNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The point number on a P-M2-M3 curve.

Field: P

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The axial force at the specified point on the specified curve.

Field: M2

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The moment about the 2-axis at the specified point on the specified curve.

Field: M3

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The moment about the 3-axis at the specified point on the specified curve.

Table: Hinge Props 09 - Fiber Definitions

Field: HingeName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a frame object nonlinear hinge.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either User or it is something like 'Gen (FH1) B1.' The second item indicates a generated hinge.For the generated hinge the 'Gen' item is short for generated. The item in parenthesis, FH1 in this example, is the name of the default or user-defined hinge property from which the generated hinge properties were derived. The last item, B1 in this case, is the name of the frame object to which the hinge is assigned.Only user defined hinge properties are imported.

Field: Fiber

Field is Imported: No
Format: Controlled by program
Units: Text

The fiber number.

Field: Area

Field is Imported: Yes
Format: Area (Section Dimensions section of form)
Units: Length2

The fiber area.

Field: Coord3

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The frame local 3-axis coordinate location of the fiber.

Field: Coord2

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The frame local 2-axis coordinate location of the fiber.

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

The material property associated with the fiber.

Field: SSCurve

Field is Imported: Yes
Format: Controlled by program
Units: Text

The material stress-strain associated with the fiber.

Table: Joint Added Mass Assignments

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a joint.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Joint Local or Global indicating the coordinate system in which the joint masses are defined.In general we recommend defining joint masses in the joint local coordinate system. All analyses are performed using the local coordinate system. When masses that are defined in the global coordinate system are converted to the joint local coordinate system for analysis, all off-diagonal mass values in the joint local system (if any) are ignored. In other words, any mass coupling that may occur as a result of the coordinate transformation is ignored.

Field: Mass1

Field is Imported: Yes
Format: Mass (Mass and Weight section of form)
Units: Force-Sec2/Length

Translational mass assigned to the specified joint in the local 1 (or global X) direction.

Field: Mass2

Field is Imported: Yes
Format: Mass (Mass and Weight section of form)
Units: Force-Sec2/Length

Translational mass assigned to the specified joint in the local 2 (or global Y) direction.

Field: Mass3

Field is Imported: Yes
Format: Mass (Mass and Weight section of form)
Units: Force-Sec2/Length

Translational mass assigned to the specified joint in the local 3 (or global Z) direction.

Field: MMI1

Field is Imported: Yes
Format: Rotational Inertia (Mass and Weight section of form)
Units: Force-Length-Sec2

Rotational mass moment of inertia assigned to the specified joint about the local 1 (global X) axis.

Field: MMI2

Field is Imported: Yes
Format: Rotational Inertia (Mass and Weight section of form)
Units: Force-Length-Sec2

Rotational mass moment of inertia assigned to the specified joint about the local 2 (global Y) axis.

Field: MMI3

Field is Imported: Yes
Format: Rotational Inertia (Mass and Weight section of form)
Units: Force-Length-Sec2

Rotational mass moment of inertia assigned to the specified joint about the local 3 (global Z) axis.

Table: Joint Bridge Object Flags

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a joint.

Field: AutoBridge

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the joint is automatically created from a bridge object. Otherwise it is No.

Field: BridgeObj

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the bridge object with which this joint is associated.

Field: BOSpan

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the span in the bridge object with which this joint is associated.

Field: BOItemType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Bent, Abutment or Hinge indicating the portion of the bridge object with which this joint is associated.

Field: BOBent

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the bridge bent property with which this joint is associated. This item is only applicable if the BOItemType is Bent.

Field: BOAbutment

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the bridge abutment property with which this joint is associated. This item is only applicable if the BOItemType is Abutment.

Field: BOHinge

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the bridge hinge property with which this joint is associated. This item is only applicable if the BOItemType is Hinge.

Field: BOBentCol

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The column number in the bridge bent with which this joint is associated. This item is only applicable if the BOItemType is Bent.

Field: BOHingeAsgn

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The hinge assignment number in the bridge span with which this joint is associated. This item is only applicable if the BOItemType is Hinge.

Table: Joint Constraint Assignments

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a joint that is assigned the specified constraint.

Field: Constraint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a constraint.

Field: Type

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Body, Diaphragm, Plate, Rod, Beam, Equal, Local, Weldor indicating the type of constraint.

Table: Joint Coordinates

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a joint.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The coordinate system in which the specified joint was last defined (edited).

Field: CoordType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Cartesian or Cylindrical indicating how the items in the XorR, Y, T, and Z fields are to be interpreted. See the documentation of those fields for more information.

Field: XorR

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

If the CoordType item is Cartesian then this is the X coordinate of the specified joint in the coordinate system specified by the CoordSys item.If the CoordType item is Cylindrical then this is the R coordinate of the specified joint in the coordinate system specified by the CoordSys item.

Field: Y

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Y coordinate of the specified joint in the coordinate system specified by the CoordSys item. This item only applies if the CoordType item is Cartesian.

Field: T

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The T coordinate of the specified joint in the coordinate system specified by the CoordSys item. This item only applies if the CoordType item is Cylindrical.

Field: Z

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Z coordinate of the specified joint in the coordinate system specified by the CoordSys item.

Field: SpecialJt

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

The item is Yes if the specified joint is designated as a Special Joint. Otherwise it is No.The significance of a Special joint is that it is not automatically deleted by the graphic interface if (or when) no objects are connected to it. If a joint is not designated as a special joint, then the graphic interface will always delete it if it is not connected to an object.If a point is created in the graphic interface using either the Draw menu > Add Special Joint command, or its associated toolbar button, then that point is designated as a Special Joint. If a point is automatically created in the graphic interface as a result of drawing another object, then that joint is not designated as a Special Joint.

Field: GlobalX

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global X coordinate of the specified joint.

Field: GlobalY

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global Y coordinate of the specified joint.

Field: GlobalZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global Z coordinate of the specified joint.

Table: Joint Loads - Force

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a joint.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the coordinate system in which the load case is defined.

Field: F1

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Force applied to the joint in the local 1 direction.If the associated coordinate system is the global coordinate system then axes 1, 2 and 3 correspond to global axes X, Y and Z, respectively.

Field: F2

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Force applied to the joint in the local 2 direction.If the associated coordinate system is the global coordinate system then axes 1, 2 and 3 correspond to global axes X, Y and Z, respectively.

Field: F3

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Force applied to the joint in the local 3 direction.If the associated coordinate system is the global coordinate system then axes 1, 2 and 3 correspond to global axes X, Y and Z, respectively.

Field: M1

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Moment about the local 1-axis applied to the joint.If the associated coordinate system is the global coordinate system then axes 1, 2 and 3 correspond to global axes X, Y and Z, respectively.

Field: M2

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Moment about the local 2-axis applied to the joint.If the associated coordinate system is the global coordinate system then axes 1, 2 and 3 correspond to global axes X, Y and Z, respectively.

Field: M3

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Moment about the local 3-axis applied to the joint.If the associated coordinate system is the global coordinate system then axes 1, 2 and 3 correspond to global axes X, Y and Z, respectively.

Table: Joint Loads - Ground Displacement

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a joint.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the coordinate system in which the load case is defined.

Field: U1

Field is Imported: Yes
Format: Translational Displ (Displacements section of form)
Units: Length

Translational ground displacement applied to the joint in the local 1 direction. Note that the joint must be restrained (or have a spring) in the local 1 direction for this load to be active.If the associated coordinate system is the global coordinate system then axes 1, 2 and 3 correspond to global axes X, Y and Z, respectively.

Field: U2

Field is Imported: Yes
Format: Translational Displ (Displacements section of form)
Units: Length

Translational ground displacement applied to the joint in the local 2 direction. Note that the joint must be restrained (or have a spring) in the local 2 direction for this load to be active.If the associated coordinate system is the global coordinate system then axes 1, 2 and 3 correspond to global axes X, Y and Z, respectively.

Field: U3

Field is Imported: Yes
Format: Translational Displ (Displacements section of form)
Units: Length

Translational ground displacement applied to the joint in the local 3 direction. Note that the joint must be restrained (or have a spring) in the local 3 direction for this load to be active.If the associated coordinate system is the global coordinate system then axes 1, 2 and 3 correspond to global axes X, Y and Z, respectively.

Field: R1

Field is Imported: Yes
Format: Rotational Displ (Displacements section of form)
Units: Radians

Rotational ground displacement applied to the joint about the local 1-axis. Note that the joint must be restrained (or have a spring) about the local 1-axis for this load to be active.If the associated coordinate system is the global coordinate system then axes 1, 2 and 3 correspond to global axes X, Y and Z, respectively.

Field: R2

Field is Imported: Yes
Format: Rotational Displ (Displacements section of form)
Units: Radians

Rotational ground displacement applied to the joint about the local 2-axis. Note that the joint must be restrained (or have a spring) about the local If the associated coordinate system is the global coordinate system then axes 1, 2 and 3 correspond to global axes X, Y and Z, respectively.2-axis for this load to be active..

Field: R3

Field is Imported: Yes
Format: Rotational Displ (Displacements section of form)
Units: Radians

Rotational ground displacement applied to the joint about the local 3-axis. Note that the joint must be restrained (or have a spring) about the local 3-axis for this load to be active.If the associated coordinate system is the global coordinate system then axes 1, 2 and 3 correspond to global axes X, Y and Z, respectively.

Table: Joint Local Axes Assignments 1 - Typical

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the joint.

Field: AngleA

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

AngleA, AngleB and AngleC define the rotation of the joint local coordinate system relative to the coordinate system determined from the reference vectors. In the case where the default reference vectors are used, the angles define the orientation of the joint local coordinate system with respect to the global axes.The orientation of the joint local coordinate system is obtained according to the following procedure: (1) The local system is first rotated about its +3 axis by AngleA. (2) The local system is next rotated about its resulting +2 axis by AngleB. (3) The local system is lastly rotated about its resulting +1 axis by AngleC. Note that the order in which these rotations are performed is important.

Field: AngleB

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

AngleA, AngleB and AngleC define the rotation of the joint local coordinate system relative to the coordinate system determined from the reference vectors. In the case where the default reference vectors are used, the angles define the orientation of the joint local coordinate system with respect to the global axes.The orientation of the joint local coordinate system is obtained according to the following procedure: (1) The local system is first rotated about its +3 axis by AngleA. (2) The local system is next rotated about its resulting +2 axis by AngleB. (3) The local system is lastly rotated about its resulting +1 axis by AngleC. Note that the order in which these rotations are performed is important.

Field: AngleC

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

AngleA, AngleB and AngleC define the rotation of the joint local coordinate system relative to the coordinate system determined from the reference vectors. In the case where the default reference vectors are used, the angles define the orientation of the joint local coordinate system with respect to the global axes.The orientation of the joint local coordinate system is obtained according to the following procedure: (1) The local system is first rotated about its +3 axis by AngleA. (2) The local system is next rotated about its resulting +2 axis by AngleB. (3) The local system is lastly rotated about its resulting +1 axis by AngleC. Note that the order in which these rotations are performed is important.

Field: AdvanceAxes

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if an advanced method is used to define the local axes reference vectors for the joint. Otherwise it is No meaning that the default reference vectors are used.In the default system the joint positive local 1, 2 and 3 axes are parallel to the global positive X, Y and Z axes, respectively.In the advanced system the joint local axes are defined with respect to user-defined reference vectors. Note that when the advanced system is used, the specified Angle is applied to the local axes orientation defined by the user specified reference vectors.

Table: Joint Local Axes Assignments 2 - Advanced

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the joint.

Field: LocalPlane

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item indicates the local plane that is to be determined by the plane reference vector. It is either 12, 13, 21, 23, 31, or 32.

Field: AxOption1

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Coord Dir, Two Joints or User Vector indicating the first method used to determine the axial reference vector.

Field: AxCoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The coordinate system used to define the axial reference vector coordinate direction and the axial user vector.

Field: AxCoordDir

Field is Imported: Yes
Format: Controlled by program
Units: Text

Axial coordinate direction taken at the joint in the specified coordinate system and used to define the axis reference vector. It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: AxVecJt1

Field is Imported: Yes
Format: Controlled by program
Units: Text

AxVecJt1 and AxVecJt2 are the labels of two joints that define the axis reference vector. If one of these items is reported as None then it means the current joint. If both of these items is reported as None then this option is not used to define the axis reference vector.

Field: AxVecJt2

Field is Imported: Yes
Format: Controlled by program
Units: Text

AxVecJt1 and AxVecJt2 are the labels of two joints that define the axis reference vector. If one of these items is reported as None then it means the current joint. If both of these items is reported as None then this option is not used to define the axis reference vector.

Field: PlOption1

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Coord Dir, Two Joints or User Vector indicating the first method used to determine the plane reference vector.

Field: PlCoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The coordinate system used to define the plane reference vector coordinate directions and the plane user vector.

Field: CoordDir1

Field is Imported: Yes
Format: Controlled by program
Units: Text

The primary coordinate direction taken at the joint in the specified coordinate system. It is used to determine the plane reference vector. It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: CoordDir2

Field is Imported: Yes
Format: Controlled by program
Units: Text

The secondary coordinate direction taken at the joint in the specified coordinate system. It is used to determine the plane reference vector. It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: PlVecJt1

Field is Imported: Yes
Format: Controlled by program
Units: Text

PlVecJt1 and PlVecJt2 are the labels of two joints that define the plane reference vector. Either of these items may be specified as None to indicate the current joint. If both PlVecJt1 and PlVecJt2 are specified as None then they are not used to define the plane reference vector.

Field: PlVecJt2

Field is Imported: Yes
Format: Controlled by program
Units: Text

PlVecJt1 and PlVecJt2 are the labels of two joints that define the plane reference vector. Either of these items may be specified as None to indicate the current joint. If both PlVecJt1 and PlVecJt2 are specified as None then they are not used to define the plane reference vector.

Field: AxVecX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The X direction component of the axis reference vector in the coordinate system defined by the CoordSys item.

Field: AxVecY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Y direction component of the axis reference vector in the coordinate system defined by the CoordSys item.

Field: AxVecZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Z direction component of the axis reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The X direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Y direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Z direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Table: Joint Panel Zone Assignments

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a joint.

Field: PZFrom

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Elastic, User or Link. It identifies how the panel zone properties are defined. In the Assign Panel Zone form that appears when you select a point and click the Assign menu > Joint/Point > Panel Zone command there are four options for the panel zone properties. They are: Elastic properties from column, Elastic properties from column and doubler plate, Specified spring properties, and Specified link property.The PZFrom item is specified as Elastic for each of the first two options above. The DoublerPl item in the output table tells you if a doubler plate is considered in the properties. If a nonzero doubler plate thickness is reported then the doubler plate is considered when computing the panel zone properties.The PZFrom item is specified as User when there are specified spring properties. These spring properties are reported in the MajorStiff and MinorStiff items in the output table.The PZFrom item is specified as Link when there is a specified link property. The link object name is reported in the PZLink item in the output table.

Field: DoublerPl

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Thickness of the doubler plate.

Field: MajorStiff

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

Specified panel zone rotational spring stiffness for major axis bending (about the local 3-axis of the column and panel zone).

Field: MinorStiff

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

Specified panel zone rotational spring stiffness for minor axis bending (about the local 2-axis of the column and panel zone).

Field: PZLink

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a link object specified to define the panel zone properties.

Field: PZConnect

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either 'Beams to Other Objects' or 'Braces to Other Objects' indicating how the panel zone connects the elements at the specified joint.

Field: AxesFrom

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Column or User indicating how the local axes of the panel zone are defined. If the axes are user-defined then the PZAxesAngle item defines the orientation of the panel zone local axes.

Field: PZAxesAngle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

This item only applies if the AxesFrom item is 'User defined.' It is the angle measured counter-clockwise from the positive global X-axis to the local 2-axis of the panel zone.

Table: Joint Pattern Assignments

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a joint.

Field: Pattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the specified joint pattern.

Field: Value

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Joint pattern value at the specified joint.

Table: Joint Pattern Definitions

Field: Pattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the specified joint pattern.

Table: Joint Punching Load Assignments

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a joint.

Field: JtActive

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the joint is designated as active for the punching load check. Otherwise it is No.If the joint is not active then no punching no punching load checks are performed for it when the punching load check is run.

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: FrmActive

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the frame member is designated as active for the punching load check at the specified joint. Otherwise it is No.If the frame is not active then no punching no punching load checks are performed for it at the specified joint when the punching load check is run.

Field: UserFType

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the FType item is user-defined and No if it is program determined.

Field: FType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Chord or Brace indicating the frame type assumed for the punching load check.

Field: UserSection

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the Section item is user-defined and No if it is program determined based on the section property assigned to the line object (frame).

Field: Section

Field is Imported: Yes
Format: Controlled by program
Units: Text

The section property used for the punching load check.

Field: Class

Field is Imported: Yes
Format: Controlled by program
Units: Text

The joint classification associated with a Brace-type element. This is either K Overlap, K Gap, T & Y, Cross w/o Diaph, or Cross with Diaph.The default classification is T & Y.

Field: Gap

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The gap length associated with a Brace-type element that has a K Gap joint classification. This item is only applicable when the Class item is K Gap.

Field: UserAngle

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the Angle item is user-defined and No if it is program determined.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured in degrees from the Chord-type element to the Brace-type element. This item is only applicable to Brace-type elements..

Field: QqAxial

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Qq factor for axial load used in evaluating the punching load. If this item is zero then QqAxial is to be determined by the program. The default value is zero.Note that QqAxial is used for working stress design when the punching shear method is used.

Field: QqMomIn

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Qq factor for in-plane bending used in evaluating the punching load. If this item is zero then QqMomIn is to be determined by the program. The default value is zero.Note that QqMomIn is used for working stress design when the punching shear method is used.

Field: QqMomOut

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Qq factor for out-of-plane bending used in evaluating the punching load. If this item is zero then QqMomOut is to be determined by the program. The default value is zero.Note that QqMomOut is used for working stress design when the punching shear method is used.

Field: QuAxial

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Qu factor for axial load used in evaluating the punching load. If this item is zero then QuAxial is to be determined by the program. The default value is zero.Note that QuAxial is used for working stress design when the nominal load method is used and for LRFD design.

Field: QuMomIn

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Qu factor for in-plane bending used in evaluating the punching load. If this item is zero then QuMomIn is to be determined by the program. The default value is zero.Note that QuMomIn is used for working stress design when the nominal load method is used and for LRFD design.

Field: QuMomOut

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Qu factor for out-of-plane bending used in evaluating the punching load. If this item is zero then QuMomOut is to be determined by the program. The default value is zero.Note that QuMomOut is used for working stress design when the nominal load method is used and for LRFD design.

Field: QfAxial

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Qf factor for axial load used in evaluating the punching load. If this item is zero then QfAxial is to be determined by the program. The default value is zero.

Field: QfMomIn

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Qf factor for in-plane bending used in evaluating the punching load. If this item is zero then QfMomIn is to be determined by the program. The default value is zero.

Field: QfMomOut

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Qf factor for out-of-plane bending used in evaluating the punching load. If this item is zero then QfMomOut is to be determined by the program. The default value is zero.

Field: PhiJAxial

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Phi subscript J factor for axial load used in evaluating the punching load. If this item is zero then PhiJAxial is to be determined by the program. The default value is zero.

Field: PhiJMomIn

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Phi subscript J factor for in-plane bending used in evaluating the punching load. If this item is zero then PhiJMomIn is to be determined by the program. The default value is zero.

Field: PhiJMomOut

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Phi subscript J factor for out-of-plane bending used in evaluating the punching load. If this item is zero then PhiJMomOut is to be determined by the program. The default value is zero.

Field: WeldThick

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The lesser of the weld throat thickness or the thickness t of the thinner brace.This item is only applicable for braces with a K Overlap class.

Field: Vwa

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The AISC allowable shear stress for weld between the braces.This item is only applicable for braces with a K Overlap class that are using allowable stress design.

Field: PhiWeld

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The AISC resistance factor for the weld.This item is only applicable for braces with a K Overlap class that are using LRFD design.

Field: L1OverL

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The circumference for that portion of the brace that contacts the chord (L1) divided by the circumference of the brace contact with the chord neglecting the presence of the overlap.This item is only applicable for braces with a K Overlap class.

Field: L2

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The projected chord length (one side) of the overlapping weld, measured perpendicular to the chord, in an overlapping joint.This item is only applicable for braces with a K Overlap class.

Table: Joint Restraint Assignments

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a joint.

Field: U1

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the U1 degree of freedom is restrained at the specified joint. Otherwise it is No.

Field: U2

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the U2 degree of freedom is restrained at the specified joint. Otherwise it is No.

Field: U3

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the U3 degree of freedom is restrained at the specified joint. Otherwise it is No.

Field: R1

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the R1 degree of freedom is restrained at the specified joint. Otherwise it is No.

Field: R2

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the R2 degree of freedom is restrained at the specified joint. Otherwise it is No.

Field: R3

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the R3 degree of freedom is restrained at the specified joint. Otherwise it is No.

Table: Joint Spring Assignments 1 - Uncoupled

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a joint.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the coordinate system in which the joint springs are defined.

Field: U1

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The spring stiffness in the U1 (UX) direction for the specified cooordinate system at the indicated joint.

Field: U2

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The spring stiffness in the U2 (UY) direction for the specified cooordinate system at the indicated joint.

Field: U3

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The spring stiffness in the U3 (UZ) direction for the specified cooordinate system at the indicated joint.

Field: R1

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The spring stiffness in the R1 (RX) direction for the specified cooordinate system at the indicated joint.

Field: R2

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The spring stiffness in the R2 (RY) direction for the specified cooordinate system at the indicated joint.

Field: R3

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The spring stiffness in the R3 (RZ) direction for the specified cooordinate system at the indicated joint.

Table: Joint Spring Assignments 2 - Coupled

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a joint.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the coordinate system in which the joint springs are defined.

Field: U1

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The spring stiffness in the U1 (UX) direction for the specified cooordinate system at the indicated joint.

Field: U1U2

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The spring stiffness in the U1U2 (UXUY) direction for the specified cooordinate system at the indicated joint.

Field: U2

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The spring stiffness in the U2 (UY) direction for the specified cooordinate system at the indicated joint.

Field: U1U3

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The spring stiffness in the U1U3 (UXUZ) direction for the specified cooordinate system at the indicated joint.

Field: U2U3

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The spring stiffness in the U2U3 (UYUZ) direction for the specified cooordinate system at the indicated joint.

Field: U3

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The spring stiffness in the U3 (UZ) direction for the specified cooordinate system at the indicated joint.

Field: U1R1

Field is Imported: Yes
Format: TransRot Coupled Stiff (Stiffness section of form)
Units: Force/rad

The spring stiffness in the U1R1 (UXRX) direction for the specified cooordinate system at the indicated joint.

Field: U2R1

Field is Imported: Yes
Format: TransRot Coupled Stiff (Stiffness section of form)
Units: Force/rad

The spring stiffness in the U2R1 (UYRX) direction for the specified cooordinate system at the indicated joint.

Field: U3R1

Field is Imported: Yes
Format: TransRot Coupled Stiff (Stiffness section of form)
Units: Force/rad

The spring stiffness in the U3R1 (UZRX) direction for the specified cooordinate system at the indicated joint.

Field: R1

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The spring stiffness in the R1 (RX) direction for the specified cooordinate system at the indicated joint.

Field: U1R2

Field is Imported: Yes
Format: TransRot Coupled Stiff (Stiffness section of form)
Units: Force/rad

The spring stiffness in the U1R2 (UXRY) direction for the specified cooordinate system at the indicated joint.

Field: U2R2

Field is Imported: Yes
Format: TransRot Coupled Stiff (Stiffness section of form)
Units: Force/rad

The spring stiffness in the U2R2 (UYRY) direction for the specified cooordinate system at the indicated joint.

Field: U3R2

Field is Imported: Yes
Format: TransRot Coupled Stiff (Stiffness section of form)
Units: Force/rad

The spring stiffness in the U3R2 (UZRY) direction for the specified cooordinate system at the indicated joint.

Field: R1R2

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The spring stiffness in the R1R2 (RXRY) direction for the specified cooordinate system at the indicated joint.

Field: R2

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The spring stiffness in the R2 (RY) direction for the specified cooordinate system at the indicated joint.

Field: U1R3

Field is Imported: Yes
Format: TransRot Coupled Stiff (Stiffness section of form)
Units: Force/rad

The spring stiffness in the U1R3 (UXRZ) direction for the specified cooordinate system at the indicated joint.

Field: U2R3

Field is Imported: Yes
Format: TransRot Coupled Stiff (Stiffness section of form)
Units: Force/rad

The spring stiffness in the U2R3 (UYRZ) direction for the specified cooordinate system at the indicated joint.

Field: U3R3

Field is Imported: Yes
Format: TransRot Coupled Stiff (Stiffness section of form)
Units: Force/rad

The spring stiffness in the U3R3 (UZRZ) direction for the specified cooordinate system at the indicated joint.

Field: R1R3

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The spring stiffness in the R1R3 (RXRZ) direction for the specified cooordinate system at the indicated joint.

Field: R2R3

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The spring stiffness in the R2R3 (RYRZ) direction for the specified cooordinate system at the indicated joint.

Field: R3

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The spring stiffness in the R3 (RZ) direction for the specified cooordinate system at the indicated joint.

Table: Joint Vehicle Response Component Overwrites

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a joint.

Field: Usage

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Superstructure, AASHTO HL - Reaction indicating the vehicle type and structural member type to which the overwrite applies.AASHTO HL - Reaction refers to reactions at interior supports (piers).

Field: Component

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either F1, F2, F3, T, M2, M3 or indicating the output component to which the overwrite applies.

Field: Status

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Do Not Use, Use Positive Values, Use Negative Values, or Use All Values indicating the portion of the output for the specified component to which the overwrite applies.

Table: Lane Centerline Points

Field: Lane

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a lane.

Field: Point

Field is Imported: No
Format: Controlled by program
Units: Unitless

A point along the lane centerline. These points are calculated by the program from the lane definition data.

Field: CoordSys

Field is Imported: No
Format: Controlled by program
Units: Text

The coordinate system in which the X, Y and Z coordinates of the specified point along the lane centerline are reported.

Field: X

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The X coordinate of the specified point along the lane centerline in the specified coordinate system.

Field: Y

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Y coordinate of the specified point along the lane centerline in the specified coordinate system.

Field: Z

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Z coordinate of the specified point along the lane centerline in the specified coordinate system.

Field: GlobalX

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The X coordinate of the specified point along the lane centerline in the global coordinate system.

Field: GlobalY

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Y coordinate of the specified point along the lane centerline in the global coordinate system.

Field: GlobalZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Z coordinate of the specified point along the lane centerline in the global coordinate system.

Table: Lane Definition Data

Field: Lane

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a lane.

Field: LaneFrom

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Layout Line or Frame indicating the item (method) used to define the lane.

Field: LayoutLine

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the bridge layout line with which the specified station is associated. This item only applies when the LaneFrom item is Layout Line.

Field: Station

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

A station along the specified bridge layout line. This item only applies when the LaneFrom item is Layout Line.

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

A frame object from which the lane is defined. This item only applies when the LaneFrom item is Frame.

Field: Width

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

If the LaneFrame item is Frame then this is the width of the lane along the specified frame object.

Field: Offset

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

If the LaneFrame item is Layout Line then this is the offset at the specified station from the bridge layout line to the center line of the lane. The offset is measured perpendicular to the bridge layout line.When looking along the bridge layout line toward the next larger station, a positive offset is to the right side of the layout line. This is consistent with the frame local axes coordinate system with the positive local 1 axis along the layout line (pointing from a smaller to a larger station), the local 2 axis pointing up and the local 3 axis horizontal. A positive offset is in the positive direction of the local 3 axis.If the LaneFrame item is Frame then this is the offset of the centerline of the lane from the specified frame object.When looking from the start of the lane toward the end of the lane a positive offset is to the right of the frame object.

Field: LoadGroup

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item indicates the objects that the lane loads. It is either Default or the name of a group. Default means that the program determines which objects are loaded. If a group is specified then only the objects in that group are loaded by the lane.

Field: DiscAlong

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The lane load discretization length along the the length of the lane.

Field: DiscAcross

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The lane load discretization distance across the the width of the lane.

Field: Color

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either a defined color or an integer representation of the color associated with the lane.The possible defined colors are Black, Red, Orange, Yellow, Green, Cyan, Blue, Magenta, White, Dark Red, Dark Yellow, Dark Green, Dark Cyan, Dark Blue, Dark Magenta, Gray1, Gray2, Gray3, Gray4, Gray5, Gray6, Gray7 and Gray8. Gray1 is a light gray and Gray8 is a dark gray.

Table: Link Bridge Object Flags

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the link object.

Field: AutoBridge

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the link object is automatically created from a bridge object. Otherwise it is No.

Field: BridgeObj

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the bridge object with which this link object is associated.

Field: BOSpan

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the span in the bridge object with which this link object is associated.

Field: BOItemType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Bent, Abutment, Hinge or Restrainer indicating the portion of the bridge object with which this link object is associated.

Field: BOBent

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the bridge bent property with which this link object is associated. This item is only applicable if the BOItemType is Bent.

Field: BOAbutment

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the bridge abutment property with which this link object is associated. This item is only applicable if the BOItemType is Abutment.

Field: BOHinge

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the bridge hinge property with which this link object is associated. This item is only applicable if the BOItemType is Hinge or Restrainer.

Field: BOBentCol

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The column number in the bridge bent with which this link object is associated. This item is only applicable if the BOItemType is Bent.

Field: BOHingeAsgn

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The hinge assignment number in the bridge span with which this link object is associated. This item is only applicable if the BOItemType is Hinge or Restrainer.

Table: Link Frequency Dependent Properties 01 - General

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a link frequency dependent property.

Field: Color

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either a defined color or an integer representation of the color associated with the property.The possible defined colors are Black, Red, Orange, Yellow, Green, Cyan, Blue, Magenta, White, Dark Red, Dark Yellow, Dark Green, Dark Cyan, Dark Blue, Dark Magenta, Gray1, Gray2, Gray3, Gray4, Gray5, Gray6, Gray7 and Gray8. Gray1 is a light gray and Gray8 is a dark gray.

Table: Link Frequency Dependent Properties 02 - Details

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a link frequency dependent property.

Field: DOF

Field is Imported: Yes
Format: Controlled by program
Units: Text

This may be either U1, U2, U3, R1, R2 or R3 indicating the link property degreeof freedom considered.

Field: Frequency

Field is Imported: Yes
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

The frequency at which the specified stiffness and damping apply.

Field: TransK

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The link property stiffness (real part of the complex impedance) for the specified translational or coupled translational degree of freedom at the specified frequency. This item only applies when the DOF item is U1, U2, U3, U1U2, U1U3 or U2U3.

Field: RotK

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The link property stiffness (real part of the complex impedance) for the specified rotational or coupled rotational degree of freedom at the specified frequency. This item only applies when the DOF item is R1, R2, R3, R1R2, R1R3 or R2R3.

Field: TransRotK

Field is Imported: Yes
Format: TransRot Coupled Stiff (Stiffness section of form)
Units: Force/rad

The link property stiffness (real part of the complex impedance) for the specified coupled translational-rotational degree of freedom at the specified frequency. This item only applies when the DOF item is U1R1, U2R1, U3R1, U1R2, U2R2, U3R2, U1R3, U2R3 OR U3R3.

Field: TransC

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The link property damping (imaginary part of the complex impedance) for the specified translational or coupled translational degree of freedom at the specified frequency. This item only applies when the DOF item is U1, U2, U3, U1U2, U1U3 or U2U3.

Field: RotC

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The link property damping (imaginary part of the complex impedance) for the specified rotational or coupled rotational degree of freedom at the specified frequency. This item only applies when the DOF item is R1, R2, R3, R1R2, R1R3 or R2R3.

Field: TransRotC

Field is Imported: Yes
Format: TransRot Coupled Stiff (Stiffness section of form)
Units: Force/rad

The link property damping (imaginary part of the complex impedance) for the specified coupled translational-rotational degree of freedom at the specified frequency. This item only applies when the DOF item is U1R1, U2R1, U3R1, U1R2, U2R2, U3R2, U1R3, U2R3 OR U3R3.

Table: Link Loads - Gravity

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Link object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the coordinate system in which the gravity loads are defined.

Field: MultiplierX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The applied gravity load in the X-direction of the specified coordinate system is equal to the self weight of the object times the MultiplierX scale factor.

Field: MultiplierY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The applied gravity load in the Y-direction of the specified coordinate system is equal to the self weight of the object times the MultiplierY scale factor.

Field: MultiplierZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The applied gravity load in the Z-direction of the specified coordinate system is equal to the self weight of the object times the MultiplierZ scale factor.

Table: Link Local Axes Assignments 1 - Typical

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the link object.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle that the local 2 and 3 axes are rotated about the positive local 1 axis, from the default orientation or from the orientation determined by the plane reference vector (and if it is a single-joint link object, the axis reference vector). The rotation for a positive angle appears counterclockwise when the local +1 axis is pointing toward you.

Field: AdvanceAxes

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if an advanced method is used to define the local axes reference vectors for the link. Otherwise it is No meaning that the default reference vectors are used.Default means that the local 1-axis for two-joint link objects goes from the I-end to the J-end of the object and the local 1-axis for single-joint link objects is in the global +Z direction. The local 2-axis direction is specified by an angle measured from the global +Z axis (or from the global +X axis if the object local 1-axis is parallel to the global +Z axis). The rotation for a positive angle appears counterclockwise when the local +1 axis is pointing toward you.Advanced means that the local axes are defined with respect to user-defined reference vectors.

Table: Link Local Axes Assignments 2 - Advanced

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the link object.

Field: LocalPlane

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item indicates the local plane that is to be determined by the plane reference vector. It is either 12 or 13, indicating the 1-2 or the 1-3 plane, respectively.

Field: AxOption1

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Coord Dir, Two Joints or User Vector indicating the first method used to determine the axial reference vector.

Field: AxCoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The coordinate system used to define the axial reference vector coordinate direction and the axial user vector.

Field: AxCoordDir

Field is Imported: Yes
Format: Controlled by program
Units: Text

Axial coordinate direction taken at the link center in the specified coordinate system and used to define the axis reference vector. It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR. This item is only applicable to single-joint link objects.

Field: AxVecJt1

Field is Imported: Yes
Format: Controlled by program
Units: Text

AxVecJt1 and AxVecJt2 are the labels of two joints that define the axis reference vector for single joint link objects. If one of these items is reported as None then it means the link object center. If both items are reported as None then this option is not used to define the axis reference vector. These items do not apply to two-joint link objects.

Field: AxVecJt2

Field is Imported: Yes
Format: Controlled by program
Units: Text

AxVecJt1 and AxVecJt2 are the labels of two joints that define the axis reference vector for single joint link objects. If one of these items is reported as None then it means the link object center. If both items are reported as None then this option is not used to define the axis reference vector. These items do not apply to two-joint link objects.

Field: PlOption1

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Coord Dir, Two Joints or User Vector indicating the first method used to determine the plane reference vector.

Field: PlCoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The coordinate system used to define the plane reference vector coordinate directions and the plane user vector.

Field: CoordDir1

Field is Imported: Yes
Format: Controlled by program
Units: Text

The primary coordinate direction taken at the object center in the specified coordinate system. It is used to determine the reference vector.It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: CoordDir2

Field is Imported: Yes
Format: Controlled by program
Units: Text

The secondary coordinate direction taken at the object center in the specified coordinate system. It is used to determine the reference vector.It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: PlVecJt1

Field is Imported: Yes
Format: Controlled by program
Units: Text

PlVecJt1 and PlVecJt2 are the labels of two joints that define the plane reference vector. Either of these joints may be specified as None to indicate the center of the specified object. If both PlVecJt1 and PlVecJt2 are specified as None then they are not used to define the plane reference vector.

Field: PlVecJt2

Field is Imported: Yes
Format: Controlled by program
Units: Text

PlVecJt1 and PlVecJt2 are the labels of two joints that define the plane reference vector. Either of these joints may be specified as None to indicate the center of the specified object. If both PlVecJt1 and PlVecJt2 are specified as None then they are not used to define the plane reference vector.

Field: AxVecX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The X direction component of the axis reference vector in the coordinate system defined by the CoordSys item.

Field: AxVecY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Y direction component of the axis reference vector in the coordinate system defined by the CoordSys item.

Field: AxVecZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Z direction component of the axis reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The X direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Y direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Z direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Table: Link Property Assignments

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Link object.

Field: LinkType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Linear, MultiLinear Elastic, MultiLinear Plastic, Gap, Hook, Damper, Plastic (Wen), Rubber Isolator, Friction Isolator, or T/C Friction Isolator indicating the type of link object.

Field: LinkJoints

Field is Imported: No
Format: Controlled by program
Units: Text

This is either SingleJoint or TwoJoint indicating the type of link object.

Field: LinkProp

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a link property.

Field: LinkFDProp

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either None or the name of a frequency-dependent link property.

Table: Link Property Definitions 01 - General

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a link property.

Field: LinkType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Linear, MultiLinear Elastic, MultiLinear Plastic, Gap, Hook, Damper, Plastic (Wen), Rubber Isolator, Friction Isolator, or T/C Friction Isolator indicating the type of link object.

Field: Mass

Field is Imported: Yes
Format: Mass (Mass and Weight section of form)
Units: Force-Sec2/Length

Mass assigned to this link property.

Field: Weight

Field is Imported: Yes
Format: Weight (Mass and Weight section of form)
Units: Force

Weight assigned to this link property.

Field: RotInert1

Field is Imported: Yes
Format: Rotational Inertia (Mass and Weight section of form)
Units: Force-Length-Sec2

Rotational mass moment of inertia about the link local 1-axis assigned to the associated link property.

Field: RotInert2

Field is Imported: Yes
Format: Rotational Inertia (Mass and Weight section of form)
Units: Force-Length-Sec2

Rotational mass moment of inertia about the link local 2-axis assigned to the associated link property.

Field: RotInert3

Field is Imported: Yes
Format: Rotational Inertia (Mass and Weight section of form)
Units: Force-Length-Sec2

Rotational mass moment of inertia about the link local 3-axis assigned to the associated link property.

Field: PDM2I

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

P-Delta factor for moment at the I-end of the link about the link local 2-axis. This is the fraction of the P-Delta moment about the local 2-axis that is resisted as moment at the I-end of the link.Note that the P-Delta moment can be resisted by moment at the I-End, moment at the J-End, and a shear couple where the shears are applied at the I and J ends. PDM2I and PDM2J are the fractions of the P-Delta moment about the local 2-axis that is resisted as moment at the ends of the link. The remainder of the P-Delta moment about the local 2-axis is taken as a shear couple.Similarly, PDM3I and PDM3J are the fractions of the P-Delta moment about the local 3-axis that is resisted as moment at the ends of the link. The remainder of the P-Delta moment about the local 3-axis is taken as a shear couple.

Field: PDM2J

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

P-Delta factor for moment at the J-end of the link about the link local 2-axis. This is the fraction of the P-Delta moment about the local 2-axis that is resisted as moment at the J-end of the link.Note that the P-Delta moment can be resisted by moment at the I-End, moment at the J-End, and a shear couple where the shears are applied at the I and J ends. PDM2I and PDM2J are the fractions of the P-Delta moment about the local 2-axis that is resisted as moment at the ends of the link. The remainder of the P-Delta moment about the local 2-axis is taken as a shear couple.Similarly, PDM3I and PDM3J are the fractions of the P-Delta moment about the local 3-axis that is resisted as moment at the ends of the link. The remainder of the P-Delta moment about the local 3-axis is taken as a shear couple.

Field: PDM3I

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

P-Delta factor for moment at the I-end of the link about the link local 3-axis. This is the fraction of the P-Delta moment about the local 3-axis that is resisted as moment at the I-end of the link.Note that the P-Delta moment can be resisted by moment at the I-End, moment at the J-End, and a shear couple where the shears are applied at the I and J ends. PDM2I and PDM2J are the fractions of the P-Delta moment about the local 2-axis that is resisted as moment at the ends of the link. The remainder of the P-Delta moment about the local 2-axis is taken as a shear couple.Similarly, PDM3I and PDM3J are the fractions of the P-Delta moment about the local 3-axis that is resisted as moment at the ends of the link. The remainder of the P-Delta moment about the local 3-axis is taken as a shear couple.

Field: PDM3J

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

P-Delta factor for moment at the J-end of the link about the link local 3-axis. This is the fraction of the P-Delta moment about the local 3-axis that is resisted as moment at the J-end of the link.Note that the P-Delta moment can be resisted by moment at the I-End, moment at the J-End, and a shear couple where the shears are applied at the I and J ends. PDM2I and PDM2J are the fractions of the P-Delta moment about the local 2-axis that is resisted as moment at the ends of the link. The remainder of the P-Delta moment about the local 2-axis is taken as a shear couple.Similarly, PDM3I and PDM3J are the fractions of the P-Delta moment about the local 3-axis that is resisted as moment at the ends of the link. The remainder of the P-Delta moment about the local 3-axis is taken as a shear couple.

Field: Color

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either a defined color or an integer representation of the color associated with the property.The possible defined colors are Black, Red, Orange, Yellow, Green, Cyan, Blue, Magenta, White, Dark Red, Dark Yellow, Dark Green, Dark Cyan, Dark Blue, Dark Magenta, Gray1, Gray2, Gray3, Gray4, Gray5, Gray6, Gray7 and Gray8. Gray1 is a light gray and Gray8 is a dark gray.

Table: Link Property Definitions 02 - Linear

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a link property.

Field: DOF

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either U1, U2, U3, R1, R2, R3, U1U2, U1U3, U1R1, U1R2, U1R3, U2U3, U2R1, U2R2, U2R3, U3R1, U3R2, U3R3, R1R2, R1R3, or R2R3.The U1U2, U1U3, U1R1, U1R2, U1R3, U2U3, U2R1, U2R2, U2R3, U3R1, U3R2, U3R3, R1R2, R1R3, and R2R3 terms only apply if the properties are coupled.

Field: Fixed

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the link property DOF is fixed (restrained). It is no if the link property DOF is not fixed, that is, it is free to move.

Field: TransKE

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The effective stiffness of the link for a translational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: RotKE

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The effective stiffness of the link for a rotational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: TransRotKE

Field is Imported: Yes
Format: TransRot Coupled Stiff (Stiffness section of form)
Units: Force/rad

.

Field: TransCE

Field is Imported: Yes
Format: Eff Damping - Trans (Damping Items section of form)
Units: Force-s/Length

The effective damping of the link for a translational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: RotCE

Field is Imported: Yes
Format: Eff Damping - Rot (Damping Items section of form)
Units: Force-Length-s/rad

The effective damping of the link for a rotational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: TransRotCE

Field is Imported: Yes
Format: Eff Damping - Coupled (Damping Items section of form)
Units: Force-s/rad

.

Field: DJ

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance from the J-End of the link to the shear spring. This item only applies to the U2 and U3 (shear) degrees of freedom.

Table: Link Property Definitions 03 - MultiLinear

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a link property.

Field: DOF

Field is Imported: Yes
Format: Controlled by program
Units: Text

This may be either U1, U2, U3, R1, R2 or R3 indicating the link property degreeof freedom considered.

Field: Fixed

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the link property DOF is fixed (restrained). It is no if the link property DOF is not fixed, that is, it is free to move.

Field: NonLinear

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the link property DOF is nonlinear. It is no if the link property DOF is not nonlinear, that is, it is linear.

Field: TransKE

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The effective stiffness of the link for a translational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: RotKE

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The effective stiffness of the link for a rotational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: TransCE

Field is Imported: Yes
Format: Eff Damping - Trans (Damping Items section of form)
Units: Force-s/Length

The effective damping of the link for a translational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: RotCE

Field is Imported: Yes
Format: Eff Damping - Rot (Damping Items section of form)
Units: Force-Length-s/rad

The effective damping of the link for a rotational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: DJ

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance from the J-End of the link to the shear spring. This item only applies to the U2 and U3 (shear) degrees of freedom.

Field: Point

Field is Imported: No
Format: Controlled by program
Units: Text

Designation of a point on the multilinear force-deformation curve.

Field: Force

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The force at the specified point on the multilinear force-deformation curve. This item only applies to translational degrees of freedom (U1, U2 and U3).

Field: Displ

Field is Imported: Yes
Format: Translational Displ (Displacements section of form)
Units: Length

The displacement at the specified point on the multilinear force-deformation curve. This item only applies to translational degrees of freedom (U1, U2 and U3).

Field: Moment

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

The moment at the specified point on the multilinear force-deformation curve. This item only applies to rotational degrees of freedom (R1, R2 and R3).

Field: Rotation

Field is Imported: Yes
Format: Rotational Displ (Displacements section of form)
Units: Radians

The rotation at the specified point on the multilinear force-deformation curve. This item only applies to rotational degrees of freedom (R1, R2 and R3).

Table: Link Property Definitions 04 - Damper

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a link property.

Field: DOF

Field is Imported: Yes
Format: Controlled by program
Units: Text

This may be either U1, U2, U3, R1, R2 or R3 indicating the link property degreeof freedom considered.

Field: Fixed

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the link property DOF is fixed (restrained). It is no if the link property DOF is not fixed, that is, it is free to move.

Field: NonLinear

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the link property DOF is nonlinear. It is no if the link property DOF is not nonlinear, that is, it is linear.

Field: TransKE

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The effective stiffness of the link for a translational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: RotKE

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The effective stiffness of the link for a rotational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: TransCE

Field is Imported: Yes
Format: Eff Damping - Trans (Damping Items section of form)
Units: Force-s/Length

The effective damping of the link for a translational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: RotCE

Field is Imported: Yes
Format: Eff Damping - Rot (Damping Items section of form)
Units: Force-Length-s/rad

The effective damping of the link for a rotational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: DJ

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance from the J-End of the link to the shear spring. This item only applies to the U2 and U3 (shear) degrees of freedom.

Field: TransK

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The initial stiffness of a translational degree of freedom of the link. This item is used for nonlinear analysis cases only.

Field: RotK

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The initial stiffness of a rotational degree of freedom of the link. This item is used for nonlinear analysis cases only.

Field: TransC

Field is Imported: Yes
Format: NL Damping - Trans (Damping Items section of form)
Units: Force*(s/Length)^Cexp

The nonlinear damping coefficient used for translational degrees of freedom. This item is used for nonlinear analysis cases only.

Field: RotC

Field is Imported: Yes
Format: NL Damping - Rot (Damping Items section of form)
Units: Force-Length*(s/rad)^Cexp

The nonlinear damping coefficient used for rotational degrees of freedom. This item is used for nonlinear analysis cases only.

Field: CExp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The nonlinear damping exponent that is applied to the velocity across the damper in the equation of motion. This item is used for nonlinear analysis cases only.

Table: Link Property Definitions 05 - Gap

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a link property.

Field: DOF

Field is Imported: Yes
Format: Controlled by program
Units: Text

This may be either U1, U2, U3, R1, R2 or R3 indicating the link property degreeof freedom considered.

Field: Fixed

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the link property DOF is fixed (restrained). It is no if the link property DOF is not fixed, that is, it is free to move.

Field: NonLinear

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the link property DOF is nonlinear. It is no if the link property DOF is not nonlinear, that is, it is linear.

Field: TransKE

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The effective stiffness of the link for a translational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: RotKE

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The effective stiffness of the link for a rotational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: TransCE

Field is Imported: Yes
Format: Eff Damping - Trans (Damping Items section of form)
Units: Force-s/Length

The effective damping of the link for a translational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: RotCE

Field is Imported: Yes
Format: Eff Damping - Rot (Damping Items section of form)
Units: Force-Length-s/rad

The effective damping of the link for a rotational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: DJ

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance from the J-End of the link to the shear spring. This item only applies to the U2 and U3 (shear) degrees of freedom.

Field: TransK

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The initial stiffness of a translational degree of freedom of the link. This item is used for nonlinear analysis cases only.

Field: RotK

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The initial stiffness of a rotational degree of freedom of the link. This item is used for nonlinear analysis cases only.

Field: TransOpen

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The initial gap opening for a translational degree of freedom.

Field: RotOpen

Field is Imported: Yes
Format: Rotational Displ (Displacements section of form)
Units: Radians

The initial gap opening for a rotational degree of freedom.

Table: Link Property Definitions 06 - Hook

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a link property.

Field: DOF

Field is Imported: Yes
Format: Controlled by program
Units: Text

This may be either U1, U2, U3, R1, R2 or R3 indicating the link property degreeof freedom considered.

Field: Fixed

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the link property DOF is fixed (restrained). It is no if the link property DOF is not fixed, that is, it is free to move.

Field: NonLinear

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the link property DOF is nonlinear. It is no if the link property DOF is not nonlinear, that is, it is linear.

Field: TransKE

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The effective stiffness of the link for a translational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: RotKE

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The effective stiffness of the link for a rotational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: TransCE

Field is Imported: Yes
Format: Eff Damping - Trans (Damping Items section of form)
Units: Force-s/Length

The effective damping of the link for a translational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: RotCE

Field is Imported: Yes
Format: Eff Damping - Rot (Damping Items section of form)
Units: Force-Length-s/rad

The effective damping of the link for a rotational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: DJ

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance from the J-End of the link to the shear spring. This item only applies to the U2 and U3 (shear) degrees of freedom.

Field: TransK

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The initial stiffness of a translational degree of freedom of the link. This item is used for nonlinear analysis cases only.

Field: RotK

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The initial stiffness of a rotational degree of freedom of the link. This item is used for nonlinear analysis cases only.

Field: TransOpen

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The initial hook opening for a translational degree of freedom.

Field: RotOpen

Field is Imported: Yes
Format: Rotational Displ (Displacements section of form)
Units: Radians

The initial hook opening for a rotational degree of freedom.

Table: Link Property Definitions 07 - Rubber Isolator

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a link property.

Field: DOF

Field is Imported: Yes
Format: Controlled by program
Units: Text

This may be either U1, U2, U3, R1, R2 or R3 indicating the link property degreeof freedom considered.

Field: Fixed

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the link property DOF is fixed (restrained). It is no if the link property DOF is not fixed, that is, it is free to move.

Field: NonLinear

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the link property DOF is nonlinear. It is no if the link property DOF is not nonlinear, that is, it is linear.

Field: TransKE

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The effective stiffness of the link for a translational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: RotKE

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The effective stiffness of the link for a rotational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: TransCE

Field is Imported: Yes
Format: Eff Damping - Trans (Damping Items section of form)
Units: Force-s/Length

The effective damping of the link for a translational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: RotCE

Field is Imported: Yes
Format: Eff Damping - Rot (Damping Items section of form)
Units: Force-Length-s/rad

The effective damping of the link for a rotational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: DJ

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance from the J-End of the link to the shear spring. This item only applies to the U2 and U3 (shear) degrees of freedom.

Field: TransK

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The initial stiffness of a translational degree of freedom of the link. This item is used for nonlinear analysis cases only.

Field: TransYield

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The yield force for the link. This item applies to translational degrees of freedom.

Field: Ratio

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The ratio of the post-yield stiffness divided by the initial stiffness.

Table: Link Property Definitions 08 - Sliding Isolator

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a link property.

Field: DOF

Field is Imported: Yes
Format: Controlled by program
Units: Text

This may be either U1, U2, U3, R1, R2 or R3 indicating the link property degreeof freedom considered.

Field: Fixed

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the link property DOF is fixed (restrained). It is no if the link property DOF is not fixed, that is, it is free to move.

Field: NonLinear

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the link property DOF is nonlinear. It is no if the link property DOF is not nonlinear, that is, it is linear.

Field: TransKE

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The effective stiffness of the link for a translational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: RotKE

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The effective stiffness of the link for a rotational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: TransCE

Field is Imported: Yes
Format: Eff Damping - Trans (Damping Items section of form)
Units: Force-s/Length

The effective damping of the link for a translational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: RotCE

Field is Imported: Yes
Format: Eff Damping - Rot (Damping Items section of form)
Units: Force-Length-s/rad

The effective damping of the link for a rotational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: DJ

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance from the J-End of the link to the shear spring. This item only applies to the U2 and U3 (shear) degrees of freedom.

Field: TransK

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The initial stiffness of a translational degree of freedom of the link. This item is used for nonlinear analysis cases only.

Field: TransC

Field is Imported: Yes
Format: NL Damping - Trans (Damping Items section of form)
Units: Force*(s/Length)^Cexp

The nonlinear damping coefficient used the axial translational degree of freedom. Note that the damping exponent (CExp) associated with this item is always equal to 1. This item is used for nonlinear analysis cases only.

Field: Slow

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The friction coefficient at zero velocity.

Field: Fast

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The friction coefficient at fast velocity.

Field: Rate

Field is Imported: Yes
Format: Slider Rate (Miscellaneous section of form)
Units: sec/Length

The inverse of the characteristic sliding velocity.

Field: Radius

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

Radius of the sliding contact surface. Note that 0 means there is an infinite radius, that is, the slider is flat.

Table: Link Property Definitions 09 -TC Sliding Isolator

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a link property.

Field: DOF

Field is Imported: Yes
Format: Controlled by program
Units: Text

This may be either U1, U2, U3, R1, R2 or R3 indicating the link property degreeof freedom considered.

Field: Fixed

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the link property DOF is fixed (restrained). It is no if the link property DOF is not fixed, that is, it is free to move.

Field: NonLinear

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the link property DOF is nonlinear. It is no if the link property DOF is not nonlinear, that is, it is linear.

Field: TransKE

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The effective stiffness of the link for a translational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: RotKE

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The effective stiffness of the link for a rotational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: TransCE

Field is Imported: Yes
Format: Eff Damping - Trans (Damping Items section of form)
Units: Force-s/Length

The effective damping of the link for a translational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: RotCE

Field is Imported: Yes
Format: Eff Damping - Rot (Damping Items section of form)
Units: Force-Length-s/rad

The effective damping of the link for a rotational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: DJ

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance from the J-End of the link to the shear spring. This item only applies to the U2 and U3 (shear) degrees of freedom.

Field: TransK

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The initial stiffness of a translational degree of freedom of the link. For the axial degree of freedom this item specifies the compression stiffness. This item is used for nonlinear analysis cases only.

Field: TransKTens

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The initial stiffness of the translational axial degree of freedom of the link for tension. This item is used for nonlinear analysis cases only.

Field: GapComp

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The initial gap opening, if any, for axial compression. This item is used for nonlinear analysis cases only.

Field: GapTens

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The initial gap opening, if any, for axial tension. This item is used for nonlinear analysis cases only.

Field: TransC

Field is Imported: Yes
Format: NL Damping - Trans (Damping Items section of form)
Units: Force*(s/Length)^Cexp

The nonlinear damping coefficient used the axial translational degree of freedom. Note that the damping exponent (CExp) associated with this item is always equal to 1. This item is used for nonlinear analysis cases only.

Field: SlowComp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The friction coefficient at zero velocity for axial compression.

Field: SlowTens

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The friction coefficient at zero velocity for axial tension.

Field: FastComp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The friction coefficient at fast velocity for axial compression.

Field: FastTens

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The friction coefficient at fast velocity for axial tension.

Field: RateComp

Field is Imported: Yes
Format: Slider Rate (Miscellaneous section of form)
Units: sec/Length

The inverse of the characteristic sliding velocity for axial compression.

Field: RateTens

Field is Imported: Yes
Format: Slider Rate (Miscellaneous section of form)
Units: sec/Length

The inverse of the characteristic sliding velocity for axial tension.

Field: Radius

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

Radius of the sliding contact surface. Note that 0 means there is an infinite radius, that is, the slider is flat.

Table: Link Property Definitions 10 - Plastic (Wen)

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a link property.

Field: DOF

Field is Imported: Yes
Format: Controlled by program
Units: Text

This may be either U1, U2, U3, R1, R2 or R3 indicating the link property degreeof freedom considered.

Field: Fixed

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the link property DOF is fixed (restrained). It is no if the link property DOF is not fixed, that is, it is free to move.

Field: NonLinear

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the link property DOF is nonlinear. It is no if the link property DOF is not nonlinear, that is, it is linear.

Field: TransKE

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The effective stiffness of the link for a translational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: RotKE

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The effective stiffness of the link for a rotational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: TransCE

Field is Imported: Yes
Format: Eff Damping - Trans (Damping Items section of form)
Units: Force-s/Length

The effective damping of the link for a translational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: RotCE

Field is Imported: Yes
Format: Eff Damping - Rot (Damping Items section of form)
Units: Force-Length-s/rad

The effective damping of the link for a rotational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: DJ

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance from the J-End of the link to the shear spring. This item only applies to the U2 and U3 (shear) degrees of freedom.

Field: TransK

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The initial stiffness of a translational degree of freedom of the link. This item is used for nonlinear analysis cases only.

Field: RotK

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The initial stiffness of a rotational degree of freedom of the link. This item is used for nonlinear analysis cases only.

Field: TransYield

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The yield force for the link. This item applies to translational degrees of freedom.

Field: RotYield

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

The yield moment for the link. This item applies to rotational degrees of freedom.

Field: Ratio

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The ratio of the post-yield stiffness divided by the initial stiffness.

Field: YieldExp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The yielding exponent that controls the sharpness of the transition from the initial stiffness to the yielded stiffness.

Table: Link Property Definitions 11 - Multilinear Plastic

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a link property.

Field: DOF

Field is Imported: Yes
Format: Controlled by program
Units: Text

This may be either U1, U2, U3, R1, R2 or R3 indicating the link property degreeof freedom considered.

Field: Fixed

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

.

Field: NonLinear

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the link property is nonlinear. It is no if the link property is not nonlinear, that is, it is linear.

Field: TransKE

Field is Imported: Yes
Format: Translational Stiffness (Stiffness section of form)
Units: Force/Length

The effective stiffness of the link for a translational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: RotKE

Field is Imported: Yes
Format: Rotational Stiffness (Stiffness section of form)
Units: Force-Length/rad

The effective stiffness of the link for a rotational degree of freedom. This stiffness is used for all linear analysis cases including modal analysis cases.

Field: TransCE

Field is Imported: Yes
Format: Eff Damping - Trans (Damping Items section of form)
Units: Force-s/Length

The effective damping of the link for a translational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: RotCE

Field is Imported: Yes
Format: Eff Damping - Rot (Damping Items section of form)
Units: Force-Length-s/rad

The effective damping of the link for a rotational degree of freedom. This damping is used for all linear analysis cases including modal analysis cases. The specified effective damping is converted to modal damping for these linear analysis cases.

Field: DJ

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance from the J-End of the link to the shear spring. This item only applies to the U2 and U3 (shear) degrees of freedom.

Field: HysType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Kinematic, Takeda, or Pivot indicating the hysteresis type for the multilinear plastic link.

Field: PivotAlpha1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The unloading parameter, Alpha1, for the Pivot hysteresis type.

Field: PivotAlpha2

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The unloading parameter, Alpha2, for the Pivot hysteresis type.

Field: PivotBeta1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The pinching point parameter, Beta1, for the Pivot hysteresis type.

Field: PivotBeta2

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The pinching point parameter, Beta2, for the Pivot hysteresis type.

Field: PivotEta

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The initial stiffness loss parameter, Eta, for the Pivot hysteresis type.

Field: Point

Field is Imported: No
Format: Controlled by program
Units: Text

Designation of a point on the force-deformation curve.

Field: Force

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The force at the specified point on the force-deformation curve. This item only applies to translational degrees of freedom (U1, U2 and U3).

Field: Displ

Field is Imported: Yes
Format: Translational Displ (Displacements section of form)
Units: Length

The displacement at the specified point on the force-deformation curve. This item only applies to translational degrees of freedom (U1, U2 and U3).

Field: Moment

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

The moment at the specified point on the force-deformation curve. This item only applies to rotational degrees of freedom (R1, R2 and R3).

Field: Rotation

Field is Imported: Yes
Format: Rotational Displ (Displacements section of form)
Units: Radians

The rotation at the specified point on the force-deformation curve. This item only applies to rotational degrees of freedom (R1, R2 and R3).

Table: Link Property Definitions - Bridge Object Flags

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a link property.

Field: AutoBridge

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the link property is an automatically created from a bridge object. Otherwise it is No.

Field: BridgeObj

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the bridge object with which this link property is associated.

Table: Link Vehicle Response Component Overwrites

Field: Link

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the link object.

Field: Usage

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either AASHTO HL - Superstructure, AASHTO HL - Reaction, or AASHTO H & HS Superstructure indicating the vehicle type and structural member type to which the overwrite applies.AASHTO HL - Superstructure refers the superstructure negative moments over supports.AASHTO HL - Reaction refers to reactions at interior supports (piers).AASHTO H & HS Superstructure refers to superstructure moments (positive or negative).

Field: Component

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either F1, F2, F3, M1, M2, M3 or indicating the output component to which the overwrite applies.

Field: Status

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Do Not Use, Use Positive Values, Use Negative Values, or Use All Values indicating the portion of the output for the specified component to which the overwrite applies.

Table: Load Case Definitions

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the load case.

Field: DesignType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either DEAD, SUPER DEAD, LIVE, REDUCE LIVE, QUAKE, WIND, SNOW, or WAVE, or MOVING LOAD, or OTHER. It is used for determining load case multipliers when the program creates default design load combinations.

Field: SelfWtMult

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The self weight multiplier for the load case.

Field: AutoLoad

Field is Imported: Yes
Format: Controlled by program
Units: Text

If the Type item is Quake or Wind then this is either None, User or the name of the design code used to create the auto load.

Table: Masses 1 - Mass Source

Field: MassFrom

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Elements, Loads or All. Elements means that the mass is calculated from the self mass of elements plus any additional masses specified on joint, frame or area elements. Loads means that the mass is calculated from a user-specified collection of one or more load cases. All means that themass is calculated from both Elements and Loads.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

A load case used to define the mass.

Field: Multiplier

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Multiplier for the load case specified in the LoadCase item.

Table: Material List 1 - By Object Type

Field: ObjectType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Frame, Area, Solid or Link indicating the object type.

Field: Material

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the material associated with the object type. For links this item is N.A. which is short for Not Applicable.

Field: TotalWeight

Field is Imported: No
Format: Weight (Mass and Weight section of form)
Units: Force

The total combined weight of all of the objects in the model whose object type is that specified by the ObjectType item and whose material is that specified by the Material item.

Field: NumPieces

Field is Imported: No
Format: Controlled by program
Units: Unitless

This item only applies to frame and link objects. For frames it is the total number of frame objects in the model whose material is that specified by the Material item. For links it is the total number of links in the model.

Table: Material List 2 - By Section Property

Field: Section

Field is Imported: No
Format: Controlled by program
Units: Text

This is the name of either a frame section property, an area section property, a solid section property or a link property.

Field: ObjectType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Frame, Area, Solid or Link indicating the object type of the specified section.

Field: NumPieces

Field is Imported: No
Format: Controlled by program
Units: Unitless

This item only applies to frame and link objects. It is the total number of frame or link objects in the model whose section property is that specified by the Section item.

Field: TotalLength

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

frame objects in the model whose section property is that specified by the Section item.

Field: TotalWeight

Field is Imported: No
Format: Weight (Mass and Weight section of form)
Units: Force

The total combined weight of all of the objects in the model whose section property is that specified by the Section item.

Table: Material Properties 01 - General

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a material property.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either isotropic, orthotropic or anisotropic indicating the type of material. In the majority of models isotropic properties are used. .

Field: DesignType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Steel, Concrete, None, Aluminum, ColdFormed or ExcavatedSoil indicating the design type of the material.

Field: UnitMass

Field is Imported: Yes
Format: Mass/Volume (Mass and Weight section of form)
Units: Force-Sec2/Length4

The mass per unit volume of the material.

Field: UnitWeight

Field is Imported: Yes
Format: Weight/Volume (Mass and Weight section of form)
Units: Force/Length3

The weight per unit volume of the material.

Field: E

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Modulus of elasticity. This item only applies if the material is isotropic and not temperature dependent. Otherwise the properties are found in the Material Properties - Advanced table.

Field: U

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Poisson's ratio. This item only applies if the material is isotropic and not temperature dependent. Otherwise the properties are found in the Material Properties - Advanced table.

Field: A

Field is Imported: Yes
Format: Thermal Coefficient (Miscellaneous section of form)
Units: 1/Temp

Coefficient of thermal expansion (units are 1/delta temperature). This item only applies if the material is isotropic and not temperature dependent. Otherwise the properties are found in the Material Properties - Advanced table.

Field: MDampRatio

Field is Imported: Yes
Format: Damping Ratios (Damping Items section of form)
Units: Unitless

The modal damping ratio associated with additional material damping that is specified by modal damping ratio.

Field: VDampMass

Field is Imported: Yes
Format: Controlled by program
Units: 1/Sec

The mass coefficient associated with additional material damping that is specified by viscous proportional damping.

Field: VDampStiff

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The stiffness coefficient associated with additional material damping that is specified by viscous proportional damping.

Field: HDampMass

Field is Imported: Yes
Format: Controlled by program
Units: 1/Sec2

The mass coefficient associated with additional material damping that is specified by hysteretic proportional damping.

Field: HDampStiff

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stiffness coefficient associated with additional material damping that is specified by hysteretic proportional damping.

Field: NumAdvance

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of different advanced properties specified for the material.

Field: Color

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either a defined color or an integer representation of the color associated with the material.The possible defined colors are Black, Red, Orange, Yellow, Green, Cyan, Blue, Magenta, White, Dark Red, Dark Yellow, Dark Green, Dark Cyan, Dark Blue, Dark Magenta, Gray1, Gray2, Gray3, Gray4, Gray5, Gray6, Gray7 and Gray8. Gray1 is a light gray and Gray8 is a dark gray.

Table: Material Properties 02 - Advanced

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a material property.

Field: Temp

Field is Imported: Yes
Format: Temperature (Forces section of form)
Units: Temp

The temperature at which the associated material properties apply.

Field: E1

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Modulus of elasticity in the Material 1 direction. This item is imported for isotropic, orthotropic and anisotropic materials.

Field: E2

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Modulus of elasticity in the Material 2 direction. This item is imported for orthotropic and anisotropic materials.

Field: E3

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Modulus of elasticity in the Material 3 direction. This item is imported for orthotropic and anisotropic materials.

Field: G12

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Shear modulus in the Material 1-2 plane. This item is imported for orthotropic and anisotropic materials. For isotropic materials the value of G is calculated using the standard formula from E and U.

Field: G13

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Shear modulus in the Material 1-3 plane. This item is imported for orthotropic and anisotropic materials. For isotropic materials the value of G is calculated using the standard formula from E and U.

Field: G23

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Shear modulus in the Material 2-3 plane. This item is imported for orthotropic and anisotropic materials. For isotropic materials the value of G is calculated using the standard formula from E and U.

Field: U12

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Standard poisson's ratio. This item is imported for isotropic, orthotropic and anisotropic materials.

Field: U13

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Standard poisson's ratio. This item is imported for orthotropic and anisotropic materials.

Field: U23

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Standard poisson's ratio. This item is imported for orthotropic and anisotropic materials.

Field: U14

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear and coupling poisson's ratio. This item is imported for anisotropic materials.

Field: U24

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear and coupling poisson's ratio. This item is imported for anisotropic materials.

Field: U34

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear and coupling poisson's ratio. This item is imported for anisotropic materials.

Field: U15

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear and coupling poisson's ratio. This item is imported for anisotropic materials.

Field: U25

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear and coupling poisson's ratio. This item is imported for anisotropic materials.

Field: U35

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear and coupling poisson's ratio. This item is imported for anisotropic materials.

Field: U45

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear and coupling poisson's ratio. This item is imported for anisotropic materials.

Field: U16

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear and coupling poisson's ratio. This item is imported for anisotropic materials.

Field: U26

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear and coupling poisson's ratio. This item is imported for anisotropic materials.

Field: U36

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear and coupling poisson's ratio. This item is imported for anisotropic materials.

Field: U46

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear and coupling poisson's ratio. This item is imported for anisotropic materials.

Field: U56

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear and coupling poisson's ratio. This item is imported for anisotropic materials.

Field: A1

Field is Imported: Yes
Format: Thermal Coefficient (Miscellaneous section of form)
Units: 1/Temp

Coefficient of thermal expansion in the Material 1 direction. This item is imported for isotropic, orthotropic and anisotropic materials. The units are 1/delta temperature.

Field: A2

Field is Imported: Yes
Format: Thermal Coefficient (Miscellaneous section of form)
Units: 1/Temp

Coefficient of thermal expansion in the Material 2 direction. This item is imported for orthotropic and anisotropic materials. The units are 1/delta temperature.

Field: A3

Field is Imported: Yes
Format: Thermal Coefficient (Miscellaneous section of form)
Units: 1/Temp

Coefficient of thermal expansion in the Material 3 direction. This item is imported for orthotropic and anisotropic materials. The units are 1/delta temperature.

Field: A12

Field is Imported: Yes
Format: Thermal Coefficient (Miscellaneous section of form)
Units: 1/Temp

Coefficient of thermal expansion in the Material 1-2 plane. This item is imported for anisotropic materials. The units are 1/delta temperature.

Field: A13

Field is Imported: Yes
Format: Thermal Coefficient (Miscellaneous section of form)
Units: 1/Temp

Coefficient of thermal expansion in the Material 1-3 plane. This item is imported for anisotropic materials. The units are 1/delta temperature.

Field: A23

Field is Imported: Yes
Format: Thermal Coefficient (Miscellaneous section of form)
Units: 1/Temp

Coefficient of thermal expansion in the Material 2-3 plane. This item is imported for anisotropic materials. The units are 1/delta temperature.

Table: Material Properties 03 - Design Steel

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a material property.

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Yield stress of the steel.

Field: Fu

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Tensile strength of the steel.

Table: Material Properties 04 - Design Concrete

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a material property.

Field: Fc

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Concrete compressive strength.

Field: RebarFy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Yield strength of the rebar used for axial and bending design calculations.

Field: RebarFys

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Yield strength of the rebar used for shear design calculations.

Field: LtWtConc

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the material specified is lightweight concrete. Otherwise it is No.

Field: LtWtFact

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shear strength reduction factor for lightweight concrete.

Table: Material Properties 05 - Design Aluminum

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a material property.

Field: AlumType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Wrought, Cast-Mold or Cast-Sand indicating the type of aluminum.

Field: Alloy

Field is Imported: Yes
Format: Controlled by program
Units: Text

The Alloy designation for the aluminum, for example, 2014-T6 for wrought or 356.0-T7 for cast (mold or sand) aluminum.

Field: Ftu

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Tensile ultimate strength of aluminum.

Field: Fty

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Tensile yield strength of aluminum.

Field: Fcy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Compressive yield strength of aluminum.

Field: Fsu

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Shear ultimate strength of aluminum.

Field: Fsy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Shear yield strength of aluminum.

Table: Material Properties 06 - Design ColdFormed

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a material property.

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Yield stress of the steel.

Field: Fu

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Tensile strength of the steel.

Table: Material Properties 07 - Time Dependence For Steel

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a material property.

Field: Relaxation

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if prestressing steel relaxation is to be considered in the analysis for this material property. Otherwise it is No.

Field: Class

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The relaxation class as defined in Section 2.3.4.5 of CEB_FIP Model Code 1990. The class is either 1 or 2. Class 1 is normal relaxation characteristics for wires and strands and Class 2 is improved relaxation characteristics for wires and strands.

Table: Material Properties 08 - Time Dependence For Concrete

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a material property.

Field: E

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the time dependence of strength and modulus of elasticity of the concrete is to be considered in the analysis for this material property. Otherwise it is No..

Field: Creep

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the creep of the concrete is to be considered in the analysis for this material property. Otherwise it is No.

Field: Shrinkage

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the shrinkage of the concrete is to be considered in the analysis for this material property. Otherwise it is No.

Field: S

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The coefficient s that is defined in Section 2.1.6.1 of CEB_FIP Model Code 1990. This coefficient depends on the type of cement. It is used in calculating the time dependence of strength and modulus of elasticity.

Field: RelHumid

Field is Imported: Yes
Format: Controlled by program
Units: Percent

The relative humidity of the ambient environment in percent. This coefficient is used in calculating creep and shrinkage.

Field: NotionSize

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The notional size of the member.As defined in Equation 2.1-69 of CEB_FIP Model Code 1990 it is equal to two times the cross-sectional area of the member divided by the perimeter of the member in contact with the atmosphere. This coefficient is used in calculating creep and shrinkage.

Field: BetaSC

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The coefficient Beta subscript sc defined in Equation 2.1-76 of CEB_FIP Model Code 1990. This coefficient is used in calculating shrinkage.

Field: ShrinkStart

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The parameter t subscript s used in Section 2.1.6.4.4 of CEB_FIP Model Code 1990. It is the age of the concrete in days at the beginning of shrinkage or swelling. This parameter is used in calculating shrinkage.

Field: CreepType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item either 'Full Integration' or 'Dirichlet Series' indicating the type of analysis for creep.

Field: NumTerms

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

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Table: Material Properties 09 - Stress-Strain Curves 1 - General

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a material property.

Field: SSCurve

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a stress-strain curve that is associated with a material property.

Field: HysType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Kinematic or Takeda indicating the hystersis type associated with the stress-strain curve.

Field: Color

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either a defined color or an integer representation of the color associated with the stress-strain curve.The possible defined colors are Black, Red, Orange, Yellow, Green, Cyan, Blue, Magenta, White, Dark Red, Dark Yellow, Dark Green, Dark Cyan, Dark Blue, Dark Magenta, Gray1, Gray2, Gray3, Gray4, Gray5, Gray6, Gray7 and Gray8. Gray1 is a light gray and Gray8 is a dark gray.

Table: Material Properties 10 - Stress-Strain Curves 2 - Data

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a material property.

Field: SSCurve

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a stress-strain curve that is associated with a material property.

Field: Point

Field is Imported: No
Format: Controlled by program
Units: Text

The point number of the specified point on the stress-strain curve.

Field: Strain

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strain at the specified point.

Field: Stress

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The stress at the specified point.

Field: PointID

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either blank, or it is one of -E, -D, -C, -B, A, B ,C ,D or E. These points control the color that will be displayed for the hinge in a deformed shape plot.

Table: Multi-Step Moving Load 1 - General

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the load case in which this multi-step moving load is defined.

Field: LoadDur

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

Duration of loading in seconds.

Field: LoadDisc

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

Discretization of loading in seconds.

Table: Multi-Step Moving Load 2 - Vehicle Data

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the load case in which this multi-step moving load is defined.

Field: Vehicle

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the vehicle used in this load case.

Field: Lane

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the lane in which the specified vehicle is applied.

Field: Station

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The station along the specified lane where the front of the vehicle is initially placed.

Field: StartTime

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The time at which the vehicle is initially placed on the lane.

Field: Direction

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Forward or Backward indicating the direction the vehicle runs along the lane.

Field: Speed

Field is Imported: Yes
Format: Velocity-Trans (Time-Related section of form)
Units: Length/sec

The speed (constant) at which the vehicle moves along the lane.

Table: Named Sets - Database Tables 1 - General

Field: DBNamedSet

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a database tables named set.

Field: SortOrder

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either 'Elem, Cases' or 'Cases, Elem' indicating the output sort order.

Field: Unformatted

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This is Yes if the data is to be output unformatted; otherwise it is No.

Field: ModeStart

Field is Imported: Yes
Format: Controlled by program
Units: Text

The starting mode for modal output.

Field: ModeEnd

Field is Imported: Yes
Format: Controlled by program
Units: Text

The ending mode for modal output. If all modes are to be output then this item is All.

Field: ModalHist

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Envelopes or StepByStep indicating the type of output specified for modal history analysis cases.

Field: DirectHist

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Envelopes or StepByStep indicating the type of output specified for direct history analysis cases.

Field: NLStatic

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Last Step or StepByStep indicating the type of output specified for nonlinear static analysis cases.

Field: BaseReacX

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Global X coordinate of the point where the base reactions are reported.

Field: BaseReacY

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Global Y coordinate of the point where the base reactions are reported.

Field: BaseReacZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The Global Z coordinate of the point where the base reactions are reported.

Field: Combo

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Envelopes or MultiValued indicating the type of output specified for combinations.

Field: Steady

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Envelopes or Frequencies indicating the type of output specified for steady state analysis cases.

Field: SteadyOpt

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Phases, Magnitude or All indicating the type of output specified for steady state analysis cases. Phases means both in-phase and out-of-phase results. All means in-phase, out-of-phase and magnitude results.

Field: PSD

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either RMS or At PSD indicating the type of output specified for power spectral density analysis cases.

Field: Multistep

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Envelopes or StepByStep indicating the type of output specified for multi-step static analysis cases.

Field: NumTables

Field is Imported: No
Format: Controlled by program
Units: Unitless

.

Field: NumLoads

Field is Imported: No
Format: Controlled by program
Units: Unitless

.

Field: NumCases

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of selected analysis cases.

Field: NumGenDispl

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of selected generalized displacements.

Field: NumSectCuts

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of selected section cuts.

Field: NumVWSets

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of selected virtual work named sets.

Field: NumNLSSets

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of selected nonlinear static curves named sets.

Field: NumRSSets

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of selected joint time history response spectra named sets.

Field: NumPFSets

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of selected plot function traces named sets.

Table: Named Sets - Database Tables 2 - Selections

Field: DBNamedSet

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a database tables named set.

Field: SelectType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The type of selection. This is either Table, LoadCase, AnalysCase, GenDispl (short for generalized displacement), SectionCut, VWNamedSet (VW is short for virtual work), NLSNamedSet (NLS is short for nonlinear static curves), RSNamedSet (RS is short for joint time history response spectra), or PFNamedSet (PF is short for plot function trace).

Field: Selection

Field is Imported: Yes
Format: Controlled by program
Units: Text

Depending on the value of the SelectType item, this item is one of the following:Table: Name of the database table.LoadCase: Name of the selected load case.AnalysCase: Name of the selected analysis case.GenDispl: Name of the selected generalized displacement.SectionCut: Name of the selected section cut.VWNamedSet: Name of the selected virtual work named set.NLSNamedSet: Name of the selected nonlinear static curves named set.RSNamedSet: Name of the selected joint time history response spectra named set.PFNamedSet: Name of the selected plot function traces named set.

Table: Named Sets - Virtual Work

Field: VWNamedSet

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a virtual work named set.

Field: ForceCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

The analysis case used for forces when computing the virtual work.

Field: DisplCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

The analysis case used for displacements when computing the virtual work.

Field: ShowValues

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the virtual work is to be shown as values when displayed on screen. It is no if it is to be shown as different colors (with a legend) when displayed on screen.

Field: ValueType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Relative or Absolute indicating the type of value displayed.

Table: Named Sets - Nonlinear Static Curves

Field: NLSNamedSet

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a nonlinear static curve named set.

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

The analysis case for which the nonlinear static curve is generated.

Field: PlotType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Force-Displ (short for force-displacement) or ADRS (short for acceleration-disiplacement response spectrum, i.e., capacity spectrum).

Field: AddNote

Field is Imported: Yes
Format: Controlled by program
Units: Text

Additional notes associated with the nonlinear static curve.

Field: CurveColor

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either a defined color or an integer representation of the color in which the trace will be the nonlinear static curve will be displayed on the screen.The possible defined colors are Black, Red, Orange, Yellow, Green, Cyan, Blue, Magenta, White, Dark Red, Dark Yellow, Dark Green, Dark Cyan, Dark Blue, Dark Magenta, Gray1, Gray2, Gray3, Gray4, Gray5, Gray6, Gray7 and Gray8. Gray1 is a light gray and Gray8 is a dark gray.

Field: DemandFrom

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either 'Function' or 'Ca and Cv' indicating how the demand response spectrum is obtained. Function means the demand response spectrum is aspecified user-defined response spectrum function. Ca and Cv menas the demand response spectrum is created from user specified Ca and Cv values.

Field: Function

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the response spectrum function used for the demand curves in a capacity spectrum plot. This item is only applicable when the DemandFrom item is 'Function'.

Field: FuncSF

Field is Imported: Yes
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

The scale factor by which the function values are multiplied.

Field: Ca

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Ca coefficient for demand curves in a capacity spectrum plot. This item is only applicable when the DemandFrom item is 'Ca and Cv'.

Field: Cv

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Cv coefficient for demand curves in a capacity spectrum plot. This item is only applicable when the DemandFrom item is 'Ca and Cv'.

Field: PlotPeriod

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the lines of constant period are to be displayed on screen in the capacity spectrum plot. Otherwise it is No.

Field: PlotDemand

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the demand spectra for different damping levels are to be displayed on screen in the capacity spectrum plot. Otherwise it is No.

Field: PlotSingle

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the single demand spectrum is to be displayed on screen in the capacity spectrum plot. Otherwise it is No.

Field: PeriodColor

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either a defined color or an integer representation of the color in which the trace will be the period lines will be displayed on the screen.The possible defined colors are Black, Red, Orange, Yellow, Green, Cyan, Blue, Magenta, White, Dark Red, Dark Yellow, Dark Green, Dark Cyan, Dark Blue, Dark Magenta, Gray1, Gray2, Gray3, Gray4, Gray5, Gray6, Gray7 and Gray8. Gray1 is a light gray and Gray8 is a dark gray.

Field: DemandColor

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either a defined color or an integer representation of the color in which the trace will be the family of demand curves will be displayed on the screen.The possible defined colors are Black, Red, Orange, Yellow, Green, Cyan, Blue, Magenta, White, Dark Red, Dark Yellow, Dark Green, Dark Cyan, Dark Blue, Dark Magenta, Gray1, Gray2, Gray3, Gray4, Gray5, Gray6, Gray7 and Gray8. Gray1 is a light gray and Gray8 is a dark gray.

Field: SingleColor

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either a defined color or an integer representation of the color in which the trace will be the single demand curve will be displayed on the screen.The possible defined colors are Black, Red, Orange, Yellow, Green, Cyan, Blue, Magenta, White, Dark Red, Dark Yellow, Dark Green, Dark Cyan, Dark Blue, Dark Magenta, Gray1, Gray2, Gray3, Gray4, Gray5, Gray6, Gray7 and Gray8. Gray1 is a light gray and Gray8 is a dark gray.

Field: Period1

Field is Imported: Yes
Format: Period (Time-Related section of form)
Units: Sec

The first of four user specified periods which will be displayed on screen in the capacity spectrum plot if the PlotPeriod item is Yes.

Field: Period2

Field is Imported: Yes
Format: Period (Time-Related section of form)
Units: Sec

The second of four user specified periods which will be displayed on screen in the capacity spectrum plot if the PlotPeriod item is Yes.

Field: Period3

Field is Imported: Yes
Format: Period (Time-Related section of form)
Units: Sec

The third of four user specified periods which will be displayed on screen in the capacity spectrum plot if the PlotPeriod item is Yes.

Field: Period4

Field is Imported: Yes
Format: Period (Time-Related section of form)
Units: Sec

The fourth of four user specified periods which will be displayed on screen in the capacity spectrum plot if the PlotPeriod item is Yes.

Field: Damping1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The first of four user specified damping values for which demand spectra will be displayed on screen in the capacity spectrum plot if the PlotDemand item is Yes.

Field: Damping2

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The second of four user specified damping values for which demand spectra will be displayed on screen in the capacity spectrum plot if the PlotDemand item is Yes.

Field: Damping3

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The third of four user specified damping values for which demand spectra will be displayed on screen in the capacity spectrum plot if the PlotDemand item is Yes.

Field: Damping4

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The fourth of four user specified damping values for which demand spectra will be displayed on screen in the capacity spectrum plot if the PlotDemand item is Yes.

Field: AddDamp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The inherent and additional structural damping used in the capacity spectrum plot.

Field: StructType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either A, B, C, or User indicating the structural type.

Field: BetaZero1

Field is Imported: Yes
Format: Controlled by program
Units: Percent

The BetaSubZero value for point 1 associated with the specified StructType item.

Field: Kappa1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Kappa value for point 1 associated with the specified StructType item.

Field: BetaZero2

Field is Imported: Yes
Format: Controlled by program
Units: Percent

The BetaSubZero value for point 2 associated with the specified StructType item.

Field: Kappa2

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Kappa value for point 1 associated with the specified StructType item.

Field: HLabelFD

Field is Imported: Yes
Format: Controlled by program
Units: Text

The horizontal axis label for a force-displacement plot.

Field: VLabelFD

Field is Imported: Yes
Format: Controlled by program
Units: Text

The vertical axis label for a force-displacement plot.

Field: HMinFD

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The minimum horizontal axis value displayed for a force-displacement plot. If both HMinFD and HMaxFD are input as 0, then the entire horizontal extent of the force-displacement plot is displayed.

Field: HMaxFD

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum horizontal axis value displayed for a force-displacement plot. If both HMinFD and HMaxFD are input as 0, then the entire horizontal extent of the force-displacement plot is displayed.

Field: VMinFD

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The minimum vertical axis value displayed for a force-displacement plot. If both VMinFD and VMaxFD are input as 0, then the entire vertical extent of the force-displacement plot is displayed.

Field: VMaxFD

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum vertical axis value displayed for a force-displacement plot. If both VMinFD and VMaxFD are input as 0, then the entire vertical extent of the force-displacement plot is displayed.

Field: HLabelCS

Field is Imported: Yes
Format: Controlled by program
Units: Text

The horizontal axis label for a capacity spectrum plot.

Field: VLabelCS

Field is Imported: Yes
Format: Controlled by program
Units: Text

The vertical axis label for a capacity spectrum plot.

Field: HMinCS

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The minimum horizontal axis value displayed for a capacity spectrum plot. If both HMinCS and HMaxCS are input as 0, then the entire horizontal extent of the capacity spectrum plot is displayed.

Field: HMaxCS

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum horizontal axis value displayed for a capacity spectrum plot. If both HMinCS and HMaxCS are input as 0, then the entire horizontal extent of the capacity spectrum plot is displayed.

Field: VMinCS

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The minimum vertical axis value displayed for a capacity spectrum plot. If both VMinCS and VMaxCS are input as 0, then the entire vertical extent of the capacity spectrum plot is displayed.

Field: VMaxCS

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum vertical axis value displayed for a capacity spectrum plot. If both VMinCS and VMaxCS are input as 0, then the entire vertical extent of the capacity spectrum plot is displayed.

Table: Named Sets - Plot Function Traces 1 - General

Field: PFNamedSet

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a plot function trace named set.

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

The analysis case for which the plot function trace is generated.

Field: HorizFunc

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Time, Frequency, Step, or the name of a plot function indicating the item used for the horizontal axis of the plot function trace.

Field: NumVertFunc

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of vertical plot functions contained in this named set.

Field: TimeFrom

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The starting time (or step) for the plot function trace.

Field: TimeTo

Field is Imported: Yes
Format: Other Time (Seconds) (Time-Related section of form)
Units: Sec

The ending time (or step) for the plot function trace.

Field: OverrideH

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the default range of values displayed (or tabulated) for the horizontal axis of the plot function trace is to be overridden.

Field: OverrideV

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the default range of values displayed (or tabulated) for the vertical axis of the plot function trace is to be overridden.

Field: HorizMin

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The minimum value displayed (or tabulated) along the horizontal axis of the plot function trace. If both the HorizMin and the HorizMax items are zero then the full horizontal range of the plot function trace is displayed.

Field: HorizMax

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum value displayed (or tabulated) along the horizontal axis of the plot function trace. If both the HorizMin and the HorizMax items are zero then the full horizontal range of the plot function trace is displayed.

Field: VertMin

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The minimum value displayed (or tabulated) along the vertical axis of the plot function trace. If both the VertMin and the VertMax items are zero then the full vertical range of the plot function trace is displayed.

Field: VertMax

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum value displayed (or tabulated) along the vertical axis of the plot function trace. If both the VertMin and the VertMax items are zero then the full vertical range of the plot function trace is displayed.

Field: HorizLabel

Field is Imported: Yes
Format: Controlled by program
Units: Text

The horizontal axis label for the plot function trace.

Field: VertLabel

Field is Imported: Yes
Format: Controlled by program
Units: Text

The vertical axis label for the plot function trace.

Field: GridOverlay

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if grid lines are displayed on the plot function trace. Otherwise it is No.

Field: SSType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Magnitude or Phased indicating the type of plot function. This item only applies when the analysis case is a steady state analysis case.

Field: SSPhaseAng

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

This phase angle for the output. This item only applies when the analysis case is a steady state analysis case and the SSType item is Phased.

Table: Named Sets - Plot Function Traces 2 - Vertical Functions

Field: PFNamedSet

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a plot function trace named set.

Field: VertFunc

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the vertical plot function in the plot function trace.

Field: LineType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Solid, Dashed or Dotted indicating the line type used when the trace is displayed on the screen.

Field: LineColor

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either a defined color or an integer representation of the color in which the trace will be the trace will be displayed on the screen.The possible defined colors are Black, Red, Orange, Yellow, Green, Cyan, Blue, Magenta, White, Dark Red, Dark Yellow, Dark Green, Dark Cyan, Dark Blue, Dark Magenta, Gray1, Gray2, Gray3, Gray4, Gray5, Gray6, Gray7 and Gray8. Gray1 is a light gray and Gray8 is a dark gray.

Field: VertSF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A scale factor applied to the vertical plot function values in the trace.

Table: Named Sets - Response Spectrum 1 - General

Field: RSNamedSet

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a joint time history response spectrum named set.

Field: Case

Field is Imported: Yes
Format: Controlled by program
Units: Text

The analysis case for which the response spectrum curve is generated.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The coordinate system in which the response spectrum curve is generated.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either UX, UY, or UZ (U1, U2 or U3 for local) indicating the direction in the specified coordinate system for which the response spectrum curve is generated.

Field: AbsType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either frequency or period indicating the data type for the abscissa (horizontal axis) of the response spectrum curve.

Field: OrdType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either SD, SV, PSV, SA, or PSA indicating the data type for the ordinate (vertical axis) of the response spectrum curve.SD is spectral displacement, SV is spectral velocity, PSV is psuedo spectral velocity, SA is spectral acceleration, and PSA is psuedo spectral acceleration.

Field: SpcWidening

Field is Imported: Yes
Format: Controlled by program
Units: Percent

The peaks of the spectrum are widened by two times this percentage of the frequency at the peak. For example, if the frequency at a peak of the spectrum is 0.5 cycles/sec, and the specified spectrum widening is 10%, then the peak is widened on each side by 0.10 * 0.5 =.05 cycles per second. In other words, the peak is widened to extend from 0.45 cycles per second to 0.55 cycles per second.

Field: OrdSF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A scale factor applied to the ordinate (vertical axis) values of the response spectrum.The scale factor item linearly scales the ordinates of the response spectrum. This scale factor can be useful if, for example, you have run your analysis in kip and inch units and you want to see a PSA response spectrum with the acceleration in g (acceleration of gravity) instead of inches/second2. If this were the case you would specify the scale factor as: 1 / 386.4 = 0.002588.

Field: NumJoints

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of joints specified in the named set.

Field: NumDamping

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of different damping values specified in the named set.

Field: DefFreqPer

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the Default Frequencies (or Periods) are included as values for which a point will exist on the generated reponse spectrum curve.The default frequencies in Hz are: 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1, 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.8, 2, 2.2, 2.4, 2.6, 2.8, 3, 3.3, 3.6, 4, 4.4, 4.7, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 10, 11, 12, 13, 14, 15, 16.5, 18, 20, 22, 25, 28 and 33. The default periods are equal to one divided by the default frequencies.

Field: StrFreqPer

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the structural frequencies (periods) calculated by the program are frequencies (periods) for which a point will be generated on the reponse spectrum curve. The frequencies (periods) used are those for the modal analysis case that is associated with the specified analysis case for the response spectrum generation.

Field: NumUserFP

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of user-specified frequency (or period) values for which a point will be generated on the reponse spectrum curve.

Field: AbsScale

Field is Imported: Yes
Format: Controlled by program
Units: Text

The is either Arithmetic or Log indicating the type of scale used on the abscissa (horizontal axis) of the response spectrum curve.

Field: OrdScale

Field is Imported: Yes
Format: Controlled by program
Units: Text

The is either Arithmetic or Log indicating the type of scale used on the ordinate (vertical axis) of the response spectrum curve.

Field: GridOverlay

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if grid lines are displayed on the response spectrum plot. Otherwise it is No.

Table: Named Sets - Response Spectrum 2 - Joints

Field: RSNamedSet

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a joint time history response spectrum named set.

Field: Joint

Field is Imported: Yes
Format: Controlled by program
Units: Text

A joint for which a reponse spectrum curve is generated.

Table: Named Sets - Response Spectrum 3 - Damping

Field: RSNamedSet

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a joint time history response spectrum named set.

Field: Damping

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A damping value for which a reponse spectrum curve is generated.

Table: Named Sets - Response Spectrum 4 - User Freq/Periods

Field: RSNamedSet

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a joint time history response spectrum named set.

Field: FreqOrPer

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Frequency or Period. It indicates which of the following fields (Frequency or Period) will be read on import.

Field: Frequency

Field is Imported: Yes
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

A frequency value for which a point will be generated on the reponse spectrum curve.

Field: Period

Field is Imported: Yes
Format: Period (Time-Related section of form)
Units: Sec

A period value for which a point will be generated on the reponse spectrum curve.

Table: Options - Colors - Display

Field: DeviceType

Field is Imported: Yes
Format: Controlled by program
Units: Text

to which the specified colors apply. CPrinter refers to a color printer.

Field: Points

Field is Imported: Yes
Format: Controlled by program
Units: Text

The display color for point objects.

Field: LinesFrame

Field is Imported: Yes
Format: Controlled by program
Units: Text

The display color for straight frame and curved frame type line objects.

Field: LinesCable

Field is Imported: Yes
Format: Controlled by program
Units: Text

The display color for cable type line objects.

Field: LinesTendon

Field is Imported: Yes
Format: Controlled by program
Units: Text

The display color for tendon type line objects.

Field: SpringLinks

Field is Imported: Yes
Format: Controlled by program
Units: Text

The display color for springs and for link objects.

Field: Restraints

Field is Imported: Yes
Format: Controlled by program
Units: Text

The display color for restraints.

Field: Releases

Field is Imported: Yes
Format: Controlled by program
Units: Text

The display color for releases.

Field: Axes

Field is Imported: Yes
Format: Controlled by program
Units: Text

The display color for the current coordinate system axes.

Field: Text

Field is Imported: Yes
Format: Controlled by program
Units: Text

The display color for text.

Field: ShadowLines

Field is Imported: Yes
Format: Controlled by program
Units: Text

The color of the undeformed shape plot when the deformed shape is displayed.

Field: GuideLines

Field is Imported: Yes
Format: Controlled by program
Units: Text

The display color for guide lines (grids).

Field: AreaF5

Field is Imported: Yes
Format: Controlled by program
Units: Text

the edge color of area objects that are not filled.Note that face 5 is on the positive local 3-axis side of the area object.

Field: AreaF6

Field is Imported: Yes
Format: Controlled by program
Units: Text

The display color for fill on face 6 of area objects.Note that face 6 is on the negative local 3-axis side of the area object.

Field: AreaEdge

Field is Imported: Yes
Format: Controlled by program
Units: Text

The display color for area object edges when the objects are filled.

Field: SolidF1

Field is Imported: Yes
Format: Controlled by program
Units: Text

The display color for fill of solid objects. This is also the display color of solid objects edges when the objects are not filled. Finally, this is also the display color for face 1 of solid objects when they are displayed with color-coded faces.

Field: SolidF2

Field is Imported: Yes
Format: Controlled by program
Units: Text

The display color for face 2 of solid objects when they are displayed with color-coded faces.

Field: SolidF3

Field is Imported: Yes
Format: Controlled by program
Units: Text

The display color for face 3 of solid objects when they are displayed with color-coded faces.

Field: SolidF4

Field is Imported: Yes
Format: Controlled by program
Units: Text

The display color for face 4 of solid objects when they are displayed with color-coded faces.

Field: SolidF5

Field is Imported: Yes
Format: Controlled by program
Units: Text

The display color for face 5 of solid objects when they are displayed with color-coded faces.

Field: SolidF6

Field is Imported: Yes
Format: Controlled by program
Units: Text

The display color for face 6 of solid objects when they are displayed with color-coded faces.

Field: SolidEdge

Field is Imported: Yes
Format: Controlled by program
Units: Text

The display color for solid object edges when the objects are filled.

Field: Background

Field is Imported: Yes
Format: Controlled by program
Units: Text

The background color of the screen.

Field: Darkness

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A value ranging from 0 to 1 that controls the variation of color (intensity of shading) when extruded shapes are displayed. A darkness value of 0 means there is no variation of color (and thus the extruded shape will not really be distinguishable). A darkness value of 1 gives the maximum variation of color. The default value is 0.3; this value works well in most instances.

Table: Options - Colors - Output

Field: DeviceType

Field is Imported: Yes
Format: Controlled by program
Units: Text

to which the specified colors apply. CPrinter refers to a color printer.

Field: Contour1

Field is Imported: Yes
Format: Controlled by program
Units: Text

Color associated with contour displays. Contour1 is the color associated with the minimum value and Contour16 is that associated with the maximum value.

Field: Contour2

Field is Imported: Yes
Format: Controlled by program
Units: Text

Color associated with contour displays. Contour1 is the color associated with the minimum value and Contour16 is that associated with the maximum value.

Field: Contour3

Field is Imported: Yes
Format: Controlled by program
Units: Text

Color associated with contour displays. Contour1 is the color associated with the minimum value and Contour16 is that associated with the maximum value.

Field: Contour4

Field is Imported: Yes
Format: Controlled by program
Units: Text

Color associated with contour displays. Contour1 is the color associated with the minimum value and Contour16 is that associated with the maximum value.

Field: Contour5

Field is Imported: Yes
Format: Controlled by program
Units: Text

Color associated with contour displays. Contour1 is the color associated with the minimum value and Contour16 is that associated with the maximum value.

Field: Contour6

Field is Imported: Yes
Format: Controlled by program
Units: Text

Color associated with contour displays. Contour1 is the color associated with the minimum value and Contour16 is that associated with the maximum value.

Field: Contour7

Field is Imported: Yes
Format: Controlled by program
Units: Text

Color associated with contour displays. Contour1 is the color associated with the minimum value and Contour16 is that associated with the maximum value.

Field: Contour8

Field is Imported: Yes
Format: Controlled by program
Units: Text

Color associated with contour displays. Contour1 is the color associated with the minimum value and Contour16 is that associated with the maximum value.

Field: Contour9

Field is Imported: Yes
Format: Controlled by program
Units: Text

Color associated with contour displays. Contour1 is the color associated with the minimum value and Contour16 is that associated with the maximum value.

Field: Contour10

Field is Imported: Yes
Format: Controlled by program
Units: Text

Color associated with contour displays. Contour1 is the color associated with the minimum value and Contour16 is that associated with the maximum value.

Field: Contour11

Field is Imported: Yes
Format: Controlled by program
Units: Text

Color associated with contour displays. Contour1 is the color associated with the minimum value and Contour16 is that associated with the maximum value.

Field: Contour12

Field is Imported: Yes
Format: Controlled by program
Units: Text

Color associated with contour displays. Contour1 is the color associated with the minimum value and Contour16 is that associated with the maximum value.

Field: Contour13

Field is Imported: Yes
Format: Controlled by program
Units: Text

Color associated with contour displays. Contour1 is the color associated with the minimum value and Contour16 is that associated with the maximum value.

Field: Contour14

Field is Imported: Yes
Format: Controlled by program
Units: Text

Color associated with contour displays. Contour1 is the color associated with the minimum value and Contour16 is that associated with the maximum value.

Field: Contour15

Field is Imported: Yes
Format: Controlled by program
Units: Text

Color associated with contour displays. Contour1 is the color associated with the minimum value and Contour16 is that associated with the maximum value.

Field: Transpare

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

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Field: Ratio1

Field is Imported: Yes
Format: Controlled by program
Units: Text

Color associated with interaction ratio displays. Ratio1 is the color associated with the minimum ratio and Ratio5 is that associated with the maximum ratio.

Field: Ratio2

Field is Imported: Yes
Format: Controlled by program
Units: Text

Color associated with interaction ratio displays. Ratio1 is the color associated with the minimum ratio and Ratio5 is that associated with the maximum ratio.

Field: Ratio3

Field is Imported: Yes
Format: Controlled by program
Units: Text

Color associated with interaction ratio displays. Ratio1 is the color associated with the minimum ratio and Ratio5 is that associated with the maximum ratio.

Field: Ratio4

Field is Imported: Yes
Format: Controlled by program
Units: Text

Color associated with interaction ratio displays. Ratio1 is the color associated with the minimum ratio and Ratio5 is that associated with the maximum ratio.

Field: Ratio5

Field is Imported: Yes
Format: Controlled by program
Units: Text

Color associated with interaction ratio displays. Ratio1 is the color associated with the minimum ratio and Ratio5 is that associated with the maximum ratio.

Field: RatioNotD

Field is Imported: Yes
Format: Controlled by program
Units: Text

Color associated with Not Yet Designed for interaction ratio displays.

Field: RatioNotC

Field is Imported: Yes
Format: Controlled by program
Units: Text

Color associated with Not Calculated for interaction ratio displays.

Field: RatioVal1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

RatioVal1 through RatioVal4 are four user-defined interaction ratio values that are used to separate the different interaction ratio colors. RatioVal1 is the smallest value and RatioVal4 is the largest. RatioVal1 must be greater than 0 and typically RatioVal4 is set to 1, though it can be less than or greater 1, if desired. RatioVal1 through RatioVal4 must be in ascending numerical order.

Field: RatioVal2

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

RatioVal1 through RatioVal4 are four user-defined interaction ratio values that are used to separate the different interaction ratio colors. RatioVal1 is the smallest value and RatioVal4 is the largest. RatioVal1 must be greater than 0 and typically RatioVal4 is set to 1, though it can be less than or greater 1, if desired. RatioVal1 through RatioVal4 must be in ascending numerical order.

Field: RatioVal3

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

RatioVal1 through RatioVal4 are four user-defined interaction ratio values that are used to separate the different interaction ratio colors. RatioVal1 is the smallest value and RatioVal4 is the largest. RatioVal1 must be greater than 0 and typically RatioVal4 is set to 1, though it can be less than or greater 1, if desired. RatioVal1 through RatioVal4 must be in ascending numerical order.

Field: RatioVal4

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

RatioVal1 through RatioVal4 are four user-defined interaction ratio values that are used to separate the different interaction ratio colors. RatioVal1 is the smallest value and RatioVal4 is the largest. RatioVal1 must be greater than 0 and typically RatioVal4 is set to 1, though it can be less than or greater 1, if desired. RatioVal1 through RatioVal4 must be in ascending numerical order.

Field: DFillPos

Field is Imported: Yes
Format: Controlled by program
Units: Text

Color associated with diagram fill for positive values.

Field: DFillNeg

Field is Imported: Yes
Format: Controlled by program
Units: Text

Color associated with diagram fill for negative values.

Field: DFillRPos

Field is Imported: Yes
Format: Controlled by program
Units: Text

Color associated with diagram fill for positive range values.

Field: DFillRNeg

Field is Imported: Yes
Format: Controlled by program
Units: Text

Color associated with diagram fill for negative range values.

Table: Overwrites - Aluminum Design - AA-ASD 2000

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design. The program determined value is taken from the steel preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The live load reduction factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Cb

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless coefficient that depends on the moment gradient. Specifying 0 means the value is program determined.

Field: K1Comp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Coefficient for determining slenderness limit for elements in compression. Specifying 0 means the value is program determined.

Field: K2Comp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Coefficient for determining allowable compressive stress for elements in compression. Specifying 0 means the value is program determined.

Field: K1Bend

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Coefficient for determining slenderness limit for elements in bending. Specifying 0 means the value is program determined.

Field: K2Bend

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Coefficient for determining allowable compressive stress for elements in bending. Specifying 0 means the value is program determined.

Field: KT

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Coefficient for tension members, kt. Specifying 0 means the value is program determined.

Field: C1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Lateral buckling coefficient, C1. Specifying 0 means the value is program determined.

Field: C2

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Lateral buckling coefficient, C2. Specifying 0 means the value is program determined.

Field: Fa

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable compressive stress for member considered as an axially loaded column. Specifying 0 means the value is program determined.

Field: Ft

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable tensile stress for a member loaded only axially. Specifying 0 means the value is program determined.

Field: Fb3

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable bending stress for major axis bending for members subjected to bending only. Specifying 0 means the value is program determined.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Fb2

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable bending stress for minor axis bending for members subjected to bending only. Specifying 0 means the value is program determined.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fs2

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable shear stress for major direction shear for members subjected only to shear or torsion. Specifying 0 means the value is program determined.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Fs3

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable shear stress for minor direction shear for members subjected only to shear or torsion. Specifying 0 means the value is program determined.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Aluminum Design - AA-LRFD 2000

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design. The program determined value is taken from the steel preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The live load reduction factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Cb

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless coefficient that depends on the moment gradient. Specifying 0 means the value is program determined.

Field: K1Comp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Coefficient for determining slenderness limit for elements in compression. Specifying 0 means the value is program determined.

Field: K2Comp

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Coefficient for determining allowable compressive stress for elements in compression. Specifying 0 means the value is program determined.

Field: K1Bend

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Coefficient for determining slenderness limit for elements in bending. Specifying 0 means the value is program determined.

Field: K2Bend

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Coefficient for determining allowable compressive stress for elements in bending. Specifying 0 means the value is program determined.

Field: KT

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Coefficient for tension members, kt. Specifying 0 means the value is program determined.

Field: C1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Lateral buckling coefficient, C1. Specifying 0 means the value is program determined.

Field: C2

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Lateral buckling coefficient, C2. Specifying 0 means the value is program determined.

Field: Fa

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable compressive stress for member considered as an axially loaded column. Specifying 0 means the value is program determined.

Field: Ft

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable tensile stress for a member loaded only axially. Specifying 0 means the value is program determined.

Field: Fb3

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable bending stress for major axis bending for members subjected to bending only. Specifying 0 means the value is program determined.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Fb2

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable bending stress for minor axis bending for members subjected to bending only. Specifying 0 means the value is program determined.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fs2

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable shear stress for major direction shear for members subjected only to shear or torsion. Specifying 0 means the value is program determined.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Fs3

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable shear stress for minor direction shear for members subjected only to shear or torsion. Specifying 0 means the value is program determined.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Auto Wave Loads - Cable

Field: Cable

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: LoadByWave

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the element is loaded by the wave; otherwise it is No. The default value is Yes. This item allows you to specify that elements that would otherwise be loaded by the wave are not loaded by the wave.

Field: LoadDisc

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The maximum discretization length for distributed wave loads appled to the object. A value is calculated for the distributed load at locations along the object not exceeding the discretization length. The magnitude of the distributed wave load is assumed to vary linearly between these calculated locations. Specifying zero or a negative value means the item is program determined.

Field: MarineGrow

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of marine growth on the element. Specifying a negative value means the item is program determined.

Field: DimForce2

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The dimension of the frame element in the local 2 direction used to determine the wave or wave wind force acting on the element. The specified marine growth or ice thickness is added to this dimenison when calculating the force on the element. Specifying a negative value means the item is program determined.

Field: DimForce3

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The dimension of the frame element in the local 3 direction used to determine the wave or wave wind force acting on the element. The specified marine growth or ice thickness is added to this dimenison when calculating the force on the element. Specifying a negative value means the item is program determined.

Field: DragCoeff

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The drag coefficient for the element. Specifying a negative value means the item is program determined.

Field: InerCoeff

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The inertia coefficient for the element. Specifying a negative value means the item is program determined.

Field: Flooded

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the element is flooded; otherwise it is No. The default value is No. This item effects the cross-sectional area used in computing the concentrated compressive bouyant forces applied at the object nodes. For flooded members the section area is used. For non-flooded members the enclosed area is used.

Field: LoadByWind

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the element is loaded by the wave wind load; otherwise it is No. The default value is Yes. This item allows you to specify that elements that would otherwise be loaded by the wave wind load are not loaded by the wind.

Field: ShapeCoeff

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shape coefficient (for wave wind load) for the element. The default value is 1. Specifying a negative value means the item is program determined.

Field: IceThick

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

growth value is used. Specifying a negative value means the item is program determined.

Field: ShieldFact

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The wind load on an element is multiplied by this shielding factor. The default value is 1. Specifying a negative value means the item is program determined (the default value is used).

Table: Overwrites - Auto Wave Loads - Frame

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: LoadByWave

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the element is loaded by the wave; otherwise it is No. The default value is Yes. This item allows you to specify that elements that would otherwise be loaded by the wave are not loaded by the wave.

Field: LoadDisc

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The maximum discretization length for distributed wave loads apppled to the object. A value is calculated for the distributed load at locations along the object not exceeding the discretization length. The magnitude of the distributed wave load is assumed to vary linearly between these calculated locations. Specifying zero or a negative value means the item is program determined.

Field: MarineGrow

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of marine growth on the element. Specifying a negative value means the item is program determined.

Field: DimForce2

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The dimension of the frame element in the local 2 direction used to determine the wave or wave wind force acting on the element. The specified marine growth or ice thickness is added to this dimenison when calculating the force on the element. Specifying a negative value means the item is program determined.

Field: DimForce3

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The dimension of the frame element in the local 3 direction used to determine the wave or wave wind force acting on the element. The specified marine growth or ice thickness is added to this dimenison when calculating the force on the element. Specifying a negative value means the item is program determined.

Field: DragCoeff

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The drag coefficient for the element. Specifying a negative value means the item is program determined.

Field: InerCoeff

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The inertia coefficient for the element. Specifying a negative value means the item is program determined.

Field: Flooded

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the element is flooded; otherwise it is No. The default value is No. This item effects the cross-sectional area used in computing the concentrated compressive bouyant forces applied at the object nodes. For flooded members the section area is used. For non-flooded members the enclosed area is used.

Field: LoadByWind

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the element is loaded by the wave wind load; otherwise it is No. The default value is Yes. This item allows you to specify that elements that would otherwise be loaded by the wave wind load are not loaded by the wind.

Field: ShapeCoeff

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shape coefficient (for wave wind load) for the element. The default value is 1. Specifying a negative value means the item is program determined.

Field: IceThick

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

growth value is used. Specifying a negative value means the item is program determined.

Field: ShieldFact

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The wind load on an element is multiplied by this shielding factor. The default value is 1. Specifying a negative value means the item is program determined (the default value is used).

Table: Overwrites - Auto Wind Loads - Cable

Field: Cable

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: LoadByWind

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the element is loaded by the wind; otherwise it is No. The default value is Yes. This item allows you to specify that elements that would otherwise be loaded by the wind are not loaded by the wind.

Field: IceThick

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of ice on the element. This item is only used to increase the projected area of the frame object for wind loads. It is not used for gravity loads to increase the weight of the frame object. Specifying a negative value means the item is program determined.

Field: Cf

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The net force coefficient, Cf, for the frame object. Specifying a negative value means the item is program determined (the default value is used).

Table: Overwrites - Auto Wind Loads - Frame

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: LoadByWind

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the element is loaded by the wind; otherwise it is No. The default value is Yes. This item allows you to specify that elements that would otherwise be loaded by the wind are not loaded by the wind.

Field: IceThick

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of ice on the element. This item is only used to increase the projected area of the frame object for wind loads. It is not used for gravity loads to increase the weight of the frame object. Specifying a negative value means the item is program determined.

Field: Cf

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The net force coefficient, Cf, for the frame object. Specifying a negative value means the item is program determined (the default value is used).

Table: Overwrites - Cold Formed Design - AISI-ASD96

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design. The program determined value is taken from the cold-formed steel preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The live load reduction factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm for major axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm for minor axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CtfMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Ctf for major axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CtfMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Ctf for minor axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Cb

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending capacity. Specifying 0 means the value is program determined.

Field: AlphaMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Specifying 0 means the value is program determined.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: AlphaMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor axis bending moment. Specifying 0 means the value is program determined.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Pnc

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Nominal axial compressive capacity. Specifying 0 means the value is program determined.

Field: Pnt

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Nominal axial tensile capacity. Specifying 0 means the value is program determined.

Field: Mn33Yield

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Nominal bending moment capacity in major axis bending for initial yielding. Specifying 0 means the value is program determined.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Mn22Yield

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Nominal bending moment capacity in minor axis bending for initial yielding. Specifying 0 means the value is program determined.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Mn33LTB

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Nominal bending moment capacity in major axis bending for lateral-torsional buckling. Specifying 0 means the value is program determined.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Mn22LTB

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Nominal bending moment capacity in minor axis bending for lateral-torsional buckling. Specifying 0 means the value is program determined.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Vn2

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Nominal shear capacity force for major direction shear. Specifying 0 means the value is program determined.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Vn3

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Nominal shear capacity force for minor direction shear. Specifying 0 means the value is program determined.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FastToDeck

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Specifies whether the section is through fastened.

Field: FastEcc

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Fastener eccentricity if the section is through fastened.

Field: HoleDiaTop

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Hole diameter at the top flange if there is any.

Field: HoleDiaBot

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Hole diameter at the bottom flange if there is any.

Field: HoleDiaWeb

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Hole diameter at the web flange if there is any.

Table: Overwrites - Cold Formed Design - AISI-LRFD96

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design. The program determined value is taken from the cold-formed steel preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The live load reduction factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm for major axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cm for minor axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CtfMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Ctf for major axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CtfMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Ctf for minor axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Cb

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending capacity. Specifying 0 means the value is program determined.

Field: AlphaMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Specifying 0 means the value is program determined.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: AlphaMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor axis bending moment. Specifying 0 means the value is program determined.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Pnc

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Nominal axial compressive capacity. Specifying 0 means the value is program determined.

Field: Pnt

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Nominal axial tensile capacity. Specifying 0 means the value is program determined.

Field: Mn33Yield

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Nominal bending moment capacity in major axis bending for initial yielding. Specifying 0 means the value is program determined.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Mn22Yield

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Nominal bending moment capacity in minor axis bending for initial yielding. Specifying 0 means the value is program determined.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Mn33LTB

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Nominal bending moment capacity in major axis bending for lateral-torsional buckling. Specifying 0 means the value is program determined.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Mn22LTB

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Nominal bending moment capacity in minor axis bending for lateral-torsional buckling. Specifying 0 means the value is program determined.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Vn2

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Nominal shear capacity force for major direction shear. Specifying 0 means the value is program determined.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Vn3

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Nominal shear capacity force for minor direction shear. Specifying 0 means the value is program determined.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FastToDeck

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Specifies whether the section is through fastened.

Field: FastEcc

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Fastener eccentricity if the section is through fastened.

Field: HoleDiaTop

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Hole diameter at the top flange if there is any.

Field: HoleDiaBot

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Hole diameter at the bottom flange if there is any.

Field: HoleDiaWeb

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Hole diameter at the web flange if there is any.

Table: Overwrites - Concrete Design - AASHTO Concrete 97

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This item is used for ductility considerations in the design. The program determined value is taken from the concrete preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The live load reduction factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for major axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for minor axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DnsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DnsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Concrete Design - ACI 318-02

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This item is used for ductility considerations in the design. The program determined value is taken from the concrete preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The live load reduction factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame

object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for major axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for minor axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DnsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending

is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DnsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Concrete Design - ACI 318-99

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This item is used for ductility considerations in the design. The program determined value is taken from the concrete preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The live load reduction factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for major axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for minor axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DnsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DnsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Concrete Design - BS8110 89

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This item is used for ductility considerations in the design. The program determined value is taken from the concrete preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The live load reduction factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: BetaMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: BetaMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for major axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for minor axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DnsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DnsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Concrete Design - BS8110 97

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This item is used for ductility considerations in the design. The program determined value is taken from the concrete preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The live load reduction factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: BetaMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: BetaMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for major axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for minor axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DnsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DnsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Concrete Design - Chinese 2002

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SDGrade

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This item is used for ductility considerations in the design. The program determined value is taken from the concrete preferences.

Field: DualSMF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear Magnification Factor for Dual System. Specifying 0 means the value is program determined. The program determined value is taken from the table.

Field: MMF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Magnification Factor. Specifying 0 means the value is program determined. The program determined value is taken from the table.

Field: SMF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear Magnification Factor. Specifying 0 means the value is program determined. The program determined value is taken from the table.

Field: AFMF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Axial Force Magnification Factor. Specifying 0 means the value is program determined. The program determined value is taken from the table.

Field: ColLoc

Field is Imported: Yes
Format: Controlled by program
Units: Text

Geometric relative location of the column. This information is used in shear design of beam-column joint.

Field: TransferObj

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Toggle to consider whether this frame member (column, beam, brace) has to be considered as part of the "Transfer Frame.".

Field: CornerCol

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Toggle to consider whether the design column member has to be considered as "Corner Column" or not.

Field: BmGravFact

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Beam Gravity Negative Moment Reduction Factor. Specifying 0 means the value is program determined. The program determined value is taken from the table.

Field: TorsMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Torsion Magnification Factor. It should not be less than 0.4 and should not be greater than 1.0.The program determined value is taken as 1.

Field: TorsZeta

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Torsion Design Factor (Zeta). This allows the designer to distribute the design strength between shear and torsion modes. The program determined value is taken as 1. The program does not do any automatic iteration for this factor. The user is expected to change this value and experiment with this factor. .

Field: TorsCover

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Concrete Cover for Closed Stirrup. This has a dimension of length. The program determined value is based on 0.5 inch or 15 mm clear cover. .

Table: Overwrites - Concrete Design - CSA-A233-94

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This item is used for ductility considerations in the design. The program determined value is taken from the concrete preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The live load reduction factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for major axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for minor axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DbMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DbMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Concrete Design - EUROCODE 2-1992

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This item is used for ductility considerations in the design. The program determined value is taken from the concrete preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The live load reduction factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: BetaMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: BetaMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for major axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for minor axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DnsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DnsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Concrete Design - Indian IS 456-2000

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This item is used for ductility considerations in the design. The program determined value is taken from the concrete preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The live load reduction factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame

object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for major axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for minor axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DnsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending

is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DnsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Concrete Design - Italian DM 14-2-92

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This item is used for ductility considerations in the design. The program determined value is taken from the concrete preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The live load reduction factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: OmegaMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for major axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: OmegaMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for minor axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CSwayMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CSwayMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Concrete Design - KCI-1999

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This item is used for ductility considerations in the design. The program determined value is taken from the concrete preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The live load reduction factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for major axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for minor axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DnsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DnsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Concrete Design - Mexican RCDF 2001

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This item is used for ductility considerations in the design. The program determined value is taken from the concrete preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The live load reduction factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for major axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for minor axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FabMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FabMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FasMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FasMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Concrete Design - NZS 3101-95

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This item is used for ductility considerations in the design. The program determined value is taken from the concrete preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The live load reduction factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame

object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for major axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for minor axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DbMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending

is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DbMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Concrete Design - UBC97

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This item is used for ductility considerations in the design. The program determined value is taken from the concrete preferences.

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The live load reduction factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined.

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for major axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless factor for minor axis bending, used in determining the interaction ratio. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DnsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DnsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Specifying 0 means the value is program determined. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. This item only applies to frame objects with column-type current design sections.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Table: Overwrites - Steel Design - AASHTO Steel 04

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

Current Design Section: The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed. Program determined value means it is taken from the analysis section. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Element Type: This is either . This item is used for ductility considerations in the design. Program determined value means it is taken from the steel preferences. .

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Yield stress, Fy: Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object. .

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Reduction Factor: A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined. .

Field: AreaRatio

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Net Area to Total Area Ratio: The ratio of the net area at the end joint to gross cross-sectional area of the section. This ratio affects the design of axial tension members. Specifying 0 means the value is program default which is 1. .

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Major): Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Minor, LTB): Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Major): Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Minor): Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Cm Major): Unitless factor, Cm for major axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Cm Minor): Unitless factor, Cm for minor axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Cb

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Bending Coefficient (Cb): Unitless factor, Cb, used in determining the allowable bending capacity. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. .

Field: DbMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

NonSway Moment Factor (B1 Major): Unitless moment magnification factor for non-sway major axis bending moment. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DbMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

NonSway Moment Factor (B1 Minor): Unitless moment magnification factor for non-sway minor axis bending moment. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DsMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Sway Moment Factor (B2 Major): Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DsMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Sway Moment Factor (B2 Minor): Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiPnc

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Compressive Capacity, phi*Pnc: Allowable axial compressive capacity. Specifying 0 means the value is program determined. .

Field: PhiPnt

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Tensile Capacity, phi*Pnt: Allowable axial tensile capacity. Specifying 0 means the value is program determined. .

Field: PhiMn3

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Major Bending Capacity, phi*Mn3: Allowable bending moment capacity in major axis bending. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiMn2

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Minor Bending Capacity, phi*Mn2: Allowable bending moment capacity in minor axis bending. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiVn2

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Major Shear Capacity, phi*Vn2: Allowable shear capacity force for major direction shear. Specifying 0 means the value is program determined. For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiVn3

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Minor Shear Capacity, phi*Vn3: Allowable shear capacity force for minor direction shear. Specifying 0 means the value is program determined. For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DeflType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Deflection Check Type: Toggle to consider whether deflection limitations as absolute or as divisor of beam length (relative). This is either "Ratio", "Absolute", or "Both". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: DLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

DL Limit, abs: Deflection limitation for dead load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Super DL+LL Limit, abs: Deflection limitation for superimposed dead plus live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Live Load Limit, abs: Deflection limitation for superimposed live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item.
.

Field: TotalAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total Limit, abs: Deflection limitation for total load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total--Camber Limit, abs: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SpecCamber

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Specified Camber: The specified amount of camber to be reported in the design output and to be used in net deflection check. It is unit dependent. .

Table: Overwrites - Steel Design - AISC-ASD01

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

Current Design Section: The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed. Program determined value means it is taken from the analysis section. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Element Type: This is either . This item is used for ductility considerations in the design. Program determined value means it is taken from the steel preferences. .

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Yield stress, Fy: Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object. .

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Reduction Factor: A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined. .

Field: AreaRatio

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Net Area to Total Area Ratio: The ratio of the net area at the end joint to gross cross-sectional area of the section. This ratio affects the design of axial tension members. Specifying 0 means the value is program default which is 1. .

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Major): Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Minor, LTB): Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Major): Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Minor): Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles)

minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Cm Major): Unitless factor, Cm for major axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Cm Minor): Unitless factor, Cm for minor axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Cb

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Bending Coefficient (Cb): Unitless factor, Cb, used in determining the allowable bending capacity. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. .

Field: Omega0

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Omega0: Omega0 factor related to seismic force and ductility. Specifying 0 means the value is program determined. Program determined value means it is taken from the seismic load definition or general preferences. .

Field: Fa

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Compressive Stress, Fa: Allowable axial compressive stress. Specifying 0 means the value is program determined. .

Field: Ft

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Tensile Stress, Ft: Allowable axial tensile stress. Specifying 0 means the value is program determined. .

Field: Fb3

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Major Bending Stress, Fb3: Allowable bending stress in major axis bending. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Fb2

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Minor Bending Stress, Fb2: Allowable bending stress in minor axis bending. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fv2

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Major Shear Stress, Fv2: Allowable shear stress for major direction shear. Specifying 0 means the value is program determined. For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Fv3

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Minor Shear Stress, Fv3: Allowable shear stress for minor direction shear. Specifying 0 means the value is program determined. For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DeflType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Deflection Check Type: Toggle to consider whether deflection limitations as absolute or as divisor of beam length (relative). This is either "Ratio", "Absolute", or "Both". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: DLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

DL Limit, abs: Deflection limitation for dead load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Super DL+LL Limit, abs: Deflection limitation for superimposed dead plus live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Live Load Limit, abs: Deflection limitation for superimposed live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item.
.

Field: TotalAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total Limit, abs: Deflection limitation for total load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total--Camber Limit, abs: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SpecCamber

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Specified Camber: The specified amount of camber to be reported in the design output and to be used in net deflection check. It is unit dependent. .

Table: Overwrites - Steel Design - AISC-ASD89

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

Current Design Section: The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed. Program determined value means it is taken from the analysis section. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Element Type: This is either . This item is used for ductility considerations in the design. Program determined value means it is taken from the steel preferences. .

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Yield stress, Fy: Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object. .

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Reduction Factor: A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined. .

Field: AreaRatio

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Net Area to Total Area Ratio: The ratio of the net area at the end joint to gross cross-sectional area of the section. This ratio affects the design of axial tension members. Specifying 0 means the value is program default which is 1. .

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Major): Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Minor, LTB): Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Major): Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Minor): Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles)

minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Cm Major): Unitless factor, Cm for major axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Cm Minor): Unitless factor, Cm for minor axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Cb

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Bending Coefficient (Cb): Unitless factor, Cb, used in determining the allowable bending capacity. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. .

Field: Fa

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Compressive Stress, Fa: Allowable axial compressive stress. Specifying 0 means the value is program determined. .

Field: Ft

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Tensile Stress, Ft: Allowable axial tensile stress. Specifying 0 means the value is program determined. .

Field: Fb3

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Major Bending Stress, Fb3: Allowable bending stress in major axis bending. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Fb2

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Minor Bending Stress, Fb2: Allowable bending stress in minor axis bending. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fv2

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Major Shear Stress, Fv2: Allowable shear stress for major direction shear. Specifying 0 means the value is program determined. For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Fv3

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Minor Shear Stress, Fv3: Allowable shear stress for minor direction shear. Specifying 0 means the value is program determined. For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DeflType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Deflection Check Type: Toggle to consider whether deflection limitations as absolute or as divisor of beam length (relative). This is either "Ratio", "Absolute", or "Both". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: DLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

DL Limit, abs: Deflection limitation for dead load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Super DL+LL Limit, abs: Deflection limitation for superimposed dead plus live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Live Load Limit, abs: Deflection limitation for superimposed live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total Limit, abs: Deflection limitation for total load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total--Camber Limit, abs: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SpecCamber

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Specified Camber: The specified amount of camber to be reported in the design output and to be used in net deflection check. It is unit dependent. .

Table: Overwrites - Steel Design - AISC-LRFD93

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

Current Design Section: The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed. Program determined value means it is taken from the analysis section. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Element Type: This is either . This item is used for ductility considerations in the design. Program determined value means it is taken from the steel preferences. .

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Yield stress, Fy: Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object. .

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Reduction Factor: A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined. .

Field: AreaRatio

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Net Area to Total Area Ratio: The ratio of the net area at the end joint to gross cross-sectional area of the section. This ratio affects the design of axial tension members. Specifying 0 means the value is program default which is 1. .

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Major): Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Minor, LTB): Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling. For symmetrical sections minor

bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Major): Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Minor): Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Cm Major): Unitless factor, Cm for major axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Cm Minor): Unitless factor, Cm for minor axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment

distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Cb

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Bending Coefficient (Cb): Unitless factor, Cb, used in determining the allowable bending capacity. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. .

Field: B1Major

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

NonSway Moment Factor (B1 Major): Unitless moment magnification factor for non-sway major axis bending moment. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B1Minor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

NonSway Moment Factor (B1 Minor): Unitless moment magnification factor for non-sway minor axis bending moment. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B2Major

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Sway Moment Factor (B2 Major): Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B2Minor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Sway Moment Factor (B2 Minor): Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiPnc

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Compressive Capacity, phi*Pnc: Allowable axial compressive capacity. Specifying 0 means the value is program determined. .

Field: PhiPnt

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Tensile Capacity, phi*Pnt: Allowable axial tensile capacity. Specifying 0 means the value is program determined. .

Field: PhiMn3

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Major Bending Capacity, phi*Mn3: Allowable bending moment capacity in major axis bending. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiMn2

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Minor Bending Capacity, phi*Mn2: Allowable bending moment capacity in minor axis bending. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles)

minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiVn2

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Major Shear Capacity, phi*Vn2: Allowable shear capacity force for major direction shear. Specifying 0 means the value is program determined. For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiVn3

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Minor Shear Capacity, phi*Vn3: Allowable shear capacity force for minor direction shear. Specifying 0 means the value is program determined. For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DeflType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Deflection Check Type: Toggle to consider whether deflection limitations as absolute or as divisor of beam length (relative). This is either "Ratio", "Absolute", or "Both". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: DLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

DL Limit, abs: Deflection limitation for dead load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Super DL+LL Limit, abs: Deflection limitation for superimposed dead plus live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Live Load Limit, abs: Deflection limitation for superimposed live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total Limit, abs: Deflection limitation for total load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total--Camber Limit, abs: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SpecCamber

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Specified Camber: The specified amount of camber to be reported in the design output and to be used in net deflection check. It is unit dependent. .

Table: Overwrites - Steel Design - AISC-LRFD99

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

Current Design Section: The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed. Program determined value means it is taken from the analysis section. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Element Type: This is either . This item is used for ductility considerations in the design. Program determined value means it is taken from the steel preferences. .

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Yield stress, Fy: Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object. .

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Reduction Factor: A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined. .

Field: AreaRatio

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Net Area to Total Area Ratio: The ratio of the net area at the end joint to gross cross-sectional area of the section. This ratio affects the design of axial tension members. Specifying 0 means the value is program default which is 1. .

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Major): Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Minor, LTB): Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Major): Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Minor): Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Cm Major): Unitless factor, Cm for major axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Cm Minor): Unitless factor, Cm for minor axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Cb

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Bending Coefficient (Cb): Unitless factor, Cb, used in determining the allowable bending capacity. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. .

Field: B1Major

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

NonSway Moment Factor (B1 Major): Unitless moment magnification factor for non-sway major axis bending moment. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B1Minor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

NonSway Moment Factor (B1 Minor): Unitless moment magnification factor for non-sway minor axis bending moment. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B2Major

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Sway Moment Factor (B2 Major): Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B2Minor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Sway Moment Factor (B2 Minor): Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Omega0

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Omega0: Omega0 factor related to seismic force and ductility. Specifying 0 means the value is program determined. Program determined value means it is taken from the seismic load definition or general preferences. .

Field: Ry

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Expected to specified Fy ratio, Ry: The ratio of the expected yield strength to the minimum specified yield strength. This ratio is used in capacity based design for special seismic cases. Specifying 0 means the value is program determined. .

Field: PhiPnc

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Compressive Capacity, phi*Pnc: Allowable axial compressive capacity. Specifying 0 means the value is program determined. .

Field: PhiPnt

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Tensile Capacity, phi*Pnt: Allowable axial tensile capacity. Specifying 0 means the value is program determined. .

Field: PhiMn3

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Major Bending Capacity, phi*Mn3: Allowable bending moment capacity in major axis bending. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiMn2

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Minor Bending Capacity, phi*Mn2: Allowable bending moment capacity in minor axis bending. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiVn2

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Major Shear Capacity, phi*Vn2: Allowable shear capacity force for major direction shear. Specifying 0 means the value is program determined. For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiVn3

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Minor Shear Capacity, phi*Vn3: Allowable shear capacity force for minor direction shear. Specifying 0 means the value is program determined. For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DeflType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Deflection Check Type: Toggle to consider whether deflection limitations as absolute or as divisor of beam length (relative). This is either "Ratio", "Absolute", or "Both". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: DLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

DL Limit, abs: Deflection limitation for dead load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Super DL+LL Limit, abs: Deflection limitation for superimposed dead plus live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Live Load Limit, abs: Deflection limitation for superimposed live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total Limit, abs: Deflection limitation for total load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total--Camber Limit, abs: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SpecCamber

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Specified Camber: The specified amount of camber to be reported in the design output and to be used in net deflection check. It is unit dependent. .

Table: Overwrites - Steel Design - API RP2A-LRFD 97

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

Current Design Section: The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed. Program determined value means it is taken from the analysis section. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Element Type: This is either . This item is used for ductility considerations in the design. Program determined value means it is taken from the steel preferences. .

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Yield stress, Fy: Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object. .

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Reduction Factor: A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined. .

Field: AreaRatio

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Net Area to Total Area Ratio: The ratio of the net area at the end joint to gross cross-sectional area of the section. This ratio affects the design of axial tension members. Specifying 0 means the value is program default which is 1. .

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Major): Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Minor, LTB): Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Major): Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Minor): Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Cm Major): Unitless factor, Cm for major axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Cm Minor): Unitless factor, Cm for minor axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Cb

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Bending Coefficient (Cb): Unitless factor, Cb, used in determining the allowable bending capacity. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. .

Field: B1Major

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

NonSway Moment Factor (B1 Major): Unitless moment magnification factor for non-sway major axis bending moment. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B1Minor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

NonSway Moment Factor (B1 Minor): Unitless moment magnification factor for non-sway minor axis bending moment. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B2Major

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Sway Moment Factor (B2 Major): Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B2Minor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Sway Moment Factor (B2 Minor): Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PresEqual

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Pressure Equalized?: Toggle to consider whether pipe's internal fluid pressure is eualized with the outer fluid pressure. This is either "Ratio", "Absolute", or "Both". .

Field: IntPres

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Internal Pressure: Internal pressure used in the design/check. Its value can be positive or negative. Positive means compression and negative means suction. .

Field: PhiPnc

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Compressive Capacity, phi*Pnc: Allowable axial compressive capacity. Specifying 0 means the value is program determined. .

Field: PhiPnt

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Tensile Capacity, phi*Pnt: Allowable axial tensile capacity. Specifying 0 means the value is program determined. .

Field: PhiMn3

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Major Bending Capacity, phi*Mn3: Allowable bending moment capacity in major axis bending. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiMn2

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Minor Bending Capacity, phi*Mn2: Allowable bending moment capacity in minor axis bending. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiVn2

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Major Shear Capacity, phi*Vn2: Allowable shear capacity force for major direction shear. Specifying 0 means the value is program determined. For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiVn3

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Minor Shear Capacity, phi*Vn3: Allowable shear capacity force for minor direction shear. Specifying 0 means the value is program determined. For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DeflType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Deflection Check Type: Toggle to consider whether deflection limitations as absolute or as divisor of beam length (relative). This is either "Ratio", "Absolute", or "Both". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: DLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

DL Limit, abs: Deflection limitation for dead load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Super DL+LL Limit, abs: Deflection limitation for superimposed dead plus live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Live Load Limit, abs: Deflection limitation for superimposed live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total Limit, abs: Deflection limitation for total load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total--Camber Limit, abs: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SpecCamber

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Specified Camber: The specified amount of camber to be reported in the design output and to be used in net deflection check. It is unit dependent. .

Table: Overwrites - Steel Design - API RP2A-WSD2000

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

Current Design Section: The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed. Program determined value means it is taken from the analysis section. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Element Type: This is either . This item is used for ductility considerations in the design. Program determined value means it is taken from the steel preferences. .

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Yield stress, Fy: Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object. .

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Reduction Factor: A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined. .

Field: AreaRatio

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Net Area to Total Area Ratio: The ratio of the net area at the end joint to gross cross-sectional area of the section. This ratio affects the design of axial tension members. Specifying 0 means the value is program default which is 1. .

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Major): Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Minor, LTB): Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling. For symmetrical sections minor

bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Major): Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Minor): Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Cm Major): Unitless factor, Cm for major axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Cm Minor): Unitless factor, Cm for minor axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment

distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Cb

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Bending Coefficient (Cb): Unitless factor, Cb, used in determining the allowable bending capacity. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. .

Field: PresEqual

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Pressure Equalized?: Toggle to consider whether pipe's internal fluid pressure is eualized with the outer fluid pressure. This is either "Ratio", "Absolute", or "Both". .

Field: IntPres

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Internal Pressure: Internal pressure used in the design/check. Its value can be positive or negative. Positive means compression and negative means suction. .

Field: Fa

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Compressive Stress, Fa: Allowable axial compressive stress. Specifying 0 means the value is program determined. .

Field: Ft

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Tensile Stress, Ft: Allowable axial tensile stress. Specifying 0 means the value is program determined. .

Field: Fb3

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Major Bending Stress, Fb3: Allowable bending stress in major axis bending. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Fb2

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Minor Bending Stress, Fb2: Allowable bending stress in minor axis bending. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fv2

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Major Shear Stress, Fv2: Allowable shear stress for major direction shear. Specifying 0 means the value is program determined. For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Fv3

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Minor Shear Stress, Fv3: Allowable shear stress for minor direction shear. Specifying 0 means the value is program determined. For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DeflType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Deflection Check Type: Toggle to consider whether deflection limitations as absolute or as divisor of beam length (relative). This is either "Ratio", "Absolute", or "Both". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: DLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

DL Limit, abs: Deflection limitation for dead load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Super DL+LL Limit, abs: Deflection limitation for superimposed dead plus live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Live Load Limit, abs: Deflection limitation for superimposed live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total Limit, abs: Deflection limitation for total load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total--Camber Limit, abs: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SpecCamber

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Specified Camber: The specified amount of camber to be reported in the design output and to be used in net deflection check. It is unit dependent. .

Table: Overwrites - Steel Design - ASCE 10-97

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

Current Design Section: The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed. Program determined value means it is taken from the analysis section. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Element Type: This is either . This item is used for ductility considerations in the design. Program determined value means it is taken from the steel preferences. .

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Yield stress, Fy: Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object. .

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Reduction Factor: A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined. .

Field: AreaRatio

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Net Area to Total Area Ratio: The ratio of the net area at the end joint to gross cross-sectional area of the section. This ratio affects the design of axial tension members. Specifying 0 means the value is program default which is 1. .

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Major): Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Minor, LTB): Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling. For symmetrical sections minor

bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Major): Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Minor): Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Cm Major): Unitless factor, Cm for major axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Cm Minor): Unitless factor, Cm for minor axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment

distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Cb

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Bending Coefficient (Cb): Unitless factor, Cb, used in determining the allowable bending capacity. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. .

Field: Pac

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Compressive Capacity, phi*Pnc: Allowable axial compressive capacity. Specifying 0 means the value is program determined. .

Field: Pat

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Tensile Capacity, phi*Pnt: Allowable axial tensile capacity. Specifying 0 means the value is program determined. .

Field: Ma3

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Major Bending Capacity, phi*Mn3: Allowable bending moment capacity in major axis bending. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Ma2

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Minor Bending Capacity, phi*Mn2: Allowable bending moment capacity in minor axis bending. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles)

minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fv2

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Major Shear Capacity, phi*Vn2: Allowable shear capacity force for major direction shear. Specifying 0 means the value is program determined. For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Fv3

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Minor Shear Capacity, phi*Vn3: Allowable shear capacity force for minor direction shear. Specifying 0 means the value is program determined. For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DeflType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Deflection Check Type: Toggle to consider whether deflection limitations as absolute or as divisor of beam length (relative). This is either "Ratio", "Absolute", or "Both". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: DLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

DL Limit, abs: Deflection limitation for dead load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Super DL+LL Limit, abs: Deflection limitation for superimposed dead plus live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Live Load Limit, abs: Deflection limitation for superimposed live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total Limit, abs: Deflection limitation for total load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total--Camber Limit, abs: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SpecCamber

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Specified Camber: The specified amount of camber to be reported in the design output and to be used in net deflection check. It is unit dependent. .

Table: Overwrites - Steel Design - BS5950 2000

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

Current Design Section: The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed. Program determined value means it is taken from the analysis section. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Element Type: This is either . This item is used for ductility considerations in the design. Program determined value means it is taken from the steel preferences. .

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Yield stress, Fy: Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object. .

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Reduction Factor: A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined. .

Field: AreaRatio

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Net Area to Total Area Ratio: The ratio of the net area at the end joint to gross cross-sectional area of the section. This ratio affects the design of axial tension members. Specifying 0 means the value is program default which is 1. .

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Major): Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Minor, LTB): Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Major): Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Minor): Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: MMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Cm Major): Unitless factor, Cm for major axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Cm Minor): Unitless factor, Cm for minor axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: MLT

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Bending Coefficient (Cb): Unitless factor, Cb, used in determining the allowable bending capacity. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. .

Field: Pc

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Compressive Capacity, phi*Pnc: Allowable axial compressive capacity. Specifying 0 means the value is program determined. .

Field: Pt

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Tensile Capacity, phi*Pnt: Allowable axial tensile capacity. Specifying 0 means the value is program determined. .

Field: Mc3

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Major Bending Capacity, phi*Mn3: Allowable bending moment capacity in major axis bending. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Mc2

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Minor Bending Capacity, phi*Mn2: Allowable bending moment capacity in minor axis bending. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Mb

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Buckling Resistance Moment, Mb: Allowable critical moment capacity for major axis bending. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Pv2

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Major Shear Capacity, phi*Vn2: Allowable shear capacity force for major direction shear. Specifying 0 means the value is program determined. For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Pv3

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Minor Shear Capacity, phi*Vn3: Allowable shear capacity force for minor direction shear. Specifying 0 means the value is program determined. For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DeflType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Deflection Check Type: Toggle to consider whether deflection limitations as absolute or as divisor of beam length (relative). This is either "Ratio", "Absolute", or "Both". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: DLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

DL Limit, abs: Deflection limitation for dead load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Super DL+LL Limit, abs: Deflection limitation for superimposed dead plus live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Live Load Limit, abs: Deflection limitation for superimposed live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total Limit, abs: Deflection limitation for total load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total--Camber Limit, abs: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SpecCamber

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Specified Camber: The specified amount of camber to be reported in the design output and to be used in net deflection check. It is unit dependent. .

Table: Overwrites - Steel Design - BS5950 90

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

Current Design Section: The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed. Program determined value means it is taken from the analysis section. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Element Type: This is either . This item is used for ductility considerations in the design. Program determined value means it is taken from the steel preferences. .

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Yield stress, Fy: Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object. .

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Reduction Factor: A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined. .

Field: AreaRatio

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Net Area to Total Area Ratio: The ratio of the net area at the end joint to gross cross-sectional area of the section. This ratio affects the design of axial tension members. Specifying 0 means the value is program default which is 1. .

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Major): Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Minor, LTB): Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Major): Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Minor): Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: MMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Cm Major): Unitless factor, Cm for major axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Cm Minor): Unitless factor, Cm for minor axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: N

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Bending Coefficient (Cb): Unitless factor, Cb, used in determining the allowable bending capacity. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. .

Field: Pc

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Compressive Capacity, phi*Pnc: Allowable axial compressive capacity. Specifying 0 means the value is program determined. .

Field: Pt

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Tensile Capacity, phi*Pnt: Allowable axial tensile capacity. Specifying 0 means the value is program determined. .

Field: Mc3

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Major Bending Capacity, phi*Mn3: Allowable bending moment capacity in major axis bending. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Mc2

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Minor Bending Capacity, phi*Mn2: Allowable bending moment capacity in minor axis bending. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Mb

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Buckling Resistance Moment, Mb: Allowable critical moment capacity for major axis bending. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Pv2

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Major Shear Capacity, phi*Vn2: Allowable shear capacity force for major direction shear. Specifying 0 means the value is program determined. For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Pv3

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Minor Shear Capacity, phi*Vn3: Allowable shear capacity force for minor direction shear. Specifying 0 means the value is program determined. For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DeflType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Deflection Check Type: Toggle to consider whether deflection limitations as absolute or as divisor of beam length (relative). This is either "Ratio", "Absolute", or "Both". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: DLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

DL Limit, abs: Deflection limitation for dead load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Super DL+LL Limit, abs: Deflection limitation for superimposed dead plus live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Live Load Limit, abs: Deflection limitation for superimposed live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total Limit, abs: Deflection limitation for total load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total--Camber Limit, abs: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SpecCamber

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Specified Camber: The specified amount of camber to be reported in the design output and to be used in net deflection check. It is unit dependent. .

Table: Overwrites - Steel Design - Chinese 2002

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

Current Design Section: The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed. Program determined value means it is taken from the analysis section. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Element Type: This is either . This item is used for ductility considerations in the design. Program determined value means it is taken from the steel preferences. .

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Yield stress, Fy: Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object. .

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Reduction Factor: A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined. .

Field: AreaRatio

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Net Area to Total Area Ratio: The ratio of the net area at the end joint to gross cross-sectional area of the section. This ratio affects the design of axial tension members. Specifying 0 means the value is program default which is 1. .

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Major): Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Minor, LTB): Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: MueMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Major): Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MueMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Minor): Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: BetaMMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Beta_m Major): Unitless factor for major axis bending, used in determining the equivalent moment. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: BetaMMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Beta_m Minor): Unitless factor for minor axis bending, used in determining the equivalent moment. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: BetaTMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Beta_t Major): Unitless factor for major axis bending, used in determining the equivalent moment. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: BetaTMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Beta_t Minor): Unitless factor for minor axis bending, used in determining the equivalent moment. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Axial Stability Coefficient (Phi Major): Unitless factor for major axis bending, used in the interaction equation. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Axial Stability Coefficient (Phi Minor): Unitless factor for minor axis bending, used in the interaction equation. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiBMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Flexural Stability Coeff (Phi_b Major): Unitless factor for major axis bending, used in the interaction equation. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiBMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Flexural Stability Coeff (Phi_b Minor): Unitless factor for major axis bending, used in the interaction equation. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: GammaMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Plasticity Factor (Gamma Major): Unitless factor for major axis bending, used in the interaction equation. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: GammaMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Plasticity Factor (Gamma Minor): Unitless factor for major axis bending, used in the interaction equation. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DeltaMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

NonSway Moment Factor (B1 Major): Unitless moment magnification factor for non-sway major axis bending moment. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DeltaMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

NonSway Moment Factor (B1 Minor): Unitless moment magnification factor for non-sway minor axis bending moment. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: EtaSect

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Section Influence Coefficient (Eta): Unitless factor used in the interaction equation. Specifying 0 means the value is program determined. .

Field: EtaBC

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

B/C Capacity Factor (Eta): Unitless factor used in the calculation of beam/column capacity ratio. Specifying 0 means the value is program determined. .

Field: F

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable Normal Stress, f: Allowable normal stress. Specifying 0 means the value is program determined. .

Field: Fv

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Allowable Shear Stress, fv: Allowable shear stress. Specifying 0 means the value is program determined. .

Field: SeisMag

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Seismic Magnification Factor: Specifying 0 means the value is program determined. Program determined value means it is taken from the code specified table. Program determined value means it is calculated for each element uniquely. .

Field: FictShear

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Fictitious shear?: Toggle to consider whether fictitious shear should be considered in design. This is either "Ratio", "Absolute", or "Both". .

Field: TransCol

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Is Transfer Column?: Toggle to consider whether this column has to be considered as part of the "Transfer Frame. "This is either "No" or "Yes". Program determined value means default value which is "No". .

Field: RolledSect

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Is Rolled Section?: Toggle to consider whether the design section has to be considered as "Rolled" or "Welded. "This is either "No" or "Yes". .

Field: GasCut

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Is Flange Edge Cut by Gas?: Toggle to consider whether the design section has to be considered as "Gasscut. "This is either "No" or "Yes". .

Field: BothPinned

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Is Both End Pinned?: Toggle to consider whether this member has to be considered as "Pin-connected. "This is either "No" or "Yes". .

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DeflType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Deflection Check Type: Toggle to consider whether deflection limitations as absolute or as divisor of beam length (relative). This is either "Ratio", "Absolute", or "Both". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: DLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

DL Limit, abs: Deflection limitation for dead load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Super DL+LL Limit, abs: Deflection limitation for superimposed dead plus live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Live Load Limit, abs: Deflection limitation for superimposed live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total Limit, abs: Deflection limitation for total load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total--Camber Limit, abs: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SpecCamber

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Specified Camber: The specified amount of camber to be reported in the design output and to be used in net deflection check. It is unit dependent. .

Table: Overwrites - Steel Design - CISC 95

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

Current Design Section: The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed. Program determined value means it is taken from the analysis section. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Element Type: This is either . This item is used for ductility considerations in the design. Program determined value means it is taken from the steel preferences. .

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Yield stress, Fy: Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object. .

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Reduction Factor: A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined. .

Field: AreaRatio

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Net Area to Total Area Ratio: The ratio of the net area at the end joint to gross cross-sectional area of the section. This ratio affects the design of axial tension members. Specifying 0 means the value is program default which is 1. .

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Major): Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Minor, LTB): Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling. For symmetrical sections minor

bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Major): Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Minor): Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Omega1Major

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Cm Major): Unitless factor, Cm for major axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Omega1Minor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Cm Minor): Unitless factor, Cm for minor axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment

distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Omega2

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Bending Coefficient (Cb): Unitless factor, Cb, used in determining the allowable bending capacity. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. .

Field: U1Major

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

NonSway Moment Factor (B1 Major): Unitless moment magnification factor for non-sway major axis bending moment. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: U1Minor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

NonSway Moment Factor (B1 Minor): Unitless moment magnification factor for non-sway minor axis bending moment. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: U2Major

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Sway Moment Factor (B2 Major): Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: U2Minor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Sway Moment Factor (B2 Minor): Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Cr

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Compressive Capacity, phi*Pnc: Allowable axial compressive capacity. Specifying 0 means the value is program determined. .

Field: Tr

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Tensile Capacity, phi*Pnt: Allowable axial tensile capacity. Specifying 0 means the value is program determined. .

Field: Mr3

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Major Bending Capacity, phi*Mn3: Allowable bending moment capacity in major axis bending. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Mr2

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Minor Bending Capacity, phi*Mn2: Allowable bending moment capacity in minor axis bending. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles)

minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Vr2

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Major Shear Capacity, phi*Vn2: Allowable shear capacity force for major direction shear. Specifying 0 means the value is program determined. For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Vr3

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Minor Shear Capacity, phi*Vn3: Allowable shear capacity force for minor direction shear. Specifying 0 means the value is program determined. For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DeflType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Deflection Check Type: Toggle to consider whether deflection limitations as absolute or as divisor of beam length (relative). This is either "Ratio", "Absolute", or "Both". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: DLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

DL Limit, abs: Deflection limitation for dead load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Super DL+LL Limit, abs: Deflection limitation for superimposed dead plus live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Live Load Limit, abs: Deflection limitation for superimposed live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total Limit, abs: Deflection limitation for total load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total--Camber Limit, abs: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SpecCamber

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Specified Camber: The specified amount of camber to be reported in the design output and to be used in net deflection check. It is unit dependent. .

Table: Overwrites - Steel Design - EUROCODE 3-1993

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

Current Design Section: The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed. Program determined value means it is taken from the analysis section. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Element Type: This is either . This item is used for ductility considerations in the design. Program determined value means it is taken from the steel preferences. .

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Yield stress, Fy: Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object. .

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Reduction Factor: A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined. .

Field: AreaRatio

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Net Area to Total Area Ratio: The ratio of the net area at the end joint to gross cross-sectional area of the section. This ratio affects the design of axial tension members. Specifying 0 means the value is program default which is 1. .

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Major): Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Minor, LTB): Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Major): Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Minor): Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: KMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Cm Major): Unitless factor, Cm for major axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: KMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Cm Minor): Unitless factor, Cm for minor axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: C1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Bending Coefficient (Cb): Unitless factor, Cb, used in determining the allowable bending capacity. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. .

Field: KLT

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

NonSway Moment Factor (B1 Major): Unitless moment magnification factor for non-sway major axis bending moment. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: NoSwayFact

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

NonSway Moment Factor (B1 Minor): Unitless moment magnification factor for non-sway minor axis bending moment. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PsiMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Sway Moment Factor (B2 Major): Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PsiMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Sway Moment Factor (B2 Minor): Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Nc

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Compressive Capacity, phi*Pnc: Allowable axial compressive capacity. Specifying 0 means the value is program determined. .

Field: Nt

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Tensile Capacity, phi*Pnt: Allowable axial tensile capacity. Specifying 0 means the value is program determined. .

Field: Mc3

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Major Bending Capacity, phi*Mn3: Allowable bending moment capacity in major axis bending. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Mc2

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Minor Bending Capacity, phi*Mn2: Allowable bending moment capacity in minor axis bending. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Mb

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Buckling Resistance Moment, Mb: Allowable critical moment capacity for major axis bending. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: V2

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Major Shear Capacity, phi*Vn2: Allowable shear capacity force for major direction shear. Specifying 0 means the value is program determined. For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: V3

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Minor Shear Capacity, phi*Vn3: Allowable shear capacity force for minor direction shear. Specifying 0 means the value is program determined. For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DeflType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Deflection Check Type: Toggle to consider whether deflection limitations as absolute or as divisor of beam length (relative). This is either "Ratio", "Absolute", or "Both". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: DLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

DL Limit, abs: Deflection limitation for dead load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Super DL+LL Limit, abs: Deflection limitation for superimposed dead plus live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Live Load Limit, abs: Deflection limitation for superimposed live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total Limit, abs: Deflection limitation for total load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total--Camber Limit, abs: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SpecCamber

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Specified Camber: The specified amount of camber to be reported in the design output and to be used in net deflection check. It is unit dependent. .

Table: Overwrites - Steel Design - Italian UNI 10011

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

Current Design Section: The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed. Program determined value means it is taken from the analysis section. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Element Type: This is either . This item is used for ductility considerations in the design. Program determined value means it is taken from the steel preferences. .

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Yield stress, Fy: Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object. .

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Reduction Factor: A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined. .

Field: AreaRatio

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Net Area to Total Area Ratio: The ratio of the net area at the end joint to gross cross-sectional area of the section. This ratio affects the design of axial tension members. Specifying 0 means the value is program default which is 1. .

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Major): Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Minor, LTB): Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: BetaMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Major): Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: BetaMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Minor): Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: MeqMmaxMaj

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Cm Major): Unitless factor, Cm for major axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MeqMmaxMin

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Cm Minor): Unitless factor, Cm for minor axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Omega1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Bending Coefficient (Cb): Unitless factor, Cb, used in determining the allowable bending capacity. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. .

Field: Omega

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Omega0: Omega0 factor related to seismic force and ductility. Specifying 0 means the value is program determined. Program determined value means it is taken from the seismic load definition or general preferences. .

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DeflType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Deflection Check Type: Toggle to consider whether deflection limitations as absolute or as divisor of beam length (relative). This is either "Ratio", "Absolute", or "Both". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: DLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

DL Limit, abs: Deflection limitation for dead load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Super DL+LL Limit, abs: Deflection limitation for superimposed dead plus live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Live Load Limit, abs: Deflection limitation for superimposed live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item.
.

Field: TotalAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total Limit, abs: Deflection limitation for total load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total--Camber Limit, abs: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SpecCamber

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Specified Camber: The specified amount of camber to be reported in the design output and to be used in net deflection check. It is unit dependent. .

Table: Overwrites - Steel Design - UBC97-ASD

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

Current Design Section: The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed. Program determined value means it is taken from the analysis section. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Element Type: This is either . This item is used for ductility considerations in the design. Program determined value means it is taken from the steel preferences. .

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Yield stress, Fy: Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object. .

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Reduction Factor: A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined. .

Field: AreaRatio

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Net Area to Total Area Ratio: The ratio of the net area at the end joint to gross cross-sectional area of the section. This ratio affects the design of axial tension members. Specifying 0 means the value is program default which is 1. .

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Major): Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Minor, LTB): Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Major): Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Minor): Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles)

minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Cm Major): Unitless factor, Cm for major axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Cm Minor): Unitless factor, Cm for minor axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Cb

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Bending Coefficient (Cb): Unitless factor, Cb, used in determining the allowable bending capacity. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. .

Field: Omega0

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Omega0: Omega0 factor related to seismic force and ductility. Specifying 0 means the value is program determined. Program determined value means it is taken from the seismic load definition or general preferences. .

Field: Fa

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Compressive Stress, Fa: Allowable axial compressive stress. Specifying 0 means the value is program determined. .

Field: Ft

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Tensile Stress, Ft: Allowable axial tensile stress. Specifying 0 means the value is program determined. .

Field: Fb3

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Major Bending Stress, Fb3: Allowable bending stress in major axis bending. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Fb2

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Minor Bending Stress, Fb2: Allowable bending stress in minor axis bending. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fv2

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Major Shear Stress, Fv2: Allowable shear stress for major direction shear. Specifying 0 means the value is program determined. For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Fv3

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Minor Shear Stress, Fv3: Allowable shear stress for minor direction shear. Specifying 0 means the value is program determined. For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DeflType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Deflection Check Type: Toggle to consider whether deflection limitations as absolute or as divisor of beam length (relative). This is either "Ratio", "Absolute", or "Both". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: DLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

DL Limit, abs: Deflection limitation for dead load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Super DL+LL Limit, abs: Deflection limitation for superimposed dead plus live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Live Load Limit, abs: Deflection limitation for superimposed live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item.
.

Field: TotalAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total Limit, abs: Deflection limitation for total load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total--Camber Limit, abs: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SpecCamber

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Specified Camber: The specified amount of camber to be reported in the design output and to be used in net deflection check. It is unit dependent. .

Table: Overwrites - Steel Design - UBC97-LRFD

Field: Frame

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

Current Design Section: The design section for the selected frame objects. When this overwrite is applied any previous auto select section assigned to the frame object is removed. Program determined value means it is taken from the analysis section. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Element Type: This is either . This item is used for ductility considerations in the design. Program determined value means it is taken from the steel preferences. .

Field: Fy

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

Yield stress, Fy: Material yield strength used in the design/check. Specifying 0 means the value is program determined. The program determined value is taken from the material property assigned to the frame object. .

Field: RLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Reduction Factor: A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object. Specifying 0 means the value is program determined. .

Field: AreaRatio

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Net Area to Total Area Ratio: The ratio of the net area at the end joint to gross cross-sectional area of the section. This ratio affects the design of axial tension members. Specifying 0 means the value is program default which is 1. .

Field: XLMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Major): Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Unbraced Length Ratio (Minor, LTB): Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the unbraced length for the object. Specifying 0 means the value is program determined. This factor is also used for determining the length for lateral-torsional buckling. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Major): Effective length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Effective Length Factor (K Minor): Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. This factor times the frame object length gives the effective length for the object. Specifying 0 means the value is program determined. For beam design, this factor is always taken as 1 regardless of what may be specified in the overwrites. This factor is also used for determining the effective length for lateral-torsional buckling. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles)

minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMajor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Cm Major): Unitless factor, Cm for major axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMinor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment Coefficient (Cm Minor): Unitless factor, Cm for minor axis bending, used in determining the interaction ratio. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Cb

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Bending Coefficient (Cb): Unitless factor, Cb, used in determining the allowable bending capacity. It captures the effect of non-uniform moment distribution along the length. Specifying 0 means the value is program determined. .

Field: B1Major

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

NonSway Moment Factor (B1 Major): Unitless moment magnification factor for non-sway major axis bending moment. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B1Minor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

NonSway Moment Factor (B1 Minor): Unitless moment magnification factor for non-sway minor axis bending moment. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B2Major

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Sway Moment Factor (B2 Major): Unitless moment magnification factor for sway major-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B2Minor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Sway Moment Factor (B2 Minor): Unitless moment magnification factor for sway minor-axis bending moment. Specifying 0 means the value is program determined. The program determined value is taken as 1 because it is assumed that P-Delta affects were specified to be included in the analysis, and thus no further magnification is required. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Omega0

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Omega0: Omega0 factor related to seismic force and ductility. Specifying 0 means the value is program determined. Program determined value means it is taken from the seismic load definition or general preferences. .

Field: PhiPnc

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Compressive Capacity, phi*Pnc: Allowable axial compressive capacity. Specifying 0 means the value is program determined. .

Field: PhiPnt

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Tensile Capacity, phi*Pnt: Allowable axial tensile capacity. Specifying 0 means the value is program determined. .

Field: PhiMn3

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Major Bending Capacity, phi*Mn3: Allowable bending moment capacity in major axis bending. Specifying 0 means the value is program determined. For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiMn2

Field is Imported: Yes
Format: Moment (Forces section of form)
Units: Force-Length

Minor Bending Capacity, phi*Mn2: Allowable bending moment capacity in minor axis bending. Specifying 0 means the value is program determined. For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiVn2

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Major Shear Capacity, phi*Vn2: Allowable shear capacity force for major direction shear. Specifying 0 means the value is program determined. For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiVn3

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Minor Shear Capacity, phi*Vn3: Allowable shear capacity force for minor direction shear. Specifying 0 means the value is program determined. For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DeflType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Deflection Check Type: Toggle to consider whether deflection limitations as absolute or as divisor of beam length (relative). This is either "Ratio", "Absolute", or "Both". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: DLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

DL Limit, abs: Deflection limitation for dead load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Super DL+LL Limit, abs: Deflection limitation for superimposed dead plus live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Live Load Limit, abs: Deflection limitation for superimposed live load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item.
.

Field: TotalAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total Limit, abs: Deflection limitation for total load. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetAbs

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Total--Camber Limit, abs: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. It is unit dependent. Inputting zero is special, since it means no check has to be made for this item. .

Field: SpecCamber

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Specified Camber: The specified amount of camber to be reported in the design output and to be used in net deflection check. It is unit dependent. .

Table: Preferences - Aluminum Design - AA-ASD 2000

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Envelopes or Step-by-Step indicating how time history results are considered in the design.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable.

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists.

Field: LatFact

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The allowable stress increase for stresses caused by wind or seismic loading. This item is only used when the Use Lateral Factor item is set to Yes.

Field: UseLatFact

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the specified Lateral Factor is to be used in the design. Otherwise it is No.

Field: Bridge

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the structure is a bridge-type structure. It is no if the structur is some other type of structure such as a building-type structure.

Table: Preferences - Aluminum Design - AA-LRFD 2000

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Envelopes or Step-by-Step indicating how time history results are considered in the design.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable.

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists.

Field: PhiY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The resistance factor for applicable to limit states of general yield.

Field: PhiB

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The resistance factor for applicable to limit states of beams or elements of beams.

Field: PhiC

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The resistance factor for applicable to limit states of elements of columns.

Field: PhiU

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The resistance factor for applicable to limit states of ultimate strength.

Field: PhiCC

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The resistance factor for applicable to limit states of columns.

Field: PhiCP

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The resistance factor for applicable to limit states of elastic buckling of tubes.

Field: PhiV

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The resistance factor for applicable to limit states of elastic shear buckling.

Field: PhiVP

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The resistance factor for applicable to limit states of inelastic shear buckling.

Field: PhiW

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The resistance factor for applicable to limit states of web crippling.

Table: Preferences - Cold Formed Design - AISI-ASD96

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Envelopes or Step-by-Step indicating how time history results are considered in the design.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable.

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists.

Field: OmegaBS

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The factor of safety Omega for bending of sections with stiffened or partially stiffened compression flange.

Field: OmegaBUS

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The factor of safety Omega for bending of sections with unstiffened compression flange.

Field: OmegaBLTB

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The factor of safety Omega for bending of sections under lateral-torsional buckling mode.

Field: OmegaVS

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The factor of safety Omega for shear of sections with slender web.

Field: OmegaVNS

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The factor of safety Omega for shear of sections with slender web.

Field: OmegaT

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The factor of safety Omega for tension.

Field: OmegaC

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The factor of safety Omega for compression.

Table: Preferences - Cold Formed Design - AISI-LRFD96

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Envelopes or Step-by-Step indicating how time history results are considered in the design.

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable.

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists.

Field: PhiBS

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The resistance factor Phi for bending of sections with stiffened or partially stiffened compression flange.

Field: PhiBUS

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The resistance factor Phi for bending of sections with unstiffened compression flange.

Field: PhiBLTB

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The resistance factor Phi for bending of sections under lateral-torsional buckling mode.

Field: PhiVS

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The resistance factor Phi for shear of sections with slender web.

Field: PhiVNS

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The resistance factor Phi for shear of sections with nonslender web.

Field: PhiT

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The resistance factor Phi for tension.

Field: PhiC

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The resistance factor Phi for compression.

Table: Preferences - Concrete Design - AASHTO Concrete 97

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

The selected design code. Subsequent design is based on this selected code.

Field: NumCurves

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: NumPoints

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: MinEccen

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

The selected design code. Subsequent design is based on this selected code.

Field: PatLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: UFLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: SeisZone

Field is Imported: Yes
Format: Controlled by program
Units: Text

The seismic zone. This is either "Zone 0", "Zone 1", "Zone 2", "Zone 3" or "Zone 4.".

Table: Preferences - Concrete Design - ACI 318-02

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

The selected design code. Subsequent design is based on this selected code.

Field: NumCurves

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: NumPoints

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: MinEccen

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

The selected design code. Subsequent design is based on this selected code.

Field: PatLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: UFLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: SeisCat

Field is Imported: Yes
Format: Controlled by program
Units: Text

Seismic Design Category. This is either "A", "B", "C", "D", "E" or "F.".

Field: PhiT

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for tension controlled sections.

Field: PhiCTied

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for compression controlled sections with tied reinforcement.

Field: PhiCSpiral

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for compression controlled sections with spiral reinforcement.

Field: PhiV

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for shear and torsion.

Field: PhiVSeismic

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for shear in structures that rely on special moment resisting frames or special reinforced concrete structural walls to resist earthquake effects.

Field: PhiVJoint

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for joint shear in structures that rely on special moment resisting frames or special reinforced concrete structural walls to resist earthquake effects.

Table: Preferences - Concrete Design - ACI 318-99

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

The selected design code. Subsequent design is based on this selected code.

Field: NumCurves

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: NumPoints

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: MinEccen

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

The selected design code. Subsequent design is based on this selected code.

Field: PatLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: UFLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: PhiB

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for bending and tension.

Field: PhiCTied

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for axial compression when the member has tie reinforcement.

Field: PhiCSpiral

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for axial compression when the member has spiral reinforcement.

Field: PhiV

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for shear.

Table: Preferences - Concrete Design - BS8110 89

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

The selected design code. Subsequent design is based on this selected code.

Field: NumCurves

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: NumPoints

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: MinEccen

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

The selected design code. Subsequent design is based on this selected code.

Field: PatLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: UFLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Table: Preferences - Concrete Design - BS8110 97

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

The selected design code. Subsequent design is based on this selected code.

Field: NumCurves

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: NumPoints

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: MinEccen

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

The selected design code. Subsequent design is based on this selected code.

Field: PatLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: UFLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: GammaS

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor GammaS.

Field: GammaC

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor GammaC.

Field: GammaM

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for concrete in shear.

Table: Preferences - Concrete Design - Chinese 2002

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

The selected design code. Subsequent design is based on this selected code.

Field: NumCurves

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: NumPoints

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: PatLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: UFLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: ImpFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: ColDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

The selected design code. Subsequent design is based on this selected code.

Field: SeisGrade

Field is Imported: Yes
Format: Controlled by program
Units: Text

The selected design code. Subsequent design is based on this selected code.

Table: Preferences - Concrete Design - CSA-A233-94

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

The selected design code. Subsequent design is based on this selected code.

Field: NumCurves

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: NumPoints

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: MinEccen

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

The selected design code. Subsequent design is based on this selected code.

Field: PatLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: UFLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: PhiS

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for steel.

Field: PhiC

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for concrete.

Table: Preferences - Concrete Design - EUROCODE 2-1992

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

The selected design code. Subsequent design is based on this selected code.

Field: NumCurves

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: NumPoints

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: MinEccen

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

The selected design code. Subsequent design is based on this selected code.

Field: PatLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: UFLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: Nu

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Nu (Greek letter) factor.

Field: GammaS

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor GammaS.

Field: GammaC

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor GammaC.

Table: Preferences - Concrete Design - Indian IS 456-2000

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

The selected design code. Subsequent design is based on this selected code.

Field: NumCurves

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: NumPoints

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: MinEccen

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

The selected design code. Subsequent design is based on this selected code.

Field: PatLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: UFLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: GammaS

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor GammaS.

Field: GammaC

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor GammaC.

Table: Preferences - Concrete Design - Italian DM 14-2-92

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

The selected design code. Subsequent design is based on this selected code.

Field: NumCurves

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: NumPoints

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: PatLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: UFLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Table: Preferences - Concrete Design - KCI-1999

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

The selected design code. Subsequent design is based on this selected code.

Field: NumCurves

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: NumPoints

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: MinEccen

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

The selected design code. Subsequent design is based on this selected code.

Field: PatLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: UFLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: PhiB

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for bending and tension.

Field: PhiCTied

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for axial compression when the member has tie reinforcement.

Field: PhiCSpiral

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for axial compression when the member has spiral reinforcement.

Field: PhiV

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for shear.

Table: Preferences - Concrete Design - Mexican RCDF 2001

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

The selected design code. Subsequent design is based on this selected code.

Field: NumCurves

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: NumPoints

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: MinEccen

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

The selected design code. Subsequent design is based on this selected code.

Field: PatLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: UFLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: PhiB

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for bending.

Field: PhiT

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for tension.

Field: PhiCTied

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for axial compression when the member has tie reinforcement.

Field: PhiCSpiral

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for axial compression when the member has spiral reinforcement.

Field: PhiV

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for shear.

Table: Preferences - Concrete Design - NZS 3101-95

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

The selected design code. Subsequent design is based on this selected code.

Field: NumCurves

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: NumPoints

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: MinEccen

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

The selected design code. Subsequent design is based on this selected code.

Field: PatLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: UFLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: PhiB

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for bending.

Field: PhiT

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for tension.

Field: PhiC

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for axial compression.

Field: PhiV

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for shear.

Field: Omega

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Amplification factor.

Field: PhiZero

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Phi_0 factor.

Field: Rm

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Rm factor to be used in shear design.

Field: Rv

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Rv factor to be used in shear design.

Table: Preferences - Concrete Design - UBC97

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

The selected design code. Subsequent design is based on this selected code.

Field: NumCurves

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: NumPoints

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: MinEccen

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

The selected design code. Subsequent design is based on this selected code.

Field: PatLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: UFLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The selected design code. Subsequent design is based on this selected code.

Field: PhiB

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for bending and tension.

Field: PhiCTied

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for axial compression when the member has tie reinforcement.

Field: PhiCSpiral

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for axial compression when the member has spiral reinforcement.

Field: PhiV

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strength reduction factor for shear.

Table: Preferences - Dimensional

Field: MergeTol

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The auto merge tolerance (length). This is the basic tolerance value in the model. For example, when a joint is drawn within this tolerance length of another joint, the drawn joint is merged into the existing joint.

Field: FineGrid

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The plan fine grid spacing (length). When the fine grid snap option is activated this item sets the spacing of the snap grid.

Field: Nudge

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The plan nudge value (length). When the plan nudge feature is used this item sets sets the distance that an item is nudged. In plan view you can nudge an object by selecting it and then pressing the Ctrl key and an arrow key simultaneously.

Field: SelectTol

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The screen selection tolerance (pixels). When clicking to select an object your mouse pointer must be within this number of pixels to select the object.

Field: SnapTol

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The screen snap tolerance (pixels). When using the snap options and moving your mouse pointer about the model, your mouse pointer must be within this number of pixels to snap to the object.

Field: SLineThick

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The screen line thickness (pixels). The thickness of lines drawn on the screen. This item does not affect text, the bounding plane line or the aerial view.

Field: PLineThick

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The printer line thickness (pixels). The thickness of lines and fonts drawn to the printer.

Field: MaxFont

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The maximum graphic font size (points). The default font size is based on the average size of the objects in your model shown on the screen. As you zoom into your model the font size becomes proportionately larger. However, the font size is never made larger than the specified maximum graphic font size.

Field: MinFont

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The minimum graphic font size (points). The default font size is based on the average size of the objects in your model shown on the screen. As you zoom out of your model the font size becomes proportionately smaller. However, the font size is never made smaller than the specified minimum graphic font size.

Field: AutoZoom

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The auto zoom step (percent). This is the size of the step used for the View menu > Zoom In One Step command and the View menu > Zoom Out One Step command. Themagnification of all objects is increased or deceased by the specfied percent.

Field: ShrinkFact

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shrink factor (percent). This item works with the object shrink toggle which is set using the View menu > Set Display Options command or using the Object Shrink Tioggletoolbar button. When object shrinking is toggled on all objects in the model are shown this specified percentage of their actual length.

Field: TextFileLen

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

This is the maximum number of characters that the program will write on a single line in the .s2k text file before using a line continuation character and moving on to the next line.

Table: Preferences - Steel Design - AASHTO Steel 04

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

Time History Design: This is either "Envelopes" or "Step-by-Step" indicating how time history results are considered in the design. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Framing Type: This is either . This item is used for ductility considerations in the design.
.

Field: PatLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Pattern Live Load Factor: The live load factor for automatic generation of load combinations involving pattern live loads and dead loads. .

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Stress Ratio Limit: The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable. .

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Max Number of Auto Iterations: The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists. .

Field: PhiB

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Phi (Flexure): Strength reduction factor. .

Field: PhiC

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Phi (Compression): Strength reduction factor. .

Field: PhiTU

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Phiu (Tension): Strength reduction factor. .

Field: PhiTY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Phiy (Tension): Strength reduction factor. .

Field: PhiV

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Phi (Shear): Strength reduction factor. .

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting a value of 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Table: Preferences - Steel Design - AISC-ASD01

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

Time History Design: This is either "Envelopes" or "Step-by-Step" indicating how time history results are considered in the design. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Framing Type: This is either . This item is used for ductility considerations in the design. .

Field: PatLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Pattern Live Load Factor: The live load factor for automatic generation of load combinations involving pattern live loads and dead loads. .

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Stress Ratio Limit: The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable. .

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Max Number of Auto Iterations: The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists. .

Field: SeisCat

Field is Imported: Yes
Format: Controlled by program
Units: Text

Seismic Design Category: This is either "A", "B", "C", "D", "E", or "F". .

Field: SeisCode

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Ignore Seismic Code?: Toggle to consider whether the seismic part of the code should be considered in design. This is either "No" or "Yes". .

Field: SeisLoad

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Ignore Special Seismic Load?: Toggle to consider whether the special seismic load combinations should be considered in design. This is either "No" or "Yes". .

Field: PlugWeld

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Is Doubler Plate Plug-Welded?: Toggle to consider whether the doubler-plate should be considered to be plug-welded. This is either "No" or "Yes". .

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting a value of 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Table: Preferences - Steel Design - AISC-ASD89

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

Time History Design: This is either "Envelopes" or "Step-by-Step" indicating how time history results are considered in the design. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Framing Type: This is either . This item is used for ductility considerations in the design. .

Field: PatLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Pattern Live Load Factor: The live load factor for automatic generation of load combinations involving pattern live loads and dead loads. .

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Stress Ratio Limit: The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable. .

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Max Number of Auto Iterations: The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists. .

Field: LatFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Lateral Factor: The live load reduction factor for the reduced likelyhood of the presence of live loads in multiple floors at the same time. .

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting a value of 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Table: Preferences - Steel Design - AISC-LRFD93

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

Time History Design: This is either "Envelopes" or "Step-by-Step" indicating how time history results are considered in the design. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Framing Type: This is either . This item is used for ductility considerations in the design. .

Field: PatLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Pattern Live Load Factor: The live load factor for automatic generation of load combinations involving pattern live loads and dead loads. .

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Stress Ratio Limit: The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable. .

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Max Number of Auto Iterations: The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists. .

Field: PhiB

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Phi (Bending): Strength reduction factor. .

Field: PhiC

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Phi (Compression): Strength reduction factor. .

Field: PhiT

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Phi (Tension): Strength reduction factor. .

Field: PhiV

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Phi (Shear): Strength reduction factor. .

Field: PhiCA

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Phi (Compression, Angle): Strength reduction factor. .

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting a value of 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Table: Preferences - Steel Design - AISC-LRFD99

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

Time History Design: This is either "Envelopes" or "Step-by-Step" indicating how time history results are considered in the design. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Framing Type: This is either . This item is used for ductility considerations in the design.
.

Field: PatLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Pattern Live Load Factor: The live load factor for automatic generation of load combinations involving pattern live loads and dead loads. .

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Stress Ratio Limit: The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable. .

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Max Number of Auto Iterations: The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists. .

Field: SeisCat

Field is Imported: Yes
Format: Controlled by program
Units: Text

Seismic Design Category: This is either "A", "B", "C", "D", "E", or "F". .

Field: SeisCode

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Ignore Seismic Code?: Toggle to consider whether the seismic part of the code should be considered in design. This is either "No" or "Yes". .

Field: SeisLoad

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Ignore Special Seismic Load?: Toggle to consider whether the special seismic load combinations should be considered in design. This is either "No" or "Yes". .

Field: PlugWeld

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Is Doubler Plate Plug-Welded?: Toggle to consider whether the doubler-plate should be considered to be plug-welded. This is either "No" or "Yes". .

Field: PhiB

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Phi (Bending): Strength reduction factor. .

Field: PhiC

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Phi (Compression): Strength reduction factor. .

Field: PhiTY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Phi (Tension-Yielding): Strength reduction factor. .

Field: PhiTF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Phi (Tension-Fracture): Strength reduction factor. .

Field: PhiV

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Phi (Shear): Strength reduction factor. .

Field: PhiVT

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Phi (Shear-Torsion): Strength reduction factor. .

Field: PhiCA

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Phi (Compression, Angle): Strength reduction factor. .

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting a value of 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Table: Preferences - Steel Design - API RP2A-LRFD 97

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

Time History Design: This is either "Envelopes" or "Step-by-Step" indicating how time history results are considered in the design. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Framing Type: This is either . This item is used for ductility considerations in the design. .

Field: PatLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Pattern Live Load Factor: The live load factor for automatic generation of load combinations involving pattern live loads and dead loads. .

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Stress Ratio Limit: The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable. .

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Max Number of Auto Iterations: The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists. .

Field: PunchMethod

Field is Imported: Yes
Format: Controlled by program
Units: Text

Tubular Joint Punching Load Method: This is either "Punching Shear" or "Nominal Load" indicating the method used to check the punching loads. .

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting a value of 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Table: Preferences - Steel Design - API RP2A-WSD2000

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

Time History Design: This is either "Envelopes" or "Step-by-Step" indicating how time history results are considered in the design. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Framing Type: This is either . This item is used for ductility considerations in the design. .

Field: PatLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Pattern Live Load Factor: The live load factor for automatic generation of load combinations involving pattern live loads and dead loads. .

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Stress Ratio Limit: The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable. .

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Max Number of Auto Iterations: The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists. .

Field: PunchMethod

Field is Imported: Yes
Format: Controlled by program
Units: Text

Tubular Joint Punching Load Method: This is either "Punching Shear" or "Nominal Load" indicating the method used to check the punching loads. .

Field: LatFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Lateral Factor: The live load reduction factor for the reduced likelyhood of the presence of live loads in multiple floors at the same time. .

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting a value of 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Table: Preferences - Steel Design - ASCE 10-97

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

Time History Design: This is either "Envelopes" or "Step-by-Step" indicating how time history results are considered in the design. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Framing Type: This is either . This item is used for ductility considerations in the design. .

Field: PatLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Pattern Live Load Factor: The live load factor for automatic generation of load combinations involving pattern live loads and dead loads. .

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Stress Ratio Limit: The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable. .

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Max Number of Auto Iterations: The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists. .

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting a value of 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Table: Preferences - Steel Design - BS5950 2000

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

Time History Design: This is either "Envelopes" or "Step-by-Step" indicating how time history results are considered in the design. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Framing Type: This is either . This item is used for ductility considerations in the design. .

Field: PatLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Pattern Live Load Factor: The live load factor for automatic generation of load combinations involving pattern live loads and dead loads. .

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Stress Ratio Limit: The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable. .

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Max Number of Auto Iterations: The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists. .

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting a value of 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Table: Preferences - Steel Design - BS5950 90

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

Time History Design: This is either "Envelopes" or "Step-by-Step" indicating how time history results are considered in the design. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Framing Type: This is either . This item is used for ductility considerations in the design. .

Field: PatLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Pattern Live Load Factor: The live load factor for automatic generation of load combinations involving pattern live loads and dead loads. .

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Stress Ratio Limit: The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable. .

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Max Number of Auto Iterations: The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists. .

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting a value of 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Table: Preferences - Steel Design - Chinese 2002

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

Time History Design: This is either "Envelopes" or "Step-by-Step" indicating how time history results are considered in the design. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Framing Type: This is either . This item is used for ductility considerations in the design. .

Field: PatLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Pattern Live Load Factor: The live load factor for automatic generation of load combinations involving pattern live loads and dead loads. .

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Stress Ratio Limit: The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable. .

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Max Number of Auto Iterations: The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists. .

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting a value of 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Table: Preferences - Steel Design - CISC 95

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

Time History Design: This is either "Envelopes" or "Step-by-Step" indicating how time history results are considered in the design. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Framing Type: This is either . This item is used for ductility considerations in the design. .

Field: PatLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Pattern Live Load Factor: The live load factor for automatic generation of load combinations involving pattern live loads and dead loads. .

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Stress Ratio Limit: The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable. .

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Max Number of Auto Iterations: The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists. .

Field: PhiB

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Phi (Bending): Strength reduction factor. .

Field: PhiC

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Phi (Compression): Strength reduction factor. .

Field: PhiT

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Phi (Tension): Strength reduction factor. .

Field: PhiV

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Phi (Shear): Strength reduction factor. .

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting a value of 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Table: Preferences - Steel Design - EUROCODE 3-1993

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

Time History Design: This is either "Envelopes" or "Step-by-Step" indicating how time history results are considered in the design. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Framing Type: This is either . This item is used for ductility considerations in the design. .

Field: PatLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Pattern Live Load Factor: The live load factor for automatic generation of load combinations involving pattern live loads and dead loads. .

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Stress Ratio Limit: The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable. .

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Max Number of Auto Iterations: The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists. .

Field: GammaM0

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

GammaM0: The strength reduction factor. .

Field: GammaM1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

GammaM1: The strength reduction factor. .

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting a value of 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Table: Preferences - Steel Design - Italian UNI 10011

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

Time History Design: This is either "Envelopes" or "Step-by-Step" indicating how time history results are considered in the design. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Framing Type: This is either . This item is used for ductility considerations in the design.
.

Field: PatLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Pattern Live Load Factor: The live load factor for automatic generation of load combinations involving pattern live loads and dead loads. .

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Stress Ratio Limit: The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable. .

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Max Number of Auto Iterations: The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists. .

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting a value of 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Table: Preferences - Steel Design - UBC97-ASD

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

Time History Design: This is either "Envelopes" or "Step-by-Step" indicating how time history results are considered in the design. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Framing Type: This is either . This item is used for ductility considerations in the design.
.

Field: PatLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Pattern Live Load Factor: The live load factor for automatic generation of load combinations involving pattern live loads and dead loads. .

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Stress Ratio Limit: The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable. .

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Max Number of Auto Iterations: The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists. .

Field: SeisZone

Field is Imported: Yes
Format: Controlled by program
Units: Text

Seismic Zone: This is either "", "Zone 0", "Zone 1", "Zone 2", "Zone 3", or "Zone 4". .

Field: LatFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Lateral Factor: The live load reduction factor for the reduced likelyhood of the presence of live loads in multiple floors at the same time. .

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting a value of 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Table: Preferences - Steel Design - UBC97-LRFD

Field: THDesign

Field is Imported: Yes
Format: Controlled by program
Units: Text

Time History Design: This is either "Envelopes" or "Step-by-Step" indicating how time history results are considered in the design. .

Field: FrameType

Field is Imported: Yes
Format: Controlled by program
Units: Text

Framing Type: This is either . This item is used for ductility considerations in the design. .

Field: PatLLF

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Pattern Live Load Factor: The live load factor for automatic generation of load combinations involving pattern live loads and dead loads. .

Field: SRatioLimit

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Stress Ratio Limit: The stress ratio limit to be used for acceptability. Stress ratios that are less than or equal to this value are considered acceptable. .

Field: MaxIter

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Max Number of Auto Iterations: The maximum number of automatic iterations the program will perform while designing frame elements with auto select section lists. .

Field: SeisZone

Field is Imported: Yes
Format: Controlled by program
Units: Text

Seismic Zone: This is either "", "Zone 0", "Zone 1", "Zone 2", "Zone 3", or "Zone 4". .

Field: ImpFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Importance Factor: This is related to seismic design. .

Field: PhiB

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Phi (Bending): Strength reduction factor. .

Field: PhiC

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Phi (Compression): Strength reduction factor. .

Field: PhiT

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Phi (Tension): Strength reduction factor. .

Field: PhiV

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Phi (Shear): Strength reduction factor. .

Field: PhiCA

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Phi (Compression, Angle): Strength reduction factor. .

Field: CheckDefl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Consider Deflection?: Toggle to consider whether deflection limitations should be considered in design. This is either "No" or "Yes". .

Field: DLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

DL Limit, L /: Deflection limitation for dead load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: SDLAndLLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Super DL+LL Limit, L /: Deflection limitation for superimposed dead plus live load. Inputting a value of 120 means that the limit is L/120. Inputting zero is special, since it means no check has to be made for this item. .

Field: LLRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Live Load Limit, L /: Deflection limitation for superimposed live load. Inputting a value of 360 means that the limit is L/360. Inputting zero is special, since it means no check has to be made for this item. .

Field: TotalRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total Limit, L/: Deflection limitation for total load. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Field: NetRat

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Total--Camber Limit, L/: Limitation for net deflection. Camber is subtracted from the total load deflection to get net deflection. Inputting a value of 240 means that the limit is L/240. Inputting zero is special, since it means no check has to be made for this item. .

Table: Program Control

Field: ProgramName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The program name.

Field: Version

Field is Imported: Yes
Format: Controlled by program
Units: Text

The program version.

Field: ProgLevel

Field is Imported: No
Format: Controlled by program
Units: Text

The program level.

Field: LicenseOS

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if the Off Shore license is active. Otherwise it is No.

Field: LicenseSC

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if the Staged Construction license is active. Otherwise it is No.

Field: LicenseBR

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if the Bridge Modeler license is active. Otherwise it is No.

Field: LicenseHT

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if the Heat Transfer license is active. Otherwise it is No.

Field: CurrUnits

Field is Imported: Yes
Format: Controlled by program
Units: Text

The current units at the time the database tables are created. Possible values for this include:lb, in, Flb, ft, FKip, in, FKip, ft, FKN, mm, CKN, m, CKgf, mm, CKgf, m, CN, mm, CN, m, CTon, mm, CTon, m, CKN, cm, CKgf, cm, CN, cm, CTon, cm, CTon, cm, CFor import the letters DEG can be substituted for the degree symbol if desired..

Field: SteelCode

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design code used for steel frame design.

Field: ConcCode

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design code used for concrete frame design.

Field: AlumCode

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design code used for aluminum frame design.

Field: ColdCode

Field is Imported: Yes
Format: Controlled by program
Units: Text

The design code used for cold formed frame design.

Table: Project Information

Field: Item

Field is Imported: Yes
Format: Controlled by program
Units: Text

The project information item.

Field: Data

Field is Imported: Yes
Format: Controlled by program
Units: Text

The project information data for the associated item.

Table: Rebar Sizes

Field: RebarID

Field is Imported: Yes
Format: Controlled by program
Units: Text

ID (name) of reinforcing bar.

Field: Area

Field is Imported: Yes
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

Area of specified reinforcing bar.

Field: Diameter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

Diameter of specified reinforcing bar.

Table: Section Cuts 1 - General

Field: CutName

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the section cut.

Field: Group

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the group that defines the section cut.

Field: DefaultLoc

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the section cut forces are reported at the program default location. It is No if the forces are reported at a user-specified location.The default location is at the average coordinates of all of the joints included in the group that is used to define the section cut.

Field: GlobalX

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global X-coordinate of the point where the section cut forces are reported.

Field: GlobalY

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Y-coordinate of the point where the section cut forces are reported.

Field: GlobalZ

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z-coordinate of the point where the section cut forces are reported.

Field: AngleA

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

AngleA, AngleB and AngleC define the rotation of the section cut local coordinate system relative to the coordinate system determined from the reference vectors. In the case where the default reference vectors are used, the angles define the orientation of the section cut local coordinate system with respect to the global axes.The orientation of the section cut local coordinate system is obtained according to the following procedure: (1) The local system is first rotated about its +3 axis by AngleA. (2) The local system is next rotated about its resulting +2 axis by AngleB. (3) The local system is lastly rotated about its resulting +1 axis by AngleC. Note that the order in which these rotations are performed is important.

Field: AngleB

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

AngleA, AngleB and AngleC define the rotation of the section cut local coordinate system relative to the coordinate system determined from the reference vectors. In the case where the default reference vectors are used, the angles define the orientation of the section cut local coordinate system with respect to the global axes.The orientation of the section cut local coordinate system is obtained according to the following procedure: (1) The local system is first rotated about its +3 axis by AngleA. (2) The local system is next rotated about its resulting +2 axis by AngleB. (3) The local system is lastly rotated about its resulting +1 axis by AngleC. Note that the order in which these rotations are performed is important.

Field: AngleC

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

AngleA, AngleB and AngleC define the rotation of the section cut local coordinate system relative to the coordinate system determined from the reference vectors. In the case where the default reference vectors are used, the angles define the orientation of the section cut local coordinate system with respect to the global axes.The orientation of the section cut local coordinate system is obtained according to the following procedure: (1) The local system is first rotated about its +3 axis by AngleA. (2) The local system is next rotated about its resulting +2 axis by AngleB. (3) The local system is lastly rotated about its resulting +1 axis by AngleC. Note that the order in which these rotations are performed is important.

Field: AdvanceAxes

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if an advanced method is used to define the local axes reference vectors for the section cut. Otherwise it is No meaning that the default reference vectors are used.

Table: Section Cuts 2 - Advanced Local Axes

Field: SectionCut

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the section cut.

Field: LocalPlane

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item indicates the local plane that is to be determined by the plane reference vector. It is either 12, 13, 21, 23, 31, or 32.

Field: AxOption1

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Coord Dir, Two Joints or User Vector indicating the first method used to determine the axial reference vector.

Field: AxCoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The coordinate system used to define the axial reference vector coordinate direction and the axial user vector.

Field: AxCoordDir

Field is Imported: Yes
Format: Controlled by program
Units: Text

Axial coordinate direction taken at the output point in the specified coordinate system and used to define the axis reference vector. It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: AxVecJt1

Field is Imported: Yes
Format: Controlled by program
Units: Text

AxVecJt1 and AxVecJt2 are the labels of two joints that define the axis reference vector. If one of these items is reported as None then it means the specified section cut output location. If both of these items is reported as None then this option is not used to define the axis reference vector.

Field: AxVecJt2

Field is Imported: Yes
Format: Controlled by program
Units: Text

AxVecJt1 and AxVecJt2 are the labels of two joints that define the axis reference vector. If one of these items is reported as None then it means the specified section cut output location. If both of these items is reported as None then this option is not used to define the axis reference vector.

Field: PlOption1

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Coord Dir, Two Joints or User Vector indicating the first method used to determine the plane reference vector.

Field: PlCoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The coordinate system used to define the plane reference vector coordinate directions and the plane user vector.

Field: CoordDir1

Field is Imported: Yes
Format: Controlled by program
Units: Text

The primary coordinate direction taken at the specified section cut output location in the specified coordinate system. It is used to determine the plane reference vector. It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: CoordDir2

Field is Imported: Yes
Format: Controlled by program
Units: Text

The secondary coordinate direction taken at the specified section cut output location in the specified coordinate system. It is used to determine the plane reference vector. It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: PlVecJt1

Field is Imported: Yes
Format: Controlled by program
Units: Text

PlVecJt1 and PlVecJt2 are the labels of two joints that define the plane reference vector. Either of these items may be specified as None to indicate the specified section cut output location. If both PlVecJt1 and PlVecJt2 are specified as None then they are not used to define the plane reference vector.

Field: PlVecJt2

Field is Imported: Yes
Format: Controlled by program
Units: Text

PlVecJt1 and PlVecJt2 are the labels of two joints that define the plane reference vector. Either of these items may be specified as None to indicate the specified section cut output location. If both PlVecJt1 and PlVecJt2 are specified as None then they are not used to define the plane reference vector.

Field: AxVecX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The X direction component of the axis reference vector in the coordinate system defined by the CoordSys item.

Field: AxVecY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Y direction component of the axis reference vector in the coordinate system defined by the CoordSys item.

Field: AxVecZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Z direction component of the axis reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The X direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Y direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Z direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Table: Section Designer Properties 01 - General

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a Section Designer section that has been defined in the Frame Section Properties 01 - General table.

Field: DesignType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either No Check/Design, General Steel or Concrete Column indicating the type ofdesign for the section.The General Steel design type only applies to sections with a steel base material. The Concrete Column design type only applies to sections with a concrete base material. .

Field: DsgnOrChck

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item only applies to sections whose DesignType is Concrete Column. For Concrete Column DesignTypes this item is either Design or Check indicating whether the specified section is to be designed or checked. For other DesignTypes this item is N/A.

Field: BaseMat

Field is Imported: No
Format: Controlled by program
Units: Text

The base material of the section designer section. Note that each of the shapes that make up the section may have a specified material that is different from the base material. The section properties of the section are calculated and reported based on an equivalent area of the base material.This material is also reported in the Frame Section Properties 01 - General table.For import the base material is read from the Frame Section Properties 01 - General table only.

Field: nTotalShp

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total number of shapes that make up the section.

Field: nIWideFlng

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of I/Wide Flange shapes in the section designer section.

Field: nChannel

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of Channel shapes in the section designer section.

Field: nTee

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of Tee shapes in the section designer section.

Field: nAngle

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of Angle shapes in the section designer section.

Field: nDblAngle

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of Double shapes in the section designer section.

Field: nBoxTube

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of Box/Tube shapes in the section designer section.

Field: nPipe

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of Pipe shapes in the section designer section.

Field: nPlate

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of Plate shapes in the section designer section.

Field: nSolidRect

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of Solid Rectangle shapes in the section designer section.

Field: nSolidCirc

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of Solid Circle shapes in the section designer section.

Field: nSolidSeg

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of Solid Segment shapes in the section designer section.

Field: nSolidSect

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of Solid Sector shapes in the section designer section.

Field: nPolygon

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of Polygon shapes in the section designer section.

Field: nReinfSing

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of Reinforcing Single shapes in the section designer section.

Field: nReinfLine

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of Reinforcing Line shapes in the section designer section.

Field: nReinfRect

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of Reinforcing Rectangle shapes in the section designer section.

Field: nReinfCirc

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of Reinforcing Circle shapes in the section designer section.

Field: nRefLine

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of Reference Line shapes in the section designer section.

Field: nRefCirc

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of Reference Circle shapes in the section designer section.

Table: Section Designer Properties 02 - Reinforcing At Shape Edges

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a Section Designer section that has been defined in the Frame Section Properties 01 - General table.

Field: ShapeNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shape number used for identification of the shape in the display tables. Note that when you import tables the program may renumber the shapes.

Field: Type

Field is Imported: No
Format: Controlled by program
Units: Text

The type of shape.

Field: EdgeID

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A number identifying the shape edge to which the reinforcing applies.

Field: BarSize

Field is Imported: Yes
Format: Controlled by program
Units: Text

The rebar size along the specified shape edge, or None if no rebar exists along the edge.

Field: Spacing

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The maximum spacing (equal) of rebar along the specified shape edge.

Field: Cover

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The clear cover for the rebar along the specified shape edge. Note that the cover for this corner bar is not specified directly, but rather is determined from the specified cover along the two adjacent shape edges.

Table: Section Designer Properties 03 - Reinforcing At Shape Corners

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a Section Designer section that has been defined in the Frame Section Properties 01 - General table.

Field: ShapeNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shape number used for identification of the shape in the display tables. Note that when you import tables the program may renumber the shapes.

Field: Type

Field is Imported: No
Format: Controlled by program
Units: Text

The type of shape.

Field: CornerID

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A number identifying the shape corner to which the specified reinforcing applies.

Field: BarSize

Field is Imported: Yes
Format: Controlled by program
Units: Text

The rebar size at the specified shape corner, or none if no rebar exists at the corner. Note that the cover for this corner bar is not specified directly, but rather is determined from the specified cover along the two adjacent shape edges.

Table: Section Designer Properties 04 - Shape I/Wide Flange

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a Section Designer section that has been defined in the Frame Section Properties 01 - General table.

Field: ShapeNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shape number used for identification of the shape in the display tables. Note that when you import tables the program may renumber the shapes.

Field: ShapeType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either User Defined or the name of a defined I/Wide Flange section.

Field: ShapeMat

Field is Imported: Yes
Format: Controlled by program
Units: Text

The material property associated with the Tee shape.

Field: FillColor

Field is Imported: Yes
Format: Controlled by program
Units: Text

The fill color used when diplaying the Tee shape in Section Designer.

Field: XCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The X coordinate of the center of the I/Wide Flange shape in the Section Designer coordinate system.

Field: YCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The Y coordinate of the center of the I/Wide Flange shape in the Section Designer coordinate system.

Field: Height

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The height of the I/Wide Flange shape.

Field: TopWidth

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The width of the top flange of the I/Wide Flange shape.

Field: TopThick

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the top flange of the I/Wide Flange shape.

Field: WebThick

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The web thickness of the I/Wide Flange shape.

Field: BotWidth

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The width of the bottom flange of the I/Wide Flange shape.

Field: BotThick

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the bottom flange of the I/Wide Flange shape.

Field: Rotation

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The counterclockwise rotation of the I/Wide Flange shape from its default orientation.

Field: Reinforcing

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if there is edge and corner reinforcing associated with the I/Wide Flange shape. Otherwise it is No.

Table: Section Designer Properties 05 - Shape Channel

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a Section Designer section that has been defined in the Frame Section Properties 01 - General table.

Field: ShapeNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shape number used for identification of the shape in the display tables. Note that when you import tables the program may renumber the shapes.

Field: ShapeType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either User Defined or the name of a defined Channel section.

Field: ShapeMat

Field is Imported: Yes
Format: Controlled by program
Units: Text

The material property associated with the Tee shape.

Field: FillColor

Field is Imported: Yes
Format: Controlled by program
Units: Text

The fill color used when diplaying the Tee shape in Section Designer.

Field: XCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The X coordinate of the center of the Channel shape in the Section Designer coordinate system.

Field: YCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The Y coordinate of the center of the Channel shape in the Section Designer coordinate system.

Field: Height

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The height of the Channel shape.

Field: Width

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The width of the Channel shape.

Field: FlngThick

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The flange thickness of the Channel shape.

Field: WebThick

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The web thickness of the Channel shape.

Field: Rotation

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The counterclockwise rotation of the Channel shape from its default orientation.

Field: Reinforcing

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if there is edge and corner reinforcing associated with the Channel shape. Otherwise it is No.

Table: Section Designer Properties 06 - Shape Tee

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a Section Designer section that has been defined in the Frame Section Properties 01 - General table.

Field: ShapeNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shape number used for identification of the shape in the display tables. Note that when you import tables the program may renumber the shapes.

Field: ShapeType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either User Defined or the name of a defined Tee section.

Field: ShapeMat

Field is Imported: Yes
Format: Controlled by program
Units: Text

The material property associated with the Tee shape.

Field: FillColor

Field is Imported: Yes
Format: Controlled by program
Units: Text

The fill color used when diplaying the Tee shape in Section Designer.

Field: XCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The X coordinate of the center of the Tee shape in the Section Designer coordinate system.

Field: YCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The Y coordinate of the center of the Tee shape in the Section Designer coordinate system.

Field: Height

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The height of the Tee shape.

Field: Width

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The width of the Tee shape.

Field: FlngThick

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The flange thickness of the Tee shape.

Field: WebThick

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The web thickness of the Tee shape.

Field: Rotation

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The counterclockwise rotation of the Tee shape from its default orientation.

Field: Reinforcing

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if there is edge and corner reinforcing associated with the Tee shape. Otherwise it is No.

Table: Section Designer Properties 07 - Shape Angle

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a Section Designer section that has been defined in the Frame Section Properties 01 - General table.

Field: ShapeNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shape number used for identification of the shape in the display tables. Note that when you import tables the program may renumber the shapes.

Field: ShapeType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either User Defined or the name of a defined Angle section.

Field: ShapeMat

Field is Imported: Yes
Format: Controlled by program
Units: Text

The material property associated with the Angle shape.

Field: FillColor

Field is Imported: Yes
Format: Controlled by program
Units: Text

The fill color used when diplaying the Angle shape in Section Designer.

Field: XCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The X coordinate of the center of the Angle shape in the Section Designer coordinate system.

Field: YCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The Y coordinate of the center of the Angle shape in the Section Designer coordinate system.

Field: Height

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The height of the Angle shape.

Field: Width

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The width of the Angle shape.

Field: FlngThick

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The flange thickness of the Angle shape.

Field: WebThick

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The web thickness of the Angle shape.

Field: Rotation

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The counterclockwise rotation of the Angle shape from its default orientation.

Field: Reinforcing

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if there is edge and corner reinforcing associated with the Angle shape. Otherwise it is No.

Table: Section Designer Properties 08 - Shape Double Angle

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a Section Designer section that has been defined in the Frame Section Properties 01 - General table.

Field: ShapeNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shape number used for identification of the shape in the display tables. Note that when you import tables the program may renumber the shapes.

Field: ShapeType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either User Defined or the name of a defined Double section.

Field: ShapeMat

Field is Imported: Yes
Format: Controlled by program
Units: Text

The material property associated with the Double shape.

Field: FillColor

Field is Imported: Yes
Format: Controlled by program
Units: Text

The fill color used when diplaying the Double shape in Section Designer.

Field: XCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The X coordinate of the center of the Double shape in the Section Designer coordinate system.

Field: YCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The Y coordinate of the center of the Double shape in the Section Designer coordinate system.

Field: Height

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The height of the Double shape.

Field: Width

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

two times the flange width of a single angle plus the separation distance.

Field: FlngThick

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The flange thickness of the Double shape.

Field: WebThick

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The web thickness of the Double shape.

Field: Separation

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The distance (space) between the webs of the two angles in the Double shape.

Field: Rotation

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The counterclockwise rotation of the Double shape from its default orientation.

Table: Section Designer Properties 09 - Shape Box/Tube

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a Section Designer section that has been defined in the Frame Section Properties 01 - General table.

Field: ShapeNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shape number used for identification of the shape in the display tables. Note that when you import tables the program may renumber the shapes.

Field: ShapeType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either User Defined or the name of a defined Box/Tube section.

Field: ShapeMat

Field is Imported: Yes
Format: Controlled by program
Units: Text

The material property associated with the Box/Tube shape.

Field: FillColor

Field is Imported: Yes
Format: Controlled by program
Units: Text

The fill color used when diplaying the Box/Tube shape in Section Designer.

Field: XCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The X coordinate of the center of the Box/Tube shape in the Section Designer coordinate system.

Field: YCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The Y coordinate of the center of the Box/Tube shape in the Section Designer coordinate system.

Field: Height

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The height of the Box/Tube shape.

Field: Width

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The width of the Box/Tube shape.

Field: FlngThick

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The flange thickness of the Box/Tube shape.

Field: WebThick

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The web thickness of the Box/Tube shape.

Field: Rotation

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The counterclockwise rotation of the Box/Tube shape from its default orientation.

Table: Section Designer Properties 10 - Shape Pipe

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a Section Designer section that has been defined in the Frame Section Properties 01 - General table.

Field: ShapeNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shape number used for identification of the shape in the display tables. Note that when you import tables the program may renumber the shapes.

Field: ShapeType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either User Defined or the name of a defined Pipe section.

Field: ShapeMat

Field is Imported: Yes
Format: Controlled by program
Units: Text

The material property associated with the Pipe shape.

Field: FillColor

Field is Imported: Yes
Format: Controlled by program
Units: Text

The fill color used when diplaying the Pipe shape in Section Designer.

Field: XCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The X coordinate of the center of the Pipe shape in the Section Designer coordinate system.

Field: YCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The Y coordinate of the center of the Pipe shape in the Section Designer coordinate system.

Field: OuterDiam

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The outer diameter of the Pipe shape.

Field: WallThick

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The wall thickness of the Pipe shape.

Table: Section Designer Properties 11 - Shape Plate

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a Section Designer section that has been defined in the Frame Section Properties 01 - General table.

Field: ShapeNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shape number used for identification of the shape in the display tables. Note that when you import tables the program may renumber the shapes.

Field: ShapeMat

Field is Imported: Yes
Format: Controlled by program
Units: Text

The material property associated with the Plate shape.

Field: FillColor

Field is Imported: Yes
Format: Controlled by program
Units: Text

The fill color used when diplaying the Plate shape in Section Designer.

Field: XCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The X coordinate of the center of the Plate shape in the Section Designer coordinate system.

Field: YCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The Y coordinate of the center of the Plate shape in the Section Designer coordinate system.

Field: Thickness

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the Plate shape.

Field: Width

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The width of the Plate shape.

Field: Rotation

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The counterclockwise rotation of the Plate shape from its default orientation.

Field: Reinforcing

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if there is edge and corner reinforcing associated with the Plate shape. Otherwise it is No.

Table: Section Designer Properties 12 - Shape Solid Rectangle

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a Section Designer section that has been defined in the Frame Section Properties 01 - General table.

Field: ShapeNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shape number used for identification of the shape in the display tables. Note that when you import tables the program may renumber the shapes.

Field: ShapeMat

Field is Imported: Yes
Format: Controlled by program
Units: Text

The material property associated with the Solid Rectangle shape.

Field: FillColor

Field is Imported: Yes
Format: Controlled by program
Units: Text

The fill color used when diplaying the Solid Rectangle shape in Section Designer.

Field: XCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The X coordinate of the center of the Solid Rectangle shape in the Section Designer coordinate system.

Field: YCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The Y coordinate of the center of the Solid Rectangle shape in the Section Designer coordinate system.

Field: Height

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The height of the Solid Rectangle shape.

Field: Width

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The width of the Solid Rectangle shape.

Field: Rotation

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The counterclockwise rotation of the Solid Rectangle shape from its default orientation.

Field: Reinforcing

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if there is edge and corner reinforcing associated with the Solid Rectangle shape. Otherwise it is No.

Table: Section Designer Properties 13 - Shape Solid Circle

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a Section Designer section that has been defined in the Frame Section Properties 01 - General table.

Field: ShapeNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shape number used for identification of the shape in the display tables. Note that when you import tables the program may renumber the shapes.

Field: ShapeMat

Field is Imported: Yes
Format: Controlled by program
Units: Text

The material property associated with the Solid Circle shape.

Field: FillColor

Field is Imported: Yes
Format: Controlled by program
Units: Text

The fill color used when diplaying the Solid Circle shape in Section Designer.

Field: XCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The X coordinate of the center of the Solid Circle shape in the Section Designer coordinate system.

Field: YCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The Y coordinate of the center of the Solid Circle shape in the Section Designer coordinate system.

Field: Diameter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The diameter of the Solid Circle shape.

Field: Reinforcing

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if there is edge and corner reinforcing associated with the Solid Circle shape. Otherwise it is No.

Field: NumBars

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The number of reinforcing bars equally spaced around the perimeter of the Solid Circle shape. This item is only applicable when the Reinforcing item is Yes.

Field: Rotation

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle in degrees measured counterclockwise from the Section Designer X-axis to the first rebar in the Solid Circle shape. This item is only applicable when the Reinforcing item is Yes.

Field: Cover

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The clear cover for the rebar around the perimeter of the Solid Circle shape. This item is only applicable when the Reinforcing item is Yes.

Field: BarSize

Field is Imported: Yes
Format: Controlled by program
Units: Text

The rebar size around the perimeter of the Solid Circle shape, or None. This item is only applicable when the Reinforcing item is Yes.

Table: Section Designer Properties 14 - Shape Solid Segment

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a Section Designer section that has been defined in the Frame Section Properties 01 - General table.

Field: ShapeNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shape number used for identification of the shape in the display tables. Note that when you import tables the program may renumber the shapes.

Field: ShapeMat

Field is Imported: Yes
Format: Controlled by program
Units: Text

The material property associated with the Solid Segment shape.

Field: FillColor

Field is Imported: Yes
Format: Controlled by program
Units: Text

The fill color used when diplaying the Solid Segment shape in Section Designer.

Field: XCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The X coordinate of the center of the Solid Segment shape in the Section Designer coordinate system.

Field: YCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The Y coordinate of the center of the Solid Segment shape in the Section Designer coordinate system.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle that defines the arc length of the Solid Segment shape.

Field: Rotation

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle in degrees measured counterclockwise from the Section Designer X-axis to a radial line that bisects the arc defining the Solid Segment shape.

Field: Radius

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The radius of the circular arc defining the outer edge of the Solid Segment shape.

Table: Section Designer Properties 15 - Shape Solid Sector

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a Section Designer section that has been defined in the Frame Section Properties 01 - General table.

Field: ShapeNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shape number used for identification of the shape in the display tables. Note that when you import tables the program may renumber the shapes.

Field: ShapeMat

Field is Imported: Yes
Format: Controlled by program
Units: Text

The material property associated with the Solid Sector shape.

Field: FillColor

Field is Imported: Yes
Format: Controlled by program
Units: Text

The fill color used when diplaying the Solid Sector shape in Section Designer.

Field: XCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The X coordinate of the center of the Solid Sector shape in the Section Designer coordinate system.

Field: YCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The Y coordinate of the center of the Solid Sector shape in the Section Designer coordinate system.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle that defines the arc length of the Solid Sector shape.

Field: Rotation

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle in degrees measured counterclockwise from the Section Designer X-axis to a radial line that bisects the arc defining the Solid Sector shape.

Field: Radius

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The radius of the circular arc defining the outer edge of the Solid Sector shape.

Table: Section Designer Properties 16 - Shape Polygon

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a Section Designer section that has been defined in the Frame Section Properties 01 - General table.

Field: ShapeNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shape number used for identification of the shape in the display tables. Note that when you import tables the program may renumber the shapes.

Field: X

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The X coordinate of the point in the Section Designer coordinate system.

Field: Y

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The Y coordinate of the point in the Section Designer coordinate system.

Field: Radius

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The radius of the fillet that occurs at the specified point (corner) in the polygon.

Field: ShapeMat

Field is Imported: Yes
Format: Controlled by program
Units: Text

The material property associated with the Polygon shape.

Field: FillColor

Field is Imported: Yes
Format: Controlled by program
Units: Text

The fill color used when diplaying the Polygon shape in Section Designer.

Field: Reinforcing

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if there is edge and corner reinforcing associated with the Polygon shape. Otherwise it is No.

Table: Section Designer Properties 17 - Shape Reinforcing Single

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a Section Designer section that has been defined in the Frame Section Properties 01 - General table.

Field: ShapeNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shape number used for identification of the shape in the display tables. Note that when you import tables the program may renumber the shapes.

Field: ShapeMat

Field is Imported: Yes
Format: Controlled by program
Units: Text

The material property associated with the Reinforcing Single shape.

Field: XCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The X coordinate of the center of the Reinforcing Single shape in the Section Designer coordinate system.

Field: YCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The Y coordinate of the center of the Reinforcing Single shape in the Section Designer coordinate system.

Field: BarSize

Field is Imported: Yes
Format: Controlled by program
Units: Text

The rebar size of the Solid Circle shape, or None.

Table: Section Designer Properties 18 - Shape Reinforcing Line

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a Section Designer section that has been defined in the Frame Section Properties 01 - General table.

Field: ShapeNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shape number used for identification of the shape in the display tables. Note that when you import tables the program may renumber the shapes.

Field: ShapeMat

Field is Imported: Yes
Format: Controlled by program
Units: Text

The material property associated with the Reinforcing Line shape.

Field: X1

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The X coordinate at end point 1 of the Reinforcing Line shape in the Section Designer coordinate system.

Field: Y1

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The Y coordinate at end point 1 of the Reinforcing Line shape in the Section Designer coordinate system.

Field: X2

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The X coordinate at end point 2 of the Reinforcing Line shape in the Section Designer coordinate system.

Field: Y2

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The Y coordinate at end point 2 of the Reinforcing Line shape in the Section Designer coordinate system.

Field: Spacing

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The maximum spacing (equal) of rebar for the Reinforcing Line shape.

Field: BarSize

Field is Imported: Yes
Format: Controlled by program
Units: Text

The rebar size for all bars in the Reinforcing Line shape, or None.

Field: EndBars

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if end bars exist for the Reinforcing Line shape. Otherwise it is No. End bars are bars occurring at the end points of the line that defines the shape.

Table: Section Designer Properties 19 - Shape Reinforcing Rectangle

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a Section Designer section that has been defined in the Frame Section Properties 01 - General table.

Field: ShapeNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shape number used for identification of the shape in the display tables. Note that when you import tables the program may renumber the shapes.

Field: ShapeMat

Field is Imported: Yes
Format: Controlled by program
Units: Text

The material property associated with the Reinforcing Rectangle shape.

Field: XCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The X coordinate of the center of the Reinforcing Rectangle shape in the Section Designer coordinate system.

Field: YCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The Y coordinate of the center of the Reinforcing Rectangle shape in the Section Designer coordinate system.

Field: Height

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The height of the Reinforcing Rectangle shape measured to the outer face of the rebar.

Field: Width

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The width of the Reinforcing Rectangle shape measured to the outer face of the rebar.

Field: Rotation

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The counterclockwise rotation of the Reinforcing Rectangle shape from its default orientation.

Table: Section Designer Properties 20 - Shape Reinforcing Circle

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a Section Designer section that has been defined in the Frame Section Properties 01 - General table.

Field: ShapeNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shape number used for identification of the shape in the display tables. Note that when you import tables the program may renumber the shapes.

Field: ShapeMat

Field is Imported: Yes
Format: Controlled by program
Units: Text

The material property associated with the Reinforcing Circle shape.

Field: XCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The X coordinate of the center of the Reinforcing Circle shape in the Section Designer coordinate system.

Field: YCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The Y coordinate of the center of the Reinforcing Circle shape in the Section Designer coordinate system.

Field: Diameter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The diameter of the Reinforcing Circle shape measured to the outer face of the rebar.

Field: NumBars

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of reinforcing bars equally spaced around the perimeter of the Reinforcing Circle shape. This item is only applicable when the Reinforcing item is Yes.

Field: Rotation

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle in degrees measured counterclockwise from the Section Designer X-axis to the first rebar in the Reinforcing Circle shape. This item is only applicable when the Reinforcing item is Yes.

Field: BarSize

Field is Imported: Yes
Format: Controlled by program
Units: Text

The rebar size around the perimeter of the Reinforcing Circle shape, or None. This item is only applicable when the Reinforcing item is Yes.

Table: Section Designer Properties 21 - Shape Reference Line

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a Section Designer section that has been defined in the Frame Section Properties 01 - General table.

Field: ShapeNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shape number used for identification of the shape in the display tables. Note that when you import tables the program may renumber the shapes.

Field: X1

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The X coordinate at end point 1 of the Reference Line shape in the Section Designer coordinate system.

Field: Y1

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The Y coordinate at end point 1 of the Reference Line shape in the Section Designer coordinate system.

Field: X2

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The X coordinate at end point 2 of the Reference Line shape in the Section Designer coordinate system.

Field: Y2

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The Y coordinate at end point 2 of the Reference Line shape in the Section Designer coordinate system.

Table: Section Designer Properties 22 - Shape Reference Circle

Field: SectionName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a Section Designer section that has been defined in the Frame Section Properties 01 - General table.

Field: ShapeNum

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The shape number used for identification of the shape in the display tables. Note that when you import tables the program may renumber the shapes.

Field: XCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The X coordinate of the center of the Reference Circle shape in the Section Designer coordinate system.

Field: YCenter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The Y coordinate of the center of the Reference Circle shape in the Section Designer coordinate system.

Field: Diameter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The diameter of the Reference Circle shape.

Table: Solid Auto Mesh Assignments

Field: Solid

Field is Imported: Yes
Format: Controlled by program
Units: Text

False.

Field: AutoMesh

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the solid object is to be (internally) automatically meshed by the program for analysis.

Field: MeshType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Number of Elements or Maximum Size indicating the type of automaticmeshing specified.Number of Elements means that the solid object is meshed into Number1 by Number2 by Number3 elements.Maximum Size means that the solid object is meshed into elements no larger than the size specified by Max1, Max2 and Max3.

Field: Number1

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

If the AutoMesh item is Yes, and the MeshType item is Number of Elements then the solid object is to be (internally) automatically meshed into Number1 by Number2 by Number3 elements by the program for analysis.Number1 is the number of elements along the edge of the solid object from Point 1 to Point 2 of the solid object.Number2 is the number of elements along the edge of the solid object from Point 1 to Point 3 of the solid object.Number3 is the number of elements along the edge of the solid object from Point 1 to Point 5 of the solid object..

Field: Number2

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

.

Field: Number3

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

.

Field: Max1

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

If the AutoMesh item is Yes, and the MeshType item is Maximum Size then the solid object is to be (internally) automatically meshed into elements no larger than the size specified by Max1, Max2 and Max3.Max1 is the maximum size of elements along the edge of the solid object from Point 1 to Point 2 of the solid object.Max2 is the maximum size of elements along the edge of the solid object from Point 1 to Point 3 of the solid object.Max3 is the maximum size of elements along the edge of the solid object from Point 1 to Point 5 of the solid object..

Field: Max2

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

If the AutoMesh item is Yes, and the MeshType item is Maximum Size then the solid object is to be (internally) automatically meshed into elements no larger than the size specified by Max1, Max2 and Max3.Max1 is the maximum size of elements along the edge of the solid object from Point 1 to Point 2 of the solid object.Max2 is the maximum size of elements along the edge of the solid object from Point 1 to Point 3 of the solid object.Max3 is the maximum size of elements along the edge of the solid object from Point 1 to Point 5 of the solid object..

Field: Max3

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

.

Field: AddSupport

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Yes means a restraint degree of freedom is to be added to new joints along the edges of the solid object if both adjacent corners have that degree of freedom restrained. No mean no additional restraints are added. This item only applies if the object is to be automeshed.

Table: Solid Bridge Object Flags

Field: Solid

Field is Imported: Yes
Format: Controlled by program
Units: Text

False.

Field: AutoBridge

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the solid object is automatically created from a bridge object. Otherwise it is No.

Field: BridgeObj

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the bridge object with which this solid object is associated.

Field: BOSpan

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the span in the bridge object with which this solid object is associated.

Field: CompType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Top Slab, Bottom Slab or Girder indicating the portion of the bridge object with which this solid object is associated.

Table: Solid Edge Constraint Assignments

Field: Solid

Field is Imported: Yes
Format: Controlled by program
Units: Text

.

Field: Constrained

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

Yes means that line constraints are automatically applied to the edges of the solid object.

Table: Solid Loads - Gravity

Field: Solid

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Solid object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the coordinate system in which the gravity loads are defined.

Field: MultiplierX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The applied gravity load in the X-direction of the specified coordinate system is equal to the self weight of the object times the MultiplierX scale factor.

Field: MultiplierY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The applied gravity load in the Y-direction of the specified coordinate system is equal to the self weight of the object times the MultiplierY scale factor.

Field: MultiplierZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The applied gravity load in the Z-direction of the specified coordinate system is equal to the self weight of the object times the MultiplierZ scale factor.

Table: Solid Loads - Pore Pressure

Field: Solid

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Solid object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: Pressure

Field is Imported: Yes
Format: Force/Area (Forces section of form)
Units: Force/Length2

The pore pressure load applied to the specified face of the Solid object.

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified pressure. If no joint pattern is specified then this item is reported as None.

Table: Solid Loads - Strain

Field: Solid

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Solid object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: Component

Field is Imported: Yes
Format: Controlled by program
Units: Text

The solid object local component to which the specified strain load is applied. This is either Strain11, Strain22, Strain33, Strain12, Strain13 or Strain23.

Field: Strain

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strain load applied to the specified component of the object.

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified strain or curvature. If no joint pattern is specified then this item is reported as None.

Table: Solid Loads - Surface Pressure

Field: Solid

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Solid object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: Face

Field is Imported: Yes
Format: Controlled by program
Units: Text

The face of the Solid object to which the pressure load is applied.

Field: Pressure

Field is Imported: Yes
Format: Force/Area (Forces section of form)
Units: Force/Length2

The surface pressure load applied to the specified face of the Solid object.

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified pressure. If no joint pattern is specified then this item is reported as None.

Table: Solid Loads - Temperature

Field: Solid

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Solid object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: Temp

Field is Imported: Yes
Format: Temperature (Forces section of form)
Units: Temp

The temperature assignment to the Solid object.

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified temperature. If no joint pattern is specified then this item is reported as None.

Table: Solid Local Axes Assignments 1 - Typical

Field: Solid

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the solid object.

Field: AngleA

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

AngleA, AngleB and AngleC define the rotation of the solid local coordinate system relative to the coordinate system determined from the reference vectors. In the case where the default reference vectors are used, the angles define the orientation of the solid local coordinate system with respect to the global axes.The orientation of the solid local coordinate system is obtained according to the following procedure: (1) The local system is first rotated about its +3 axis by AngleA. (2) The local system is next rotated about its resulting +2 axis by AngleB. (3) The local system is lastly rotated about its resulting +1 axis by AngleC. Note that the order in which these rotations are performed is important.

Field: AngleB

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

AngleA, AngleB and AngleC define the rotation of the solid local coordinate system relative to the coordinate system determined from the reference vectors. In the case where the default reference vectors are used, the angles define the orientation of the solid local coordinate system with respect to the global axes.The orientation of the solid local coordinate system is obtained according to the following procedure: (1) The local system is first rotated about its +3 axis by AngleA. (2) The local system is next rotated about its resulting +2 axis by AngleB. (3) The local system is lastly rotated about its resulting +1 axis by AngleC. Note that the order in which these rotations are performed is important.

Field: AngleC

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

AngleA, AngleB and AngleC define the rotation of the solid local coordinate system relative to the coordinate system determined from the reference vectors. In the case where the default reference vectors are used, the angles define the orientation of the solid local coordinate system with respect to the global axes.The orientation of the solid local coordinate system is obtained according to the following procedure: (1) The local system is first rotated about its +3 axis by AngleA. (2) The local system is next rotated about its resulting +2 axis by AngleB. (3) The local system is lastly rotated about its resulting +1 axis by AngleC. Note that the order in which these rotations are performed is important.

Field: AdvanceAxes

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if an advanced method is used to define the local axes reference vectors for the solid object. Otherwise it is No meaning that the default reference vectors are used.In the default system the solid object positive local 1, 2 and 3 axes are parallel to the global positive X, Y and Z axes, respectively.In the advanced system the solid object local axes are defined with respect to user-defined reference vectors. Note that when the advanced system is used, the specified Angle is applied to the local axes orientation defined by the user specified reference vectors.

Table: Solid Local Axes Assignments 2 - Advanced

Field: Solid

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the solid object.

Field: LocalPlane

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item indicates the local plane that is to be determined by the plane reference vector. It is either 12, 13, 21, 23, 31, or 32.

Field: AxOption1

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Coord Dir, Two Joints or User Vector indicating the first method used to determine the axial reference vector.

Field: AxCoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The coordinate system used to define the axial reference vector coordinate direction and the axial user vector.

Field: AxCoordDir

Field is Imported: Yes
Format: Controlled by program
Units: Text

Axial coordinate direction taken at the joint in the specified coordinate system and used to define the axis reference vector. It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: AxVecJt1

Field is Imported: Yes
Format: Controlled by program
Units: Text

AxVecJt1 and AxVecJt2 are the labels of two joints that define the axis reference vector. If one of these items is reported as None then it means the center of the solid object. If both of these items is reported as None then this option is not used to define the axis reference vector.

Field: AxVecJt2

Field is Imported: Yes
Format: Controlled by program
Units: Text

AxVecJt1 and AxVecJt2 are the labels of two joints that define the axis reference vector. If one of these items is reported as None then it means the center of the solid object. If both of these items is reported as None then this option is not used to define the axis reference vector.

Field: PlOption1

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Coord Dir, Two Joints or User Vector indicating the first method used to determine the plane reference vector.

Field: PlCoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The coordinate system used to define the plane reference vector coordinate directions and the plane user vector.

Field: CoordDir1

Field is Imported: Yes
Format: Controlled by program
Units: Text

The primary coordinate direction taken at the joint in the specified coordinate system. It is used to determine the plane reference vector. It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: CoordDir2

Field is Imported: Yes
Format: Controlled by program
Units: Text

The secondary coordinate direction taken at the joint in the specified coordinate system. It is used to determine the plane reference vector. It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: PlVecJt1

Field is Imported: Yes
Format: Controlled by program
Units: Text

PlVecJt1 and PlVecJt2 are the labels of two joints that define the plane reference vector. Either of these items may be specified as None to indicate the center of the solid object. If both PlVecJt1 and PlVecJt2 are specified as None then they are not used to define the plane reference vector.

Field: PlVecJt2

Field is Imported: Yes
Format: Controlled by program
Units: Text

PlVecJt1 and PlVecJt2 are the labels of two joints that define the plane reference vector. Either of these items may be specified as None to indicate the center of the solid object. If both PlVecJt1 and PlVecJt2 are specified as None then they are not used to define the plane reference vector.

Field: AxVecX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The X direction component of the axis reference vector in the coordinate system defined by the CoordSys item.

Field: AxVecY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Y direction component of the axis reference vector in the coordinate system defined by the CoordSys item.

Field: AxVecZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Z direction component of the axis reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The X direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Y direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Z direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Table: Solid Material Temperatures

Field: Solid

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Solid object.

Field: Temp

Field is Imported: Yes
Format: Temperature (Forces section of form)
Units: Temp

The Solid object material temperature .

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified temperature. If no joint pattern is specified then this item is reported as None.

Table: Solid Property Assignments

Field: Solid

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Solid object.

Field: SolidProp

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the solid property assigned to the solid section.

Table: Solid Property Definitions

Field: SolidProp

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the solid property assigned to the solid section.

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the material property assigned to the solid section.

Field: MatAngleA

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The material angle A assignment to the Solid object.

Field: MatAngleB

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The material angle B assignment to the Solid object.

Field: MatAngleC

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The material angle C assignment to the Solid object.

Field: InComp

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if incompatible bending modes are included in the stiffness formulation. Otherwise it is No.In general, incompatible modes significantly improve the bending behavior of the object.

Field: Color

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either a defined color or an integer representation of the color associated with the property.The possible defined colors are Black, Red, Orange, Yellow, Green, Cyan, Blue, Magenta, White, Dark Red, Dark Yellow, Dark Green, Dark Cyan, Dark Blue, Dark Magenta, Gray1, Gray2, Gray3, Gray4, Gray5, Gray6, Gray7 and Gray8. Gray1 is a light gray and Gray8 is a dark gray.

Field: TotalWt

Field is Imported: No
Format: Weight (Mass and Weight section of form)
Units: Force

Total weight of all objects in the model that are assigned the specified solid property.

Field: TotalMass

Field is Imported: No
Format: Mass (Mass and Weight section of form)
Units: Force-Sec2/Length

Total mass of all objects in the model that are assigned the specified solid property.

Table: Solid Property Definitions - Bridge Object Flags

Field: SolidProp

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the solid section property.

Field: AutoBridge

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the solid property is an automatically created bridge section. Otherwise it is No.

Field: BridgeObj

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the bridge object with which this solid property is associated.

Table: Solid Reference Temperatures

Field: Solid

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Solid object.

Field: Temp

Field is Imported: Yes
Format: Temperature (Forces section of form)
Units: Temp

The Solid object reference temperature .

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified temperature. If no joint pattern is specified then this item is reported as None.

Table: Solid Spring Assignments

Field: Solid

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Solid object.

Field: Face

Field is Imported: Yes
Format: Controlled by program
Units: Text

The face of the solid object to which the specified springs are applied.

Field: Dir

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either 1, 2 or 3 indicating the solid local axes direction in which the springs are oriented.

Field: Stiffness

Field is Imported: Yes
Format: Trans Stiffness/Area (Stiffness section of form)
Units: Force/Length/Length2

Spring stiffness per unit area of the specified face of the solid object in the direction specified.

Table: Solid Vehicle Response Component Overwrites

Field: Solid

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Solid object.

Field: Usage

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either AASHTO HL - Superstructure, AASHTO HL - Reaction, or AASHTO H & HS Superstructure indicating the vehicle type and structural member type to which the overwrite applies.AASHTO HL - Superstructure refers the superstructure negative moments over supports.AASHTO HL - Reaction refers to reactions at interior supports (piers).AASHTO H & HS Superstructure refers to superstructure moments (positive or negative).

Field: Component

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either S11, S22, S33, S12, S13, S23 or indicating the output component to which the overwrite applies.

Field: Status

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Do Not Use, Use Positive Values, Use Negative Values, or Use All Values indicating the portion of the output for the specified component to which the overwrite applies.

Table: Tendon Bridge Object Flags

Field: Tendon

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Tendon object.

Field: AutoBridge

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the tendon object is automatically created from a bridge object. Otherwise it is No.

Field: BridgeObj

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the bridge object with which this tendon object is associated.

Table: Tendon Layout Data 01 - General

Field: Tendon

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Tendon object.

Field: MaxDiscLen

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The maximum discretization length for the tendon object.

Field: LoadGroup

Field is Imported: Yes
Format: Controlled by program
Units: Text

The tendon transfers it load to any object that is in the specified load group.

Field: NumSegs

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total number of tendon layout segments. The first segment always specifies the start of the tendon. .

Table: Tendon Layout Data 02 - Segments

Field: Tendon

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Tendon object.

Field: SegType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The segment type for the specified segment of the tendon. This is one of the following:Start of TendonLinearParabola Intermediate PointParabola End PointCircle Intermediate PointCircle End Point.

Field: XGlobal

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global X coordinate of the tendon at the end of the specified segment.

Field: YGlobal

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Y coordinate of the tendon at the end of the specified segment.

Field: ZGlobal

Field is Imported: Yes
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z coordinate of the tendon at the end of the specified segment.

Table: Tendon Loads - Gravity

Field: Tendon

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Tendon object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: CoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the coordinate system in which the gravity loads are defined.

Field: MultiplierX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The applied gravity load in the X-direction of the specified coordinate system is equal to the self weight of the object times the MultiplierX scale factor.

Field: MultiplierY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The applied gravity load in the Y-direction of the specified coordinate system is equal to the self weight of the object times the MultiplierY scale factor.

Field: MultiplierZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The applied gravity load in the Z-direction of the specified coordinate system is equal to the self weight of the object times the MultiplierZ scale factor.

Table: Tendon Loads - Strain

Field: Tendon

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Tendon object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: Component

Field is Imported: Yes
Format: Controlled by program
Units: Text

The line object local component to which the specified strain load is applied. This is either Strain11, Strain12, Strain13, Curvature1, Curvature2 or Curvature3.

Field: Strain

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The strain load applied to the specified component of the object.

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified strain or curvature. If no joint pattern is specified then this item is reported as None.

Table: Tendon Loads - Temperature

Field: Tendon

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Tendon object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is either Temperature, Gradient2, or Gradient3 indicating the type of temperature load applied to the frame object.

Field: Temp

Field is Imported: Yes
Format: Temperature (Forces section of form)
Units: Temp

The temperature assignment to the Frame object.

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

The label of a Joint Pattern of scale factors multiplying the temperature change and temperature gradient values. If no pattern is specified then a unit scale factor is assumed at every joint.

Table: Tendon Loads - Tension Force Or Stress

Field: Tendon

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Tendon object.

Field: LoadCase

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of the load case to which the specified load applies.

Field: LoadType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Force or Stress indicating the type of tension load specified.

Field: Force

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

This tendon tension force.

Field: Stress

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

This tendon tension stress.

Field: JackFrom

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either 'I-End' or 'J-End' indicating where the jacking occurs.

Field: Curvature

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The curvature coefficient used in calculating friction losses.

Field: Wobble

Field is Imported: Yes
Format: 1/Length (Miscellaneous section of form)
Units: 1/Length

The wobble coefficient used in calculating the wobble (length) effect portion of the friction losses.

Field: LossAnchor

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The tendon slip distance when an anchor is set.

Field: LossEShort

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The stress loss because of elastic shortening.This parameter is only included in the analysis when the tendon is modeled using loads.

Field: LossCreep

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The stress loss because of concrete creep.This parameter is only included in the analysis when the tendon is modeled using loads.

Field: LossShrink

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The stress loss because of concrete shrinkage.This parameter is only included in the analysis when the tendon is modeled using loads.

Field: LossSRelax

Field is Imported: Yes
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The stress loss because of prestressing steel relaxation.This parameter is only included in the analysis when the tendon is modeled using loads.

Field: AutoBridge

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the tendon load is automatically created from a bridge object. Otherwise it is No.

Field: BridgeObj

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the bridge object with which this tendon load is associated. This item only applies when the tendon load is an AutoBridge load.

Table: Tendon Local Axes Assignments 1 - Typical

Field: Tendon

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Tendon object.

Field: Angle

Field is Imported: Yes
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle that the local 2 and 3 axes are rotated about the positive local 1 axis, from the default orientation or from the orientation determined by the plane reference vector. The rotation for a positive angle appears counterclockwise when the local +1 axis is pointing toward you.

Field: AdvanceAxes

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if an advanced method is used to define the local axes reference vectors for the frame object. Otherwise it is No meaning that the default reference vectors are used.Default means that the local 1-axis for the frame object goes from the I-end to the J-end of the object. The local 2-axis direction is specified by an angle measured from the global +Z axis (or from the global +X axis if the object local 1-axis is parallel to the global +Z axis). The rotation for a positive angle appears counterclockwise when the local +1 axis is pointing toward you.Advanced means that the local axes are defined with respect to user-defined reference vectors. Note that when the advanced system is used, the specified Angle is applied to the local axes orientation defined by the user specified reference vectors.

Table: Tendon Local Axes Assignments 2 - Advanced

Field: Tendon

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Tendon object.

Field: LocalPlane

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item indicates the local plane that is to be determined by the plane reference vector. It is either 12 or 13, indicating the 1-2 or the 1-3 plane, respectively.

Field: PlOption1

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Coord Dir, Two Joints or User Vector indicating the first method used to determine the plane reference vector.

Field: PlCoordSys

Field is Imported: Yes
Format: Controlled by program
Units: Text

The coordinate system used to define the plane reference vector coordinate directions and the plane user vector.

Field: CoordDir1

Field is Imported: Yes
Format: Controlled by program
Units: Text

The primary coordinate direction taken at the object center in the specified coordinate system. It is used to determine the reference vector.It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: CoordDir2

Field is Imported: Yes
Format: Controlled by program
Units: Text

The secondary coordinate direction taken at the object center in the specified coordinate system. It is used to determine the reference vector.It may be one of +X, +Y, +Z, +CR, +CA, +CZ, +SB, +SA, +SR, -X, -Y, -Z, -CR, -CA, -CZ, -SB, -SA, -SR.

Field: PlVecJt1

Field is Imported: Yes
Format: Controlled by program
Units: Text

PlVecJt1 and PlVecJt2 are the labels of two joints that define the plane reference vector. Either of these joints may be specified as None to indicate the center of the specified object. If both PlVecJt1 and PlVecJt2 are specified as None then they are not used to define the plane reference vector.

Field: PlVecJt2

Field is Imported: Yes
Format: Controlled by program
Units: Text

PlVecJt1 and PlVecJt2 are the labels of two joints that define the plane reference vector. Either of these joints may be specified as None to indicate the center of the specified object. If both PlVecJt1 and PlVecJt2 are specified as None then they are not used to define the plane reference vector.

Field: PlVecX

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The X direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecY

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Y direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Field: PlVecZ

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The Z direction component of the plane reference vector in the coordinate system defined by the CoordSys item.

Table: Tendon Material Temperatures

Field: Tendon

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Tendon object.

Field: Temp

Field is Imported: Yes
Format: Temperature (Forces section of form)
Units: Temp

The Frame object material temperature .

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified material temperatures. If no joint pattern is specified then this item is reported as None.

Table: Tendon NL Hinge Assignments

Field: Tendon

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Tendon object.

Field: AssignHinge

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of a hinge property assigned to the specified frame object.

Field: GenHinge

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the hinge property generated by the program for the specified frame object based on the assigned hinge property.

Field: DistType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either RelDist or AbsDist. It indicates which of the distance fields (RelDist or AbsDist) will be read on import.

Field: RelDist

Field is Imported: Yes
Format: Relative Distance (Structure Dimensions section of form)
Units: Unitless

The specified relative distance from the I-end of the frame object to the hinge location. The relative distance is equal to the absolute distance divided by the beam length.If you specify a hinge that falls on the end length offsets at the ends of the frame object, then the program automatically relocates the hinge at the inside face of the end offset.

Field: AbsDist

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The specified absolute distance from the I-end of the frame object to the hinge locationIf you specify a hinge that falls on the end length offsets at the ends of the frame object, then the program automatically relocates the hinge at the inside face of the end offset.

Field: ActualDist

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

that the program will use.Typically the ActualDist item is the same as the AbsDist item, however, if you specified that the hinge falls on the end length offset of the frame object, then the ActualDist and AbsDist items will be different.

Table: Tendon Reference Temperatures

Field: Tendon

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Tendon object.

Field: Temp

Field is Imported: Yes
Format: Temperature (Forces section of form)
Units: Temp

The Frame object reference temperature .

Field: JtPattern

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Joint Pattern of scale factors that multiply the specified reference temperatures. If no joint pattern is specified then this item is reported as None.

Table: Tendon Section Assignments

Field: Tendon

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Tendon object.

Field: TendonSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the tendon section.

Table: Tendon Section Definitions

Field: TendonSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the tendon section.

Field: ModelOpt

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Loads or Elements indicating whether the tendon is modeled as loads applied to the model or modeled as discrete tendon elements.

Field: PreType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Prestress or Post Tension indicating the prestress type.

Field: Material

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the material property assigned to the tendon section.

Field: Specify

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Diameter or Area indicating which tendon section property is specified. All other tendon section properties are computed from the specified property assuming a circular section shape.

Field: Diameter

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The diameter of the tendon section.

Field: Area

Field is Imported: Yes
Format: Area (Section Dimensions section of form)
Units: Length2

Cross-sectional area of the tendon section.

Field: TorsConst

Field is Imported: No
Format: Length4 (Section Dimensions section of form)
Units: Length4

Torsional constant for the tendon section.

Field: I

Field is Imported: No
Format: Length4 (Section Dimensions section of form)
Units: Length4

Moment of inertia for the tendon section.

Field: AS

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

Shear area for the tendon section.

Field: Color

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either a defined color or an integer representation of the color associated with the section.The possible defined colors are Black, Red, Orange, Yellow, Green, Cyan, Blue, Magenta, White, Dark Red, Dark Yellow, Dark Green, Dark Cyan, Dark Blue, Dark Magenta, Gray1, Gray2, Gray3, Gray4, Gray5, Gray6, Gray7 and Gray8. Gray1 is a light gray and Gray8 is a dark gray.

Field: TotalWt

Field is Imported: No
Format: Weight (Mass and Weight section of form)
Units: Force

Total weight of all objects in the model that are assigned the specified tendon section.

Field: TotalMass

Field is Imported: No
Format: Mass (Mass and Weight section of form)
Units: Force-Sec2/Length

Total mass of all objects in the model that are assigned the specified tendon section.

Field: AMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Area modifier for the specified tendon section.

Field: A2Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear area modifier for shear parallel to the local 2-axis for the specified tendon section.

Field: A3Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Shear area modifier for shear parallel to the local 3-axis for the specified tendon section.

Field: JMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Torsional constant modifier for the specified tendon section.

Field: I2Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment of inertia modifier for bending about the local 2-axis for the specified tendon section.

Field: I3Mod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Moment of inertia modifier for bending about the local 3-axis for the specified tendon section.

Field: MMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Mass multiplier for the specified tendon section.

Field: WMod

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

Weight multiplier for the specified tendon section.

Table: Tendon Section Definitions - Bridge Object Flags

Field: TendonSect

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the tendon section.

Field: AutoBridge

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the tendon section is automatically created from a bridge object. Otherwise it is No.

Field: BridgeObj

Field is Imported: Yes
Format: Controlled by program
Units: Text

The name of the bridge object with which this tendon section is associated. This item only applies when the tendon property is an AutoBridge property.

Table: Tendon Tension And Compression Limits

Field: Tendon

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Tendon object.

Field: TensLimit

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if a tension limit exists for the frame object. Otherwise it is No. For import, the Tension item is only read if this item is Yes.

Field: CompLimit

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if a compression limit exists for the frame object. Otherwise it is No. For import, the Compression item is only read if this item is Yes.

Field: Tension

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The tension limit for the frame object.

Field: Compression

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

The compression limit for the frame object.

Table: Tendon Vehicle Response Component Overwrites

Field: Tendon

Field is Imported: Yes
Format: Controlled by program
Units: Text

Label of a Tendon object.

Field: Usage

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either AASHTO HL - Superstructure, AASHTO HL - Reaction, or AASHTO H & HS Superstructure indicating the vehicle type and structural member type to which the overwrite applies.AASHTO HL - Superstructure refers the superstructure negative moments over supports.AASHTO HL - Reaction refers to reactions at interior supports (piers).AASHTO H & HS Superstructure refers to superstructure moments (positive or negative).

Field: Component

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either P, V2, V3, T, M2, M3 or indicating the output component to which the overwrite applies.

Field: Status

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Do Not Use, Use Positive Values, Use Negative Values, or Use All Values indicating the portion of the output for the specified component to which the overwrite applies.

Table: Vehicles 1 - Standard Vehicles

Field: VehName

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name (Label) of the standard vehicle.

Field: Type

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Hn-44, HSn-44, Hn-44L, HSn-44L, AML, HL-93K, HL-93M, HL-93S, P5, P7, P9, P11, P13, Cooper E 80, UICn, or RL indicating the type of standard vehicle.For the Hn-44, HSn-44, Hn-44L and HSn-44L vehicles, n is the nominal weight ofthe vehicle in tons. For example, if the scale factor for a HSn-44 vehicle is 20, then the vehicle specified is a HS20-44.For the UICn vehicle n is the magnitude of the uniform load in kN/m.

Field: ScaleFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

This item only applies to Hn-44, HSn-44, Hn-44L, HSn-44L and UICnS standard vehicles. It is the scale factor represented by the n in the vehicle type. For example, a scale factor of 20 for a HSn-44 type vehicle means a HS20-44 vehicle.

Field: DynAllow

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

This item only applies to HL-93K, HL-93M and HL-93S standard vehicles. It is the dynamic load allowance, that is, it is the additive percentage by which the concentrated truck or tandem axle loads will be increased. The uniform lane load is not affected.

Table: Vehicles 2 - General Vehicles 1 - General

Field: VehName

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name (Label) of the general vehicle.

Field: SupportMom

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the Vehicle is to be used for negative span moments over supports. Otherwise it is No.

Field: IntSupport

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the Vehicle is to be used for vertical forces at (1) interior supports, (2) reactions, and (3) spring supports. Otherwise it is No.

Field: OtherResp

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the Vehicle is to be used for response quantites other than those listed for the SupportMom and IntSupport items. Otherwise it is No.

Field: AxleMom

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Floating axle load value for span moments.

Field: AxleMType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The width type for the floating axle load for span moments. This item is one of the following: One Point, Two Points, Four Points, Lane Width Line, Fixed Width Line.

Field: AxleMWidth

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total width of the floating axle load for span moments. This item is not applicable if the width type is One Point or Lane Width Line.

Field: AxleMDbl

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the specified floating axle moment load is to be doubled when calculating negative span moments.

Field: AxleOther

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

Floating axle load value for all response quantities except span moments.

Field: AxleOType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The width type for the floating axle load for all response quantities except span moments. This item is one of the following: One Point, Two Points, Four Points, Lane Width Line, Fixed Width Line.

Field: AxleOWidth

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total width of the floating axle load for all response quantities except span moments. This item is not applicable if the width type is One Point or Lane Width Line.

Field: LengthEff

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the BS 5400 (1978) British code requirements for uniform load length effects are included. Otherwise it is No.

Field: ForStraddle

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the vehicle is to apply only to straddle lanes. Otherwise it is No.

Field: StraddleFac

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

The vehicle load reduction factor used when considering straddle lanes. This item is only applicable when the ForStraddle item is Yes.

Field: NumInter

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of sets of intermediate loads specified for this Moving Load case .

Table: Vehicles 3 - General Vehicles 2 - Loads

Field: VehName

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name (Label) of the general vehicle.

Field: LoadType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The load type for the specified load. This item is one of the following: Leading Load, Trailing Load, Fixed Length, Variable Length.

Field: UnifLoad

Field is Imported: Yes
Format: Force/Length (Forces section of form)
Units: Force/Length

A uniform load value.

Field: UnifType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The width type for the specified uniform load. This item is one of the following: Zero Width, Lane Width, Fixed Width.

Field: UnifWidth

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total width of the specified uniform load. This item is only applicable if the width type is Fixed Width.

Field: AxleLoad

Field is Imported: Yes
Format: Force (Forces section of form)
Units: Force

An axle load value.

Field: AxleType

Field is Imported: Yes
Format: Controlled by program
Units: Text

The width type for the specified axle load. This item is one of the following: One Point, Two Points, Four Points, Lane Width Line, Fixed Width Line.

Field: AxleWidth

Field is Imported: Yes
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total width of the specified axle load. This item is not applicable if the width type is One Point or Lane Width Line.

Field: MinDist

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

The distance from the previous axle to the current axle. This is also the length of the current uniform load.This item is applicable to vehicles with a Load Type of Fixed Length and Variable Length.For Fixed Length load types this item is the fixed distance or length described above. For Variable Length load types this item is the lower bound distance or length described above.

Field: MaxDist

Field is Imported: Yes
Format: Length (Section Dimensions section of form)
Units: Length

This item only applies to Variable Length load types. It is the maximum distance from the previous axle to the current axle. This is also the maximum length of the current uniform load.If this value is 0 then it means the distance(length) is infinity.

Table: Vehicles 4 - Vehicle Classes

Field: VehClass

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of the vehicle class.

Field: VehName

Field is Imported: Yes
Format: Controlled by program
Units: Text

Name of a vehicle assigned to the vehicle class.

Field: ScaleFactor

Field is Imported: Yes
Format: Controlled by program
Units: Unitless

A scale factor that multiplies the vehicle load of the associated vehicle.

Table: Assembled Joint Masses

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a joint.

Field: U1

Field is Imported: No
Format: Mass (Mass and Weight section of form)
Units: Force-Sec2/Length

Total joint local 1-direction mass applied to the specified joint either directly or indirectly.

Field: U2

Field is Imported: No
Format: Mass (Mass and Weight section of form)
Units: Force-Sec2/Length

Total joint local 2-direction mass applied to the specified joint either directly or indirectly.

Field: U3

Field is Imported: No
Format: Mass (Mass and Weight section of form)
Units: Force-Sec2/Length

Total joint local 3-direction mass applied to the specified joint either directly or indirectly.

Field: R1

Field is Imported: No
Format: Rotational Inertia (Mass and Weight section of form)
Units: Force-Length-Sec2

Total mass moment of inertia about the joint local 1-axis applied to the specified joint.

Field: R2

Field is Imported: No
Format: Rotational Inertia (Mass and Weight section of form)
Units: Force-Length-Sec2

Total mass moment of inertia about the joint local 2-axis applied to the specified joint.

Field: R3

Field is Imported: No
Format: Rotational Inertia (Mass and Weight section of form)
Units: Force-Length-Sec2

Total mass moment of inertia about the joint local 3-axis applied to the specified joint.

Table: Base Reactions

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling

factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: GlobalFX

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The base reaction force component in the global X direction.

Field: GlobalFY

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The base reaction force component in the global Y direction.

Field: GlobalFZ

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The base reaction force component in the global Z direction.

Field: GlobalMX

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The base reaction moment component about the global X axis.

Field: GlobalMY

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The base reaction moment component about the global Y axis.

Field: GlobalMZ

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The base reaction moment component about the global Z axis.

Field: GlobalX

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global X coordinate of the point where the base reaction is reported.

Field: GlobalY

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Y coordinate of the point where the base reaction is reported.

Field: GlobalZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z coordinate of the point where the base reaction is reported.

Field: XCentroidFX

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global X coordinate of the centroid of all forces (in the X direction) that contribute to FX. It is zero if FX = 0.

Field: YCentroidFX

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Y coordinate of the centroid of all forces (in the X direction) that contribute to FX, that is, the location where the forces cause zero moment MZ. It is zero if FX = 0.

Field: ZCentroidFX

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z coordinate of the centroid of all forces (in the X direction) that contribute to FX, that is, the location where the forces cause zero moment MY. It is zero if FX = 0.

Field: XCentroidFY

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global X coordinate of the centroid of all forces (in the Y direction) that contribute to FY, that is, the location where the forces cause zero moment MZ. It is zero if FY = 0.

Field: YCentroidFY

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Y coordinate of the centroid of all forces (in the Y direction) that contribute to FY. It is zero if FY = 0.

Field: ZCentroidFY

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z coordinate of the centroid of all forces (in the Y direction) that contribute to FY, that is, the location where the forces cause zero moment MX. It is zero if FY = 0.

Field: XCentroidFZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global X coordinate of the centroid of all forces (in the Z direction) that contribute to FZ, that is, the location where the forces cause zero moment MY. It is zero if FZ = 0.

Field: YCentroidFZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Y coordinate of the centroid of all forces (in the Z direction) that contribute to FZ, that is, the location where the forces cause zero moment MX. It is zero if FZ = 0.

Field: ZCentroidFZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z coordinate of the centroid of all forces (in the Z direction) that contribute to FZ. It is zero if FZ = 0.

Table: Buckling Factors

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: ScaleFactor

Field is Imported: No
Format: Controlled by program
Units: Unitless

The buckling load for the specified mode is equal to this scalefactor times the loads specified for the buckling analysis case.

Table: Element Deformations - Links

Field: Link

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Link object.

Field: LinkElem

Field is Imported: No
Format: Controlled by program
Units: Text

Number of a Link element associated with the specified Link object. For analysis, the Link object is internally modelled using one or more Link elements.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: U1

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The translational deformation of the link object in the link local 1 axis direction.

Field: U2

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The translational deformation of the link object in the link local 2 axis direction.

Field: U3

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The translational deformation of the link object in the link local 3 axis direction.

Field: R1

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

The rotational deformation of the link object about the link local 1 axis.

Field: R2

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

The rotational deformation of the link object about the link local 2 axis.

Field: R3

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

The rotational deformation of the link object about the link local 3 axis.

Table: Element Deformations - Panel Zones

Field: LinkElem

Field is Imported: No
Format: Controlled by program
Units: Text

Number of the link element used to model the panel zone.

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Name of a joint object to which the panel zone is assigned.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: U1

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The translational deformation of the panel zone in the panel zone local 1 axis direction.

Field: U2

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The translational deformation of the panel zone in the panel zone local 2 axis direction.

Field: U3

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The translational deformation of the panel zone in the panel zone local 3 axis direction.

Field: R1

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

The rotational deformation of the panel zone about the panel zone local 1 axis.

Field: R2

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

The rotational deformation of the panel zone about the panel zone local 2 axis.

Field: R3

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

The rotational deformation of the panel zone about the panel zone local 3 axis.

Table: Element Virtual Work

Field: ObjectLabel

Field is Imported: No
Format: Controlled by program
Units: Text

Label of an object. In the case of a panel zone this is the label of the joint object to which the panel zone is assigned.

Field: ObjectType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Frame, Area, Solid, Link or Panel Zone indicating the type of object.

Field: VWNamedSet

Field is Imported: No
Format: Controlled by program
Units: Text

Name of the virtual work named set associated with this output.

Field: ForceCase

Field is Imported: No
Format: Controlled by program
Units: Text

The analysis case used for the force when computing the virtual work.

Field: DisplCase

Field is Imported: No
Format: Controlled by program
Units: Text

The analysis case used for the displacement when computing the virtual work.

Field: VirtualWork

Field is Imported: No
Format: Energy (Miscellaneous section of form)
Units: Force-Length

The virtual work computed for the associated object.

Field: RelWork

Field is Imported: No
Format: Controlled by program
Units: Percent

The normalized virtual work for the object. This is computed as: [(VW/Volume)/Max(VW/Volume)]*100where VW is the virtual work for an object, Volume is the volume of an object, and Max indicates the object with the maximum VW/Volume value.

Field: Volume

Field is Imported: No
Format: Length3 (Section Dimensions section of form)
Units: Length3

The volume of the associated object.

Table: Element Forces - Area Shells

Field: Area

Field is Imported: No
Format: Controlled by program
Units: Text

Label of an area object.

Field: AreaElem

Field is Imported: No
Format: Controlled by program
Units: Text

Number of an area element associated with the specified area object. For analysis, the area object is internally modelled using one or more area elements.

Field: ShellType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Shell-Thick, Shell-Thin, Plate-Thick, Plate-Thin or Membrane indicating the type of shell (area) element.

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the joint object at which the Area element forces are reported. If no joint object exists at this location then the number of the joint element at that location is reported in parenthesis.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: F11

Field is Imported: No
Format: Force/Length (Forces section of form)
Units: Force/Length

The area element internal F11 membrane direct force per length reported in the area element local coordinate system.

Field: F22

Field is Imported: No
Format: Force/Length (Forces section of form)
Units: Force/Length

The area element internal F22 membrane direct force per length reported in the area element local coordinate system.

Field: F12

Field is Imported: No
Format: Force/Length (Forces section of form)
Units: Force/Length

The area element internal F12 membrane shear force per length reported in the area element local coordinate system.

Field: FMax

Field is Imported: No
Format: Force/Length (Forces section of form)
Units: Force/Length

The maximum principal membrane force.

Field: FMin

Field is Imported: No
Format: Force/Length (Forces section of form)
Units: Force/Length

The minimum principal membrane force.

Field: FAngle

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise (when the local 3 axis is pointing toward you) from the area local 1 axis to the direction of the maximum principal membrane force.

Field: FVM

Field is Imported: No
Format: Force/Length (Forces section of form)
Units: Force/Length

The area element internal Von Mises membrane force per length.

Field: M11

Field is Imported: No
Format: Moment/Length (Forces section of form)
Units: Force-Length/Length

The area element internal M11 plate bending moment per length reported in the area element local coordinate system.

Field: M22

Field is Imported: No
Format: Moment/Length (Forces section of form)
Units: Force-Length/Length

The area element internal M22 plate bending moment per length reported in the area element local coordinate system.

Field: M12

Field is Imported: No
Format: Moment/Length (Forces section of form)
Units: Force-Length/Length

The area element internal M12 plate twisting moment per length reported in the area element local coordinate system.

Field: MMax

Field is Imported: No
Format: Moment/Length (Forces section of form)
Units: Force-Length/Length

The maximum principal plate moment.

Field: MMin

Field is Imported: No
Format: Moment/Length (Forces section of form)
Units: Force-Length/Length

The minimum principal plate moment.

Field: MAngle

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise (when the local 3 axis is pointing toward you) from the area local 1 axis to the direction of the maximum principal plate moment.

Field: V13

Field is Imported: No
Format: Force/Length (Forces section of form)
Units: Force/Length

The area element internal V13 plate transverse shear force per length reported in the area element local coordinate system.

Field: V23

Field is Imported: No
Format: Force/Length (Forces section of form)
Units: Force/Length

The area element internal V23 plate transverse shear force per length reported in the area element local coordinate system.

Field: VMax

Field is Imported: No
Format: Force/Length (Forces section of form)
Units: Force/Length

The maximum plate transverse shear force. It is equal to the square root of the sum of the squares of V13 and V23.

Field: VAngle

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise (when the local 3 axis is pointing toward you) from the area local 1 axis to the direction of Vmax .

Table: Element Forces - Frames

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Station

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

An output station location (measured from the I-end) along the frame object.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: P

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Axial force in the frame local 1 axis direction at the specified station.

Field: V2

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Shear force in the frame local 2 axis direction at the specified station.

Field: V3

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Shear force in the frame local 3 axis direction at the specified station.

Field: T

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Torsional moment about the frame local 1 axis at the specified station.

Field: M2

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Bending moment about the frame local 2 axis at the specified station.

Field: M3

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Bending moment about the frame local 3 axis at the specified station.

Table: Element Forces - Links

Field: Link

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Link object.

Field: LinkElem

Field is Imported: No
Format: Controlled by program
Units: Text

Number of a Link element associated with the specified Link object. For analysis, the Link object is internally modelled using one or more Link elements.

Field: Station

Field is Imported: No
Format: Controlled by program
Units: Text

This is either I-End or J-End indicating the location of the reported forces.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: P

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Axial force in the link local 1 axis direction at the specified station.

Field: V2

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Shear force in the link local 2 axis direction at the specified station.

Field: V3

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Shear force in the link local 3 axis direction at the specified station.

Field: T

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Torsional moment about the link local 1 axis at the specified station.

Field: M2

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Bending moment about the link local 2 axis at the specified station.

Field: M3

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Bending moment about the link local 3 axis at the specified station.

Table: Element Forces - Panel Zones

Field: LinkElem

Field is Imported: No
Format: Controlled by program
Units: Text

Number of the link element used to model the panel zone.

Field: JointI

Field is Imported: No
Format: Controlled by program
Units: Text

Name of the joint object at the I-End of the panel zone link element. If no joint object exists at this location then the number of the joint element at that location is reported in parenthesis.

Field: JointJ

Field is Imported: No
Format: Controlled by program
Units: Text

Name of the joint object at the I-End of the panel zone link element. If no joint object exists at this location then the number of the joint element at that location is reported in parenthesis.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: P

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Axial force in the panel zone local 1 axis direction.

Field: V2

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Shear force in the panel zone local 2 axis direction.

Field: V3

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Shear force in the panel zone local 3 axis direction.

Field: T

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Torsional moment about the panel zone local 1 axis.

Field: M2

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Bending moment about the panel zone local 2 axis.

Field: M3

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Bending moment about the panel zone local 3 axis.

Table: Element Joint Forces - Areas

Field: Area

Field is Imported: No
Format: Controlled by program
Units: Text

Label of an area object.

Field: AreaElem

Field is Imported: No
Format: Controlled by program
Units: Text

Number of an area element associated with the specified area object. For analysis, the area object is internally modelled using one or more area elements.

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the joint object at which the Area element joint forces are reported. If no joint object exists at this location then the number of the joint element at that location is reported in parenthesis.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: F1

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Area joint force at the specified joint in the joint local 1 direction.

Field: F2

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Area joint force at the specified joint in the joint local 2 direction.

Field: F3

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Area joint force at the specified joint in the joint local 3 direction.

Field: M1

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Area joint moment at the specified joint about the joint local 1 axis.

Field: M2

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Area joint moment at the specified joint about the joint local 2 axis.

Field: M3

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Area joint moment at the specified joint about the joint local 3 axis.

Table: Element Joint Forces - Frames

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: FrameElem

Field is Imported: No
Format: Controlled by program
Units: Text

Number of a Frame element associated with the specified Frame object. For analysis, the Frame object is internally modelled using one or more Frame elements.

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the joint object at which the Frame element joint forces are reported. If no joint object exists at this location then the number of the joint element at that location is reported in parenthesis.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: F1

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Frame joint force at the specified joint in the joint local 1 direction.

Field: F2

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Frame joint force at the specified joint in the joint local 2 direction.

Field: F3

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Frame joint force at the specified joint in the joint local 3 direction.

Field: M1

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Frame joint moment at the specified joint about the joint local 1 axis.

Field: M2

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Frame joint moment at the specified joint about the joint local 2 axis.

Field: M3

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Frame joint moment at the specified joint about the joint local 3 axis.

Table: Element Joint Forces - Links

Field: Link

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a link object, or, in the case of a panel zone, the subscript PZ followed by the label of the joint object to which the panel zone is assigned.

Field: LinkElem

Field is Imported: No
Format: Controlled by program
Units: Text

Number of a Link element associated with the specified Link object. For analysis, the Link object is internally modelled using one or more Link elements.

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the joint object at which the Link element joint forces are reported. If no joint object exists at this location then the number of the joint element at that location is reported in parenthesis.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been

requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: F1

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Link joint force at the specified joint in the joint local 1 direction.

Field: F2

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Link joint force at the specified joint in the joint local 2 direction.

Field: F3

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Link joint force at the specified joint in the joint local 3 direction.

Field: M1

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Link joint moment at the specified joint about the joint local 1 axis.

Field: M2

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Link joint moment at the specified joint about the joint local 2 axis.

Field: M3

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Link joint moment at the specified joint about the joint local 3 axis.

Table: Element Joint Forces - Solids

Field: Solid

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Solid object.

Field: SolidElem

Field is Imported: No
Format: Controlled by program
Units: Text

Number of a Solid element associated with the specified Solid object. For analysis, the Solid object is internally modelled using one or more Solid elements.

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the joint object at which the Solid element joint forces are reported. If no joint object exists at this location then the number of the joint element at that location is reported in parenthesis.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: F1

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Solid joint force at the specified joint in the joint local 1 direction.

Field: F2

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Solid joint force at the specified joint in the joint local 2 direction.

Field: F3

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Solid joint force at the specified joint in the joint local 3 direction.

Field: M1

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Solid joint moment at the specified joint about the joint local 1 axis.

Field: M2

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Solid joint moment at the specified joint about the joint local 2 axis.

Field: M3

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Solid joint moment at the specified joint about the joint local 3 axis.

Table: Element Stresses - Area Asolids

Field: Area

Field is Imported: No
Format: Controlled by program
Units: Text

Label of an area object.

Field: AreaElem

Field is Imported: No
Format: Controlled by program
Units: Text

Number of an area element associated with the specified area object. For analysis, the area object is internally modelled using one or more area elements.

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the joint at which the Area element stresses are reportedreported. If no joint object exists at this location then the number of the joint element at that location is reported in parenthesis.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been

requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: S11

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element internal S11 stress, at the specified joint, reported in the area element local coordinate system.

Field: S22

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element internal S22 stress, at the specified joint, reported in the area element local coordinate system.

Field: S33

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element internal S22 stress, at the specified joint, reported in the area element local coordinate system.

Field: S12

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element internal S12 stress, at the specified joint, reported in the area element local coordinate system.

Field: SMax

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element maximum principal stress at the specified joint.

Field: SMin

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element minimum principal stress at the specified joint.

Field: SAngle

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise (when the local 3 axis is pointing toward you) from the Area element local 1 axis to the direction of the maximum principal stress at the specified joint.

Field: SVM

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The asolid (area) element Von Mises stress at the specified joint.

Table: Element Stresses - Area Planes

Field: Area

Field is Imported: No
Format: Controlled by program
Units: Text

Label of an area object.

Field: AreaElem

Field is Imported: No
Format: Controlled by program
Units: Text

Number of an area element associated with the specified area object. For analysis, the area object is internally modelled using one or more area elements.

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the joint at which the Area element stresses are reportedreported. If no joint object exists at this location then the number of the joint element at that location is reported in parenthesis.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: S11

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element internal S11 stress, at the specified joint, reported in the area element local coordinate system.

Field: S22

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element internal S22 stress, at the specified joint, reported in the area element local coordinate system.

Field: S33

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element internal S22 stress, at the specified joint, reported in the area element local coordinate system.

Field: S12

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element internal S12 stress, at the specified joint, reported in the area element local coordinate system.

Field: SMax

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element maximum principal stress at the specified joint.

Field: SMin

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element minimum principal stress at the specified joint.

Field: SAngle

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise (when the local 3 axis is pointing toward you) from the Area element local 1 axis to the direction of the maximum principal stress at the specified joint.

Field: SVM

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The plane (area) element Von Mises stress at the specified joint.

Table: Element Stresses - Area Shells

Field: Area

Field is Imported: No
Format: Controlled by program
Units: Text

Label of an area object.

Field: AreaElem

Field is Imported: No
Format: Controlled by program
Units: Text

Number of an area element associated with the specified area object. For analysis, the area object is internally modelled using one or more area elements.

Field: ShellType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Shell-Thick, Shell-Thin, Plate-Thick, Plate-Thin or Membrane indicating the type of shell (area) element.

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the joint at which the Area element stresses are reportedreported. If no joint object exists at this location then the number of the joint element at that location is reported in parenthesis.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been

requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: S11Top

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element internal S11 stress, at the top of the element, at the specified joint, reported in the area element local coordinate system.

Field: S22Top

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element internal S22 stress, at the top of the element, at the specified joint, reported in the area element local coordinate system.

Field: S12Top

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element internal S12 stress, at the top of the element, at the specified joint, reported in the area element local coordinate system.

Field: SMaxTop

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element maximum principal stress, at the top of the element, at the specified joint.

Field: SMinTop

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element minimum principal stress, at the top of the element, at the specified joint.

Field: SAngleTop

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise (when the local 3 axis is pointing toward you) from the Area element local 1 axis to the direction of the maximum principal stress at the top of the element, at the specified joint.

Field: SVMTop

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element Von Mises stress, at the top of the element, at the specified joint.

Field: S11Bot

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element internal S11 stress, at the bottom of the element, at the specified joint, reported in the area element local coordinate system.

Field: S22Bot

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element internal S22 stress, at the bottom of the element, at the specified joint, reported in the area element local coordinate system.

Field: S12Bot

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element internal S12 stress, at the bottom of the element, at the specified joint, reported in the area element local coordinate system.

Field: SMaxBot

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element maximum principal stress, at the bottom of the element, at the specified joint.

Field: SMinBot

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element minimum principal stress, at the bottom of the element, at the specified joint.

Field: SAngleBot

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise (when the local 3 axis is pointing toward you) from the Area element local 1 axis to the direction of the maximum principal stress at the bottom of the element, at the specified joint.

Field: SVMBot

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element Von Mises stress, at the top of the element, at the specified joint.

Field: S13Avg

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element average S13 out-of-plane shear stress at the specified joint.

Field: S23Avg

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element average S23 out-of-plane shear stress at the specified joint.

Field: SMaxAvg

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The area element maximum average out-of-plane shear stress. It is equal to the square root of the sum of the squares of S13Avg and S23Avg.

Field: SAngleAvg

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise (when the local 3 axis is pointing toward you) from the area element local 1 axis to the direction of SMaxAvg .

Table: Element Stresses - Solids

Field: Solid

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Solid object.

Field: SolidElem

Field is Imported: No
Format: Controlled by program
Units: Text

Number of a Solid element associated with the specified Solid object. For analysis, the Solid object is internally modelled using one or more Solid elements.

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the joint at which the Solid element stresses are reportedreported. If no joint object exists at this location then the number of the joint element at that location is reported in parenthesis.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: S11

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The Solid element internal S11 stress at the specified joint reported in the Solid element local coordinate system.

Field: S22

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The Solid element internal S22 stress at the specified joint reported in the Solid element local coordinate system.

Field: S33

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The Solid element internal S33 stress at the specified joint reported in the Solid element local coordinate system.

Field: S12

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The Solid element internal S12 stress at the specified joint reported in the Solid element local coordinate system.

Field: S13

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The Solid element internal S13 stress at the specified joint reported in the Solid element local coordinate system.

Field: S23

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The Solid element internal S23 stress at the specified joint reported in the Solid element local coordinate system.

Field: SMax

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The Solid element maximum principal stress at the specified joint.

Field: SMid

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The Solid element middle principal stress at the specified joint.

Field: SMin

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The Solid element minimum principal stress at the specified joint.

Field: SVM

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The Solid element Von Mises stress at the specified joint.

Field: DirCosMax1

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the Solid element maximum principal stress relative to the element local 1 axis at the specified joint.

Field: DirCosMax2

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the Solid element maximum principal stress relative to the element local 2 axis at the specified joint.

Field: DirCosMax3

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the Solid element maximum principal stress relative to the element local 3 axis at the specified joint.

Field: DirCosMid1

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the Solid element middle principal stress relative to the element local 1 axis at the specified joint.

Field: DirCosMid2

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the Solid element middle principal stress relative to the element local 2 axis at the specified joint.

Field: DirCosMid3

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the Solid element middle principal stress relative to the element local 3 axis at the specified joint.

Field: DirCosMin1

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the Solid element minimum principal stress relative to the element local 1 axis at the specified joint.

Field: DirCosMin2

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the Solid element minimum principal stress relative to the element local 2 axis at the specified joint.

Field: DirCosMin3

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the Solid element minimum principal stress relative to the element local 3 axis at the specified joint.

Table: Frame Hinge States

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been

requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: AssignHinge

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a hinge property assigned to the specified frame object.

Field: GenHinge

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the hinge property generated by the program for the specified frame object based on the assigned hinge property.

Field: RelDist

Field is Imported: No
Format: Controlled by program
Units: Unitless

The specified relative distance from the I-end of the frame object to the hinge location. The relative distance is equal to the absolute distance divided by the beam length.

Field: AbsDist

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The specified absolute distance from the I-end of the frame object to the hinge location.

Field: P

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The P force in the frame element at the associated hinge, for the specified step.

Field: V2

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The V2 force in the frame element at the associated hinge, for the specified step.

Field: V3

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The V3 force in the frame element at the associated hinge, for the specified step.

Field: T

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The T moment in the frame element at the associated hinge, for the specified step.

Field: M2

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The M2 moment in the frame element at the associated hinge, for the specified step.

Field: M3

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The M3 moment in the frame element at the associated hinge, for the specified step.

Field: U1Plastic

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The plastic translational deformation of the frame element, in the frame element local 1 direction, at the associated hinge, for the specified step.

Field: U2Plastic

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The plastic translational deformation of the frame element, in the frame element local 2 direction, at the associated hinge, for the specified step.

Field: U3Plastic

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The plastic translational deformation of the frame element, in the frame element local 3 direction, at the associated hinge, for the specified step.

Field: R1Plastic

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

The plastic translational deformation of the frame element, in the frame element local 1 direction, at the associated hinge, for the specified step.

Field: R2Plastic

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

The plastic translational deformation of the frame element, in the frame element local 2 direction, at the associated hinge, for the specified step.

Field: R3Plastic

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

The plastic translational deformation of the frame element, in the frame element local 3 direction, at the associated hinge, for the specified step.

Field: HingeState

Field is Imported: No
Format: Controlled by program
Units: Text

This is either A to B, B to C, C to D, D to E, or >E indicating the state of the hinge for the specified step.

Field: HingeStatus

Field is Imported: No
Format: Controlled by program
Units: Text

This is either A to IO, IO to LS, LS to CP, or >CP indicating the status of the hinge for the specified step.

Table: Joint Accelerations - Absolute

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a joint.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been

requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: U1

Field is Imported: No
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

Joint absolute acceleration in the joint local 1 axis direction.

Field: U2

Field is Imported: No
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

Joint absolute acceleration in the joint local 2 axis direction.

Field: U3

Field is Imported: No
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

Joint absolute acceleration in the joint local 3 axis direction.

Field: R1

Field is Imported: No
Format: Acceleration-Rot (Time-Related section of form)
Units: rad/sec2

Joint absolute acceleration about the joint local 1 axis.

Field: R2

Field is Imported: No
Format: Acceleration-Rot (Time-Related section of form)
Units: rad/sec2

Joint absolute acceleration about the joint local 2 axis.

Field: R3

Field is Imported: No
Format: Acceleration-Rot (Time-Related section of form)
Units: rad/sec2

Joint absolute acceleration about the joint local 3 axis.

Table: Joint Accelerations - Relative

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a joint.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling

factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: U1

Field is Imported: No
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

Joint relative acceleration in the joint local 1 axis direction.

Field: U2

Field is Imported: No
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

Joint relative acceleration in the joint local 2 axis direction.

Field: U3

Field is Imported: No
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

Joint relative acceleration in the joint local 3 axis direction.

Field: R1

Field is Imported: No
Format: Acceleration-Rot (Time-Related section of form)
Units: rad/sec2

Joint relative acceleration about the joint local 1 axis.

Field: R2

Field is Imported: No
Format: Acceleration-Rot (Time-Related section of form)
Units: rad/sec2

Joint relative acceleration about the joint local 2 axis.

Field: R3

Field is Imported: No
Format: Acceleration-Rot (Time-Related section of form)
Units: rad/sec2

Joint relative acceleration about the joint local 1 axis.

Table: Joint Displacements

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a joint.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: U1

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

Joint displacement (relative to the ground) in the joint local 1 axis direction.

Field: U2

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

Joint displacement (relative to the ground) in the joint local 2 axis direction.

Field: U3

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

Joint displacement (relative to the ground) in the joint local 3 axis direction.

Field: R1

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

Joint rotation (relative to the ground) about the joint local 1 axis.

Field: R2

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

Joint rotation (relative to the ground) about the joint local 2 axis.

Field: R3

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

Joint rotation (relative to the ground) about the joint local 3 axis.

Table: Joint Displacements - Absolute

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a joint.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: U1

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

Joint absolute displacement in the joint local 1 axis direction.

Field: U2

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

Joint absolute displacement in the joint local 2 axis direction.

Field: U3

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

Joint absolute displacement in the joint local 3 axis direction.

Field: R1

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

Joint absolute rotation about the joint local 1 axis.

Field: R2

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

Joint absolute rotation about the joint local 2 axis.

Field: R3

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

Joint absolute rotation about the joint local 3 axis.

Table: Joint Displacements - Generalized

Field: GenDispl

Field is Imported: No
Format: Controlled by program
Units: Text

Name of the generalized displacement.

Field: DisplType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Translation or Rotation indicating the type of generalized displacement.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: Translation

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

Displacement of a translational-type generalized displacement.

Field: Rotation

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

Rotation of a rotational-type generalized displacement.

Table: Joint Reactions

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a joint.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: U1

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Joint reaction force in the joint local 1 axis direction.

Field: U2

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Joint reaction force in the joint local 2 axis direction.

Field: U3

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Joint reaction force in the joint local 3 axis direction.

Field: R1

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Joint reaction moment about the joint local 1 axis.

Field: R2

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Joint reaction moment about the joint local 2 axis.

Field: R3

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Joint reaction moment about the joint local 3 axis.

Table: Joint Reactions - Spring Forces

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a joint.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: U1

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Joint spring reaction force in the joint local 1 axis direction.

Field: U2

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Joint spring reaction force in the joint local 2 axis direction.

Field: U3

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

Joint spring reaction force in the joint local 3 axis direction.

Field: R1

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Joint spring reaction moment about the joint local 1 axis.

Field: R2

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Joint spring reaction moment about the joint local 2 axis.

Field: R3

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

Joint spring reaction moment about the joint local 3 axis.

Table: Joint Time History Response Spectra

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a joint.

Field: RSNamedSet

Field is Imported: No
Format: Controlled by program
Units: Text

Name of the joint time history response spectrum named set associated with this output.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CoordSys

Field is Imported: No
Format: Controlled by program
Units: Text

The coordinate system in which the response spectrum curve is generated.

Field: Dir

Field is Imported: No
Format: Controlled by program
Units: Text

This is either UX, UY, or UZ (U1, U2 or U3 for local) indicating the direction in the specified coordinate system for which the response spectrum curve is generated.

Field: Damping

Field is Imported: No
Format: Controlled by program
Units: Unitless

The critical damping ratio for with the response spectrum.

Field: SpcWidening

Field is Imported: No
Format: Controlled by program
Units: Percent

The percent spectrum widening for the response spectrum.

Field: Period

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

A period value for the response spectrum.

Field: Frequency

Field is Imported: No
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

A frequency value for the response spectrum.

Field: SD

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

A spectral displacement value for the response spectrum.

Field: SV

Field is Imported: No
Format: Velocity-Trans (Time-Related section of form)
Units: Length/sec

A spectral velocity value for the response spectrum.

Field: PSV

Field is Imported: No
Format: Velocity-Trans (Time-Related section of form)
Units: Length/sec

A psuedo spectral velocity value for the response spectrum.

Field: SA

Field is Imported: No
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

A spectral acceleration value for the response spectrum.

Field: PSA

Field is Imported: No
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

A psuedo spectral acceleration value for the response spectrum.

Table: Joint Velocities - Absolute

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a joint.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: U1

Field is Imported: No
Format: Velocity-Trans (Time-Related section of form)
Units: Length/sec

Joint absolute velocity in the joint local 1 axis direction.

Field: U2

Field is Imported: No
Format: Velocity-Trans (Time-Related section of form)
Units: Length/sec

Joint absolute velocity in the joint local 2 axis direction.

Field: U3

Field is Imported: No
Format: Velocity-Trans (Time-Related section of form)
Units: Length/sec

Joint absolute velocity in the joint local 3 axis direction.

Field: R1

Field is Imported: No
Format: Velocity-Rot (Time-Related section of form)
Units: rad/sec

Joint absolute velocity about the joint local 1 axis.

Field: R2

Field is Imported: No
Format: Velocity-Rot (Time-Related section of form)
Units: rad/sec

Joint absolute velocity about the joint local 2 axis.

Field: R3

Field is Imported: No
Format: Velocity-Rot (Time-Related section of form)
Units: rad/sec

Joint absolute velocity about the joint local 3 axis.

Table: Joint Velocities - Relative

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a joint.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been

requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: U1

Field is Imported: No
Format: Velocity-Trans (Time-Related section of form)
Units: Length/sec

Joint relative velocity in the joint local 1 axis direction.

Field: U2

Field is Imported: No
Format: Velocity-Trans (Time-Related section of form)
Units: Length/sec

Joint relative velocity in the joint local 2 axis direction.

Field: U3

Field is Imported: No
Format: Velocity-Trans (Time-Related section of form)
Units: Length/sec

Joint relative velocity in the joint local 3 axis direction.

Field: R1

Field is Imported: No
Format: Velocity-Rot (Time-Related section of form)
Units: rad/sec

Joint relative velocity about the joint local 1 axis.

Field: R2

Field is Imported: No
Format: Velocity-Rot (Time-Related section of form)
Units: rad/sec

Joint relative velocity about the joint local 2 axis.

Field: R3

Field is Imported: No
Format: Velocity-Rot (Time-Related section of form)
Units: rad/sec

Joint relative velocity about the joint local 3 axis.

Table: Modal Load Participation Ratios

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

Name of a modal case.

Field: ItemType

Field is Imported: No
Format: Controlled by program
Units: Text

This may be Load Case, Acceleration, Link or Panel Zone. It specifies the type of item for which the modal load participation is reported.

Field: Item

Field is Imported: No
Format: Controlled by program
Units: Text

If the ItemType is Load Case then this is the name of the load case.If the ItemType is Accel then this is the acceleration direction. It is either UX, UY, UZ, RX, RY, or RZ.If the ItemType is Link then this is the name of the link followed by the degree of freedom for which the output is reported in parenthesis. The degree of freedom is either U1, U2, U3, R1, R2, or R3.If the ItemType is Panel Zone then this is the name of the joint towhich the panel zone is assigned followed by the degree of freedom for which the output is reported in parenthesis. The degree of freedom is either U1, U2, U3, R1, R2, or R3.

Field: Static

Field is Imported: No
Format: Controlled by program
Units: Percent

The static load participation ratio.

Field: Dynamic

Field is Imported: No
Format: Controlled by program
Units: Percent

The dynamic load participation ratio.

Table: Modal Participating Mass Ratios

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

Name of a modal case.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: Period

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The period of the associated mode from the associated modal analysis case.

Field: UX

Field is Imported: No
Format: Par Mass Ratios (Modal Factors section of form)
Units: Unitless

The modal participating mass ratio for the structure UX degree of freedom. This ratios applies to the associated mode of the associated modal analysis case.

Field: UY

Field is Imported: No
Format: Par Mass Ratios (Modal Factors section of form)
Units: Unitless

The modal participating mass ratio for the structure UY degree of freedom. This ratios applies to the associated mode of the associated modal analysis case.

Field: UZ

Field is Imported: No
Format: Par Mass Ratios (Modal Factors section of form)
Units: Unitless

The modal participating mass ratio for the structure UZ degree of freedom. This ratios applies to the associated mode of the associated modal analysis case.

Field: SumUX

Field is Imported: No
Format: Par Mass Ratios (Modal Factors section of form)
Units: Unitless

The cumulative sum of the modal participating mass ratio for the structure UX degree of freedom.

Field: SumUY

Field is Imported: No
Format: Par Mass Ratios (Modal Factors section of form)
Units: Unitless

The cumulative sum of the modal participating mass ratio for the structure UY degree of freedom.

Field: SumUZ

Field is Imported: No
Format: Par Mass Ratios (Modal Factors section of form)
Units: Unitless

The cumulative sum of the modal participating mass ratio for the structure UZ degree of freedom.

Field: RX

Field is Imported: No
Format: Par Mass Ratios (Modal Factors section of form)
Units: Unitless

The modal participating mass ratio for the structure RX degree of freedom. This ratios applies to the associated mode of the associated modal analysis case.

Field: RY

Field is Imported: No
Format: Par Mass Ratios (Modal Factors section of form)
Units: Unitless

The modal participating mass ratio for the structure RY degree of freedom. This ratios applies to the associated mode of the associated modal analysis case.

Field: RZ

Field is Imported: No
Format: Par Mass Ratios (Modal Factors section of form)
Units: Unitless

The modal participating mass ratio for the structure RZ degree of freedom. This ratios applies to the associated mode of the associated modal analysis case.

Field: SumRX

Field is Imported: No
Format: Par Mass Ratios (Modal Factors section of form)
Units: Unitless

The cumulative sum of the modal participating mass ratio for the structure RX degree of freedom.

Field: SumRY

Field is Imported: No
Format: Par Mass Ratios (Modal Factors section of form)
Units: Unitless

The cumulative sum of the modal participating mass ratio for the structure RY degree of freedom.

Field: SumRZ

Field is Imported: No
Format: Par Mass Ratios (Modal Factors section of form)
Units: Unitless

The cumulative sum of the modal participating mass ratio for the structure RZ degree of freedom.

Table: Modal Participation Factors

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

Name of a modal case.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: Period

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The period of the associated mode from the associated modal analysis case.

Field: UX

Field is Imported: No
Format: Modal Par - Trans (Modal Factors section of form)
Units: Force-s2

A modal participation factor for the structure UX degree of freedom, for the assciated mode of the associated modal analysis case.

Field: UY

Field is Imported: No
Format: Modal Par - Trans (Modal Factors section of form)
Units: Force-s2

A modal participation factor for the structure UY degree of freedom, for the assciated mode of the associated modal analysis case.

Field: UZ

Field is Imported: No
Format: Modal Par - Trans (Modal Factors section of form)
Units: Force-s2

A modal participation factor for the structure UZ degree of freedom, for the assciated mode of the associated modal analysis case.

Field: RX

Field is Imported: No
Format: Modal Par - Rot (Modal Factors section of form)
Units: Force-Length-s2

A modal participation factor for the structure RX degree of freedom, for the assciated mode of the associated modal analysis case.

Field: RY

Field is Imported: No
Format: Modal Par - Rot (Modal Factors section of form)
Units: Force-Length-s2

A modal participation factor for the structure RY degree of freedom, for the assciated mode of the associated modal analysis case.

Field: RZ

Field is Imported: No
Format: Modal Par - Rot (Modal Factors section of form)
Units: Force-Length-s2

A modal participation factor for the structure RZ degree of freedom, for the assciated mode of the associated modal analysis case.

Field: ModalMass

Field is Imported: No
Format: Modal Mass (Modal Factors section of form)
Units: Force-Length-s2

The modal mass for the specified mode. This is a measure of the kinetic energy in the structure if it is deforming in the specified mode. Modal mass is calculated as S(transpose)*M*S where S is the mode shape and M is the mass matrix.Note that the modal period (MP), modal mass (MM) and modal stiffness (MS) are related to each other by the following equation: MP = 2*pi*(MM/MS)^0.5.

Field: ModalStiff

Field is Imported: No
Format: Modal Stiffness (Modal Factors section of form)
Units: Force-Length

Modal stiffness for the specified mode. This is a measure of the strain energy in the structure if it is deforming in the specified mode. Modal mass is calculated as S(transpose)*K*S where S is the mode shape and K is the stiffness matrix.Note that the modal period (MP), modal mass (MM) and modal stiffness (MS) are related to each other by the following equation: MP = 2*pi*(MM/MS)^0.5.

Table: Modal Periods And Frequencies

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

Name of a modal case.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: Period

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The period of the associated mode from the associated modal analysis case.

Field: Frequency

Field is Imported: No
Format: Frequency (Time-Related section of form)
Units: Cyc/sec

The cyclic frequency of the associated mode from the associated modal analysis case.

Field: CircFreq

Field is Imported: No
Format: Controlled by program
Units: rad/sec

The circular frequency of the associated mode from the associated modal analysis case.

Field: Eigenvalue

Field is Imported: No
Format: Controlled by program
Units: rad2/sec2

The eigenvalue of the associated mode from the associated modal analysis case.

Table: Nonlinear Static Curves

Field: NLSNamedSet

Field is Imported: No
Format: Controlled by program
Units: Text

The NLStatic named set associated with this data.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a nonlinear static analysis case.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

.

Field: BaseForce

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The base force at the associated step in the nonlinear static analysis case. This force is equal to (FX^2 + FY^2 + FZ^2)^0.5.

Field: Displ

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The monitored displacement at the associated step in the nonlinear static analysis case.

Field: SaCapacity

Field is Imported: No
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

The spectral acceleration on the structure capacity curve at the associated step in the nonlinear static analysis case.

Field: SdCapacity

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The spectral displacement on the structure capacity curve at the associated step in the nonlinear static analysis case.

Field: SaDemand

Field is Imported: No
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

The spectral acceleration on the earthquake demand curve at the associated step in the nonlinear static analysis case.

Field: SdDemand

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The spectral displacement on the earthquake demand curve at the associated step in the nonlinear static analysis case.

Field: TEff

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

The effective period at the associated step in the nonlinear static analysis case.

Field: BetaEff

Field is Imported: No
Format: Controlled by program
Units: Unitless

The effective damping ratio at the associated step in the nonlinear static analysis case.

Field: Alpha

Field is Imported: No
Format: Controlled by program
Units: Unitless

The modal mass coefficient at the associated step in the nonlinear static analysis case. This item is used to convert the base shear to a spectral acceleration. .

Field: PFPhi

Field is Imported: No
Format: Controlled by program
Units: Unitless

The modal participation factor times the modal amplitude at the associated step in the nonlinear static analysis caseThis item is used to convert the displacement to a spectral displacement. .

Field: Ato<=B

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of hinges in the structure that fall between point A and point B on their hinge force-deformation curves.

Field: >Bto<=C

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of hinges in the structure that fall between point B and point C on their hinge force-deformation curves.

Field: >Cto<=D

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of hinges in the structure that fall between point C and point D on their hinge force-deformation curves.

Field: >Dto<=E

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of hinges in the structure that fall between point D and point E on their hinge force-deformation curves.

Field: >E

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of hinges beyond point E on their hinge force-deformation curves.

Field: Ato<=IO

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of hinges in the structure that fall between point A and point IO on their hinge force-deformation curves.

Field: >IOto<=LS

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of hinges in the structure that fall between point IO and point LS on their hinge force-deformation curves.

Field: >LSto<=CP

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of hinges in the structure that fall between point LS and point CP on their hinge force-deformation curves.

Field: >CP

Field is Imported: No
Format: Controlled by program
Units: Unitless

The number of hinges beyond point CP on their hinge force-deformation curves.

Field: TotalHinges

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total number of hinges in the structure.

Table: Objects And Elements - Areas

Field: AreaElem

Field is Imported: No
Format: Controlled by program
Units: Text

The number of an area element.

Field: AreaObject

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the area object from which the specified area element was created.

Field: ElemJt1

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a joint element that is a corner point of the area element.

Field: ElemJt2

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a joint element that is a corner point of the area element.

Field: ElemJt3

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a joint element that is a corner point of the area element.

Field: ElemJt4

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a joint element that is a corner point of the area element.

Table: Objects And Elements - Frames

Field: FrameElem

Field is Imported: No
Format: Controlled by program
Units: Text

The number of a frame element.

Field: FrameObject

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the frame object from which the specified frame element was created.

Field: ElemJtI

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a joint element at the I-end of the frame element.

Field: ElemJtJ

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a joint element at the J-end of the frame element.

Table: Objects And Elements - Joints

Field: JointElem

Field is Imported: No
Format: Controlled by program
Units: Text

The number of a joint element.

Field: JointObject

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the joint object from which the specified joint element was created. If the joint element was not created from a joint object, but instead was created as a result of internal meshing by the program then this item is reported as None.

Field: GlobalX

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global X coordinate of the specified joint element.

Field: GlobalY

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global Y coordinate of the specified joint element.

Field: GlobalZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

Global Z coordinate of the specified joint element.

Table: Objects And Elements - Links

Field: LinkElem

Field is Imported: No
Format: Controlled by program
Units: Text

The number of a link element.

Field: LinkObject

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the link object from which the specified link element was created.

Field: ElemJtI

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a joint element at the I-end of the link element.

Field: ElemJtJ

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a joint element at the J-end of the link element.

Table: Objects And Elements - Solids

Field: SolidElem

Field is Imported: No
Format: Controlled by program
Units: Text

The number of a solid element.

Field: SolidObject

Field is Imported: No
Format: Controlled by program
Units: Text

The name of the solid object from which the specified solid element was created.

Field: ElemJt1

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a joint element that is a corner point of the solid element.

Field: ElemJt2

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a joint element that is a corner point of the solid element.

Field: ElemJt3

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a joint element that is a corner point of the solid element.

Field: ElemJt4

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a joint element that is a corner point of the solid element.

Field: ElemJt5

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a joint element that is a corner point of the solid element.

Field: ElemJt6

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a joint element that is a corner point of the solid element.

Field: ElemJt7

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a joint element that is a corner point of the solid element.

Field: ElemJt8

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a joint element that is a corner point of the solid element.

Table: Plot Function Traces

Field: PFNamedSet

Field is Imported: No
Format: Controlled by program
Units: Text

Name of the plot function named set associated with this output.

Field: PlotFunc

Field is Imported: No
Format: Controlled by program
Units: Text

Name of the plot function associated with this output.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling

factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: TransDispl

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The translational displacement value for the trace at the specified step.

Field: RotDispl

Field is Imported: No
Format: Rotational Displ (Displacements section of form)
Units: Radians

The rotational displacement value for the trace at the specified step.

Field: Force

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The force value for the trace at the specified step.

Field: Moment

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The moment value for the trace at the specified step.

Field: FOverL

Field is Imported: No
Format: Force/Length (Forces section of form)
Units: Force/Length

The force per unit length value for the trace at the specified step.

Field: MOverL

Field is Imported: No
Format: Moment/Length (Forces section of form)
Units: Force-Length/Length

The moment per unit length value for the trace at the specified step.

Field: Stress

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The stress value for the trace at the specified step.

Field: Energy

Field is Imported: No
Format: Energy (Miscellaneous section of form)
Units: Force-Length

The energy value for the trace at the specified step.

Field: TransVel

Field is Imported: No
Format: Velocity-Trans (Time-Related section of form)
Units: Length/sec

The translational velocity value for the trace at the specified step.

Field: RotVel

Field is Imported: No
Format: Velocity-Rot (Time-Related section of form)
Units: rad/sec

The rotational velocity value for the trace at the specified step.

Field: TransAccel

Field is Imported: No
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

The translational acceleration value for the trace at the specified step.

Field: RotAccel

Field is Imported: No
Format: Acceleration-Rot (Time-Related section of form)
Units: rad/sec2

The rotational acceleration value for the trace at the specified step.

Table: Response Spectrum Modal Information

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

Name of a response spectrum analysis case.

Field: ModalCase

Field is Imported: No
Format: Controlled by program
Units: Text

Name of the modal analysis case used for the reponse spectrum case.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: Period

Field is Imported: No
Format: Period (Time-Related section of form)
Units: Sec

Period of the specified mode.

Field: DampRatio

Field is Imported: No
Format: Damping Ratios (Damping Items section of form)
Units: Unitless

.

Field: U1Acc

Field is Imported: No
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

The response spectrum modal ground acceleration in the local U1direction of the response spectrum local axes.

Field: U2Acc

Field is Imported: No
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

The response spectrum modal ground acceleration in the local U2direction of the response spectrum local axes.

Field: U3Acc

Field is Imported: No
Format: Acceleration-Trans (Time-Related section of form)
Units: Length/sec2

The response spectrum modal ground acceleration in the local U3direction of the response spectrum local axes.

Field: U1Amp

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The response spectrum modal amplitude in the local U1direction of the response spectrum local axes.

Field: U2Amp

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The response spectrum modal amplitude in the local U2direction of the response spectrum local axes.

Field: U3Amp

Field is Imported: No
Format: Translational Displ (Displacements section of form)
Units: Length

The response spectrum modal amplitude in the local U3direction of the response spectrum local axes.

Table: Section Cut Forces

Field: SectionCut

Field is Imported: No
Format: Controlled by program
Units: Text

Name of a section cut.

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: StepType

Field is Imported: No
Format: Controlled by program
Units: Text

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this is either Step, Max, or Min.For modal cases this is Mode.For buckling factors is Mode for the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this is either Time, Max or Min.For steady state and power spectral density analysis cases this is either Real at Freq, Imag at Freq, Real Min, Real Max, Imag Min, Imag Max, Mag at Freq, Mag Min, Mag Max, or RMS. Freq is short for frequency, Imag is short for imaginary and Mag is short for magnitude.For double-valued combinations this is either Max or Min.For moving load cases this is the force correspondence if it has been requested. It may be M3 Min, M3 Max, M2 Min, M2 Max, T Min, T Max, V3 Min, V3 Max, V2 Min, V2 Max, P Min, or P Max.

Field: StepNum

Field is Imported: No
Format: Controlled by program
Units: Unitless

The contents of this field vary depending on the type of output case considered.For linear static and response spectrum analysis cases this field is not used.For nonlinear static analysis cases this field reports the step number when the StepType is Step.For modal cases this field reports the mode number.For buckling factors this field reports the buckling mode number.For linear modal history, nonlinear modal history, linear direct integration history, and nonlinear direct integration history cases this field reports the time in seconds when the StepType is TimeFor steady state and power spectral density analysis cases this field reports the frequency in Hz when the StepType is Real at Freq, Imag at Freq, or Mag at Freq..

Field: F1

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The section cut force component in the section cut local 1 direction.

Field: F2

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The section cut force component in the section cut local 2 direction.

Field: F3

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The section cut force component in the section cut local 3 direction.

Field: M1

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The section cut moment component about the section cut local 1 axis.

Field: M2

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The section cut moment component about the section cut local 2 axis.

Field: M3

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The section cut moment component about the section cut local 3 axis.

Field: GlobalX

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global X coordinate of the point where the section cut force is reported.

Field: GlobalY

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Y coordinate of the point where the section cut force is reported.

Field: GlobalZ

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global Z coordinate of the point where the section cut force is reported.

Field: DirCos1X

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the section cut positive local 1 axis relative to the positive global X axis.

Field: DirCos1Y

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the section cut positive local 1 axis relative to the positive global Y axis.

Field: DirCos1Z

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the section cut positive local 1 axis relative to the positive global Z axis.

Field: DirCos2X

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the section cut positive local 2 axis relative to the positive global X axis.

Field: DirCos2Y

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the section cut positive local 2 axis relative to the positive global Y axis.

Field: DirCos2Z

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the section cut positive local 2 axis relative to the positive global Z axis.

Field: DirCos3X

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the section cut positive local 3 axis relative to the positive global X axis.

Field: DirCos3Y

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the section cut positive local 3 axis relative to the positive global Y axis.

Field: DirCos3Z

Field is Imported: No
Format: Controlled by program
Units: Unitless

The direction cosine of the section cut positive local 3 axis relative to the positive global Z axis.

Field: 1CentroidF1

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global 1 coordinate of the centroid of all forces (in the 1 direction) that contribute to F1. It is zero if F1 = 0.

Field: 2CentroidF1

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global 2 coordinate of the centroid of all forces (in the 1 direction) that contribute to F1, that is, the location where the forces cause zero moment M3. It is zero if F1 = 0.

Field: 3CentroidF1

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global 3 coordinate of the centroid of all forces (in the 1 direction) that contribute to F1, that is, the location where the forces cause zero moment M2. It is zero if F1 = 0.

Field: 1CentroidF2

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global 1 coordinate of the centroid of all forces (in the 2 direction) that contribute to F2, that is, the location where the forces cause zero moment M3. It is zero if F2 = 0.

Field: 2CentroidF2

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global 2 coordinate of the centroid of all forces (in the 2 direction) that contribute to F2. It is zero if F2 = 0.

Field: 3CentroidF2

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global 3 coordinate of the centroid of all forces (in the 2 direction) that contribute to F2, that is, the location where the forces cause zero moment M1. It is zero if F2 = 0.

Field: 1CentroidF3

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global 1 coordinate of the centroid of all forces (in the 3 direction) that contribute to F3, that is, the location where the forces cause zero moment M2. It is zero if F3 = 0.

Field: 2CentroidF3

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global 2 coordinate of the centroid of all forces (in the 3 direction) that contribute to F3, that is, the location where the forces cause zero moment M1. It is zero if F3 = 0.

Field: 3CentroidF3

Field is Imported: No
Format: Coordinates (Structure Dimensions section of form)
Units: Length

The global 3 coordinate of the centroid of all forces (in the 3 direction) that contribute to F3. It is zero if F3 = 0.

Table: Total Energy Components

Field: OutputCase

Field is Imported: No
Format: Controlled by program
Units: Text

The name of an analysis case or combination.

Field: CaseType

Field is Imported: No
Format: Controlled by program
Units: Text

The type of output case. This may be any one of the following: LinStatic, NonStatic, LinModal, LinRespSpec, LinModHist, NonModHist, LinDirHis, NonDirHist, LinMoving, LinBuckling, LinSteady, and Combination.

Field: Input

Field is Imported: No
Format: Energy (Miscellaneous section of form)
Units: Force-Length

The total input energy.

Field: Kinetic

Field is Imported: No
Format: Energy (Miscellaneous section of form)
Units: Force-Length

The total stored kinetic energy.

Field: Potential

Field is Imported: No
Format: Energy (Miscellaneous section of form)
Units: Force-Length

The total stored potential energy.

Field: ModalDamp

Field is Imported: No
Format: Energy (Miscellaneous section of form)
Units: Force-Length

The total dissipated modal damping energy.

Field: LinkDampers

Field is Imported: No
Format: Energy (Miscellaneous section of form)
Units: Force-Length

The total energy dissipated in the damper-type link elements.

Field: LinkHystrtc

Field is Imported: No
Format: Energy (Miscellaneous section of form)
Units: Force-Length

The total energy dissipated through hysteresis of link elements.

Field: Error

Field is Imported: No
Format: Energy (Miscellaneous section of form)
Units: Force-Length

The total energy error. This is equal to the total input energy minus all other energies.

Table: Aluminum Design 1 - Summary Data - AA-ASD 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear, Major CBC Ratio, Minor CBC Ratio, or Other indicating the origin of the reported TotalRatio. CBC is short for column/beam capacity.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Aluminum Design 1 - Summary Data - AA-LRFD 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear, Major CBC Ratio, Minor CBC Ratio, or Other indicating the origin of the reported TotalRatio. CBC is short for column/beam capacity.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Aluminum Details 1 - Summary Data - AA-ASD 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear, Major CBC Ratio, Minor CBC Ratio, or Other indicating the origin of the reported TotalRatio. CBC is short for column/beam capacity.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Aluminum Details 1 - Summary Data - AA-LRFD 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear, Major CBC Ratio, Minor CBC Ratio, or Other indicating the origin of the reported TotalRatio. CBC is short for column/beam capacity.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: API Punch Check 1 - Summary Data - API RP2A-LRFD 97

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Joint object.

Field: Chord

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a line object considered to be a chord.

Field: Brace

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a line object considered to be a chord.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The governing stress ratio for the specified chord and brace.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The code equation used to calculate the governing stress ratio.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: API Punch Check 1 - Summary Data - API RP2A-WSD2000

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Joint object.

Field: Chord

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a line object considered to be a chord.

Field: Brace

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a line object considered to be a chord.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The governing stress ratio for the specified chord and brace.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The code equation used to calculate the governing stress ratio.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: API Punch Check 2 - Nominal Load Method - API RP2A-LRFD 97

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Joint object.

Field: Chord

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a line object considered to be a chord.

Field: Brace

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a line object considered to be a chord.

Field: JointClass

Field is Imported: No
Format: Controlled by program
Units: Text

The joint classification associated with a Brace-type element. This is either K Overlap, K Gap, T & Y, Cross w/o Diaph, or Cross with Diaph.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Ratio1

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio obtained using API RP2A-LRFD 97 equation E.3-2.

Field: Ratio2

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio obtained using API RP2A-LRFD 97 equation E.3-3 for in-plane bending.

Field: Ratio3

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio obtained using API RP2A-LRFD 97 equation E.3-3 for out-of-plane bending.

Field: Ratio4

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio obtained using API RP2A-LRFD 97 equation E.3-4.

Field: Ratio5

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio obtained using API RP2A-LRFD 97 equation E.3-7.

Field: RatioGov

Field is Imported: No
Format: Controlled by program
Units: Unitless

The governing stress ratio for the specified chord and brace.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The code equation used to calculate the governing stress ratio.

Field: ChordP

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial force in the chord.

Field: ChordInM

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored in-plane moment in the chord. In-plane means in the plane of the chord and brace.

Field: ChordOutM

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored out-of-plane moment in the chord. Out-of-plane means out of the plane of the chord and brace.

Field: BraceP

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial force in the brace.

Field: BraceInM

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored in-plane moment in the brace. In-plane means in the plane of the chord and brace.

Field: BraceOutM

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored out-of-plane moment in the brace. Out-of-plane means out of the plane of the chord and brace.

Field: QuAxial

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qu factor for axial load used in evaluating the punching load.

Field: QuInM

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qu factor for in-plane moment used in evaluating the punching load. In-plane means in the plane of the chord and brace.

Field: QuOutM

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qu factor for out-of-plane moment used in evaluating the punching load.Out-of-plane means out of the plane of the chord and brace.

Field: QfAxial

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qf factor for axial load used in evaluating the punching load.

Field: QfInM

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qf factor for in-plane moment used in evaluating the punching load. In-plane means in the plane of the chord and brace.

Field: QfOutM

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qf factor for out-of-plane moment used in evaluating the punching load.Out-of-plane means out of the plane of the chord and brace.

Field: Puj

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial force capacity for the brace.

Field: MujIn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The in-plane bending moment capacity for the brace. In-plane means in the plane of the chord and brace.

Field: MujOut

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The out-of-plane bending moment moment capacity for the brace. Out-of-plane means out of the plane of the chord and brace.

Field: PhiJAxial

Field is Imported: No
Format: Controlled by program
Units: Unitless

The resistance factor Phi subscript J for axial load in the brace.

Field: PhiJInM

Field is Imported: No
Format: Controlled by program
Units: Unitless

The resistance factor Phi subscript J for in-plane bending in the brace.

Field: PhiJOutM

Field is Imported: No
Format: Controlled by program
Units: Unitless

The resistance factor Phi subscript J for out-of-plane bending in the brace.

Field: Fyc

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The smaller of the yield strength of the chord member or 2/3 of the tensile strength of the chord member.

Field: BraceAngle

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured in degrees from the Chord-type element to the Brace-type element. .

Field: Gap

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The gap distance associated with the brace. This item only applies when the joint classification is K Gap.

Field: ChordTh

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the chord member.

Field: BraceTh

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the brace member.

Field: ChordDiam

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The diameter of the chord member.

Field: BraceDiam

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The diameter of the brace member.

Field: Tau

Field is Imported: No
Format: Controlled by program
Units: Unitless

The thickness of the brace member divided by the thickness of the chord member.Tau = BraceTh / ChordTh.

Field: Beta

Field is Imported: No
Format: Controlled by program
Units: Unitless

The diameter of the brace member divided by the diameter of the chord member.Beta = BraceDiam / ChordDiam.

Field: Gamma

Field is Imported: No
Format: Controlled by program
Units: Unitless

The diameter of the chord member divided by two times the thickness of the chord member.Gamma = ChordDiam / (2 * ChordTh).

Field: QBeta

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Q subscript Beta factor.

Field: Qg

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qg factor.

Field: PPerp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load component perpendicular to the chord.

Field: WeldThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The lesser of the weld throat thickness or the thickness t of the thinner brace.

Field: L1OverL

Field is Imported: No
Format: Controlled by program
Units: Unitless

The circumference for that portion of the brace that contacts the chord (L1) divided by the circumference of the brace contact with the chord neglecting the presence of the overlap.

Field: L2

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The projected chord length (one side) of the overlapping weld, measured perpendicular to the chord, in an overlapping joint.

Field: PPerpCap

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial load component capacity perpendicular to the chord.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: API Punch Check 2 - Punching Shear Method - API RP2A-WSD2000

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Joint object.

Field: Chord

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a line object considered to be a chord.

Field: Brace

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a line object considered to be a chord.

Field: JointClass

Field is Imported: No
Format: Controlled by program
Units: Text

The joint classification associated with a Brace-type element. This is either K Overlap, K Gap, T & Y, Cross w/o Diaph, or Cross with Diaph.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: OneThirdInc

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if a one third stress increase is applied. Otherwise it is No.

Field: Ratio1

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio obtained using API RP2A-WSD2000 equation 4.3.1-3a.

Field: Ratio2

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio obtained using API RP2A-WSD2000 equation 4.3.1-3b.

Field: Ratio3

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio obtained using API RP2A-WSD2000 equation 4.3.2-1.

Field: RatioGov

Field is Imported: No
Format: Controlled by program
Units: Unitless

The governing stress ratio for the specified chord and brace.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The code equation used to calculate the governing stress ratio.

Field: ChordP

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial force in the chord.

Field: ChordInM

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The in-plane moment in the chord. In-plane means in the plane of the chord and brace.

Field: ChordOutM

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The out-of-plane moment in the chord. Out-of-plane means out of the plane of the chord and brace.

Field: BraceP

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial force in the brace.

Field: BraceInM

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The in-plane moment in the brace. In-plane means in the plane of the chord and brace.

Field: BraceOutM

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The out-of-plane moment in the brace. Out-of-plane means out of the plane of the chord and brace.

Field: QqAxial

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qq factor for axial load used in evaluating the punching load.

Field: QqInM

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qq factor for in-plane moment used in evaluating the punching load. In-plane means in the plane of the chord and brace.

Field: QqOutM

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qq factor for out-of-plane moment used in evaluating the punching load.Out-of-plane means out of the plane of the chord and brace.

Field: QfAxial

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qf factor for axial load used in evaluating the punching load.

Field: QfInM

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qf factor for in-plane moment used in evaluating the punching load. In-plane means in the plane of the chord and brace.

Field: QfOutM

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qf factor for out-of-plane moment used in evaluating the punching load.Out-of-plane means out of the plane of the chord and brace.

Field: VpAxial

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The applied stress in the brace due to axial loads.

Field: VpInM

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The applied stress in the brace due to in-plane bending loads. In-plane means in the plane of the chord and brace.

Field: VpOutM

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The applied stress due in the brace to out-of-plane bending loads. Out-of-plane means out of the plane of the chord and brace.

Field: VpaAxial

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable stress in the brace due to axial loads.

Field: VpaInM

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable stress in the brace due to in-plane bending loads. In-plane means in the plane of the chord and brace.

Field: VpaOutM

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable stress due in the brace to out-of-plane bending loads. Out-of-plane means out of the plane of the chord and brace.

Field: Fyc

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The smaller of the yield strength of the chord member or 2/3 of the tensile strength of the chord member.

Field: BraceAngle

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured in degrees from the Chord-type element to the Brace-type element. .

Field: Gap

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The gap distance associated with the brace. This item only applies when the joint classification is K Gap.

Field: ChordTh

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the chord member.

Field: BraceTh

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the brace member.

Field: ChordDiam

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The diameter of the chord member.

Field: BraceDiam

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The diameter of the brace member.

Field: Tau

Field is Imported: No
Format: Controlled by program
Units: Unitless

The thickness of the brace member divided by the thickness of the chord member.Tau = BraceTh / ChordTh.

Field: Beta

Field is Imported: No
Format: Controlled by program
Units: Unitless

The diameter of the brace member divided by the diameter of the chord member.Beta = BraceDiam / ChordDiam.

Field: Gamma

Field is Imported: No
Format: Controlled by program
Units: Unitless

The diameter of the chord member divided by two times the thickness of the chord member.Gamma = ChordDiam / (2 * ChordTh).

Field: QBeta

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Q subscript Beta factor.

Field: Qg

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qg factor.

Field: PPerp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial load component perpendicular to the chord.

Field: WeldThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The lesser of the weld throat thickness or the thickness t of the thinner brace.

Field: L

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The circumference of brace contact with the chord neglecting the presence of overlap.

Field: L1

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The circumference for that portion of the brace which contacts the chord.

Field: L2

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The projected chord length (one side) of the overlapping weld, measured perpendicular to the chord, in an overlapping joint.

Field: PPerpAllow

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The allowable axial load component perpendicular to the chord.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: API Punch Check 2 - Nominal Load Method - API RP2A-WSD2000

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Joint object.

Field: Chord

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a line object considered to be a chord.

Field: Brace

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a line object considered to be a chord.

Field: JointClass

Field is Imported: No
Format: Controlled by program
Units: Text

The joint classification associated with a Brace-type element. This is either K Overlap, K Gap, T & Y, Cross w/o Diaph, or Cross with Diaph.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP)

indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: OneThirdInc

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if a one third stress increase is applied. Otherwise it is No.

Field: Ratio1

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio obtained using API RP2A-WSD2000 equation 4.3.1-5a.

Field: Ratio2

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio obtained using API RP2A-WSD2000 equation 4.3.1-5b.

Field: Ratio3

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio obtained using API RP2A-WSD2000 equation 4.3.2-2.

Field: RatioGov

Field is Imported: No
Format: Controlled by program
Units: Unitless

The governing stress ratio for the specified chord and brace.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The code equation used to calculate the governing stress ratio.

Field: ChordP

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial force in the chord.

Field: ChordInM

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The in-plane moment in the chord. In-plane means in the plane of the chord and brace.

Field: ChordOutM

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The out-of-plane moment in the chord. Out-of-plane means out of the plane of the chord and brace.

Field: BraceP

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial force in the brace.

Field: BraceInM

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The in-plane moment in the brace. In-plane means in the plane of the chord and brace.

Field: BraceOutM

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The out-of-plane moment in the brace. Out-of-plane means out of the plane of the chord and brace.

Field: QuAxial

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qu factor for axial load used in evaluating the punching load.

Field: QuInM

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qu factor for in-plane moment used in evaluating the punching load. In-plane means in the plane of the chord and brace.

Field: QuOutM

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qu factor for out-of-plane moment used in evaluating the punching load.Out-of-plane means out of the plane of the chord and brace.

Field: QfAxial

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qf factor for axial load used in evaluating the punching load.

Field: QfInM

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qf factor for in-plane moment used in evaluating the punching load. In-plane means in the plane of the chord and brace.

Field: QfOutM

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qf factor for out-of-plane moment used in evaluating the punching load.Out-of-plane means out of the plane of the chord and brace.

Field: Pa

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

.

Field: MaIn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The allowable in-plane bending moment in the brace. In-plane means in the plane of the chord and brace.

Field: MaOut

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The allowable out-of-plane bending moment in the brace. Out-of-plane means out of the plane of the chord and brace.

Field: Fyc

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The smaller of the yield strength of the chord member or 2/3 of the tensile strength of the chord member.

Field: BraceAngle

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured in degrees from the Chord-type element to the Brace-type element. .

Field: Gap

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The gap distance associated with the brace. This item only applies when the joint classification is K Gap.

Field: ChordTh

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the chord member.

Field: BraceTh

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the brace member.

Field: ChordDiam

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The diameter of the chord member.

Field: BraceDiam

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The diameter of the brace member.

Field: Tau

Field is Imported: No
Format: Controlled by program
Units: Unitless

The thickness of the brace member divided by the thickness of the chord member.Tau = BraceTh / ChordTh.

Field: Beta

Field is Imported: No
Format: Controlled by program
Units: Unitless

The diameter of the brace member divided by the diameter of the chord member.Beta = BraceDiam / ChordDiam.

Field: Gamma

Field is Imported: No
Format: Controlled by program
Units: Unitless

The diameter of the chord member divided by two times the thickness of the chord member.Gamma = ChordDiam / (2 * ChordTh).

Field: QBeta

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Q subscript Beta factor.

Field: Qg

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qg factor.

Field: PPerp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial load component perpendicular to the chord.

Field: WeldThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The lesser of the weld throat thickness or the thickness t of the thinner brace.

Field: L1OverL

Field is Imported: No
Format: Controlled by program
Units: Unitless

The circumference for that portion of the brace that contacts the chord (L1) divided by the circumference of the brace contact with the chord neglecting the presence of the overlap.

Field: L2

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The projected chord length (one side) of the overlapping weld, measured perpendicular to the chord, in an overlapping joint.

Field: PPerpAllow

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The allowable axial load component perpendicular to the chord.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: API Punch Details 1 - Summary Data - API RP2A-LRFD 97

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Joint object.

Field: Chord

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a line object considered to be a chord.

Field: Brace

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a line object considered to be a chord.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The governing stress ratio for the specified chord and brace.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The code equation used to calculate the governing stress ratio.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: API Punch Details 1 - Summary Data - API RP2A-WSD2000

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Joint object.

Field: Chord

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a line object considered to be a chord.

Field: Brace

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a line object considered to be a chord.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The governing stress ratio for the specified chord and brace.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The code equation used to calculate the governing stress ratio.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: API Punch Details 2 - Nominal Load Method - API RP2A-LRFD 97

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Joint object.

Field: Chord

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a line object considered to be a chord.

Field: Brace

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a line object considered to be a chord.

Field: JointClass

Field is Imported: No
Format: Controlled by program
Units: Text

The joint classification associated with a Brace-type element. This is either K Overlap, K Gap, T & Y, Cross w/o Diaph, or Cross with Diaph.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Ratio1

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio obtained using API RP2A-LRFD 97 equation E.3-2.

Field: Ratio2

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio obtained using API RP2A-LRFD 97 equation E.3-3 for in-plane bending.

Field: Ratio3

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio obtained using API RP2A-LRFD 97 equation E.3-3 for out-of-plane bending.

Field: Ratio4

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio obtained using API RP2A-LRFD 97 equation E.3-4.

Field: Ratio5

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio obtained using API RP2A-LRFD 97 equation E.3-7.

Field: RatioGov

Field is Imported: No
Format: Controlled by program
Units: Unitless

The governing stress ratio for the specified chord and brace.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The code equation used to calculate the governing stress ratio.

Field: ChordP

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial force in the chord.

Field: ChordInM

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored in-plane moment in the chord. In-plane means in the plane of the chord and brace.

Field: ChordOutM

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored out-of-plane moment in the chord. Out-of-plane means out of the plane of the chord and brace.

Field: BraceP

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial force in the brace.

Field: BraceInM

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored in-plane moment in the brace. In-plane means in the plane of the chord and brace.

Field: BraceOutM

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored out-of-plane moment in the brace. Out-of-plane means out of the plane of the chord and brace.

Field: QuAxial

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qu factor for axial load used in evaluating the punching load.

Field: QuInM

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qu factor for in-plane moment used in evaluating the punching load. In-plane means in the plane of the chord and brace.

Field: QuOutM

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qu factor for out-of-plane moment used in evaluating the punching load.Out-of-plane means out of the plane of the chord and brace.

Field: QfAxial

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qf factor for axial load used in evaluating the punching load.

Field: QfInM

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qf factor for in-plane moment used in evaluating the punching load. In-plane means in the plane of the chord and brace.

Field: QfOutM

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qf factor for out-of-plane moment used in evaluating the punching load.Out-of-plane means out of the plane of the chord and brace.

Field: Puj

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial force capacity for the brace.

Field: MujIn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The in-plane bending moment capacity for the brace. In-plane means in the plane of the chord and brace.

Field: MujOut

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The out-of-plane bending moment moment capacity for the brace. Out-of-plane means out of the plane of the chord and brace.

Field: PhiJAxial

Field is Imported: No
Format: Controlled by program
Units: Unitless

The resistance factor Phi subscript J for axial load in the brace.

Field: PhiJInM

Field is Imported: No
Format: Controlled by program
Units: Unitless

The resistance factor Phi subscript J for in-plane bending in the brace.

Field: PhiJOutM

Field is Imported: No
Format: Controlled by program
Units: Unitless

The resistance factor Phi subscript J for out-of-plane bending in the brace.

Field: Fyc

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The smaller of the yield strength of the chord member or 2/3 of the tensile strength of the chord member.

Field: BraceAngle

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured in degrees from the Chord-type element to the Brace-type element. .

Field: Gap

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The gap distance associated with the brace. This item only applies when the joint classification is K Gap.

Field: ChordTh

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the chord member.

Field: BraceTh

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the brace member.

Field: ChordDiam

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The diameter of the chord member.

Field: BraceDiam

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The diameter of the brace member.

Field: Tau

Field is Imported: No
Format: Controlled by program
Units: Unitless

The thickness of the brace member divided by the thickness of the chord member.Tau = BraceTh / ChordTh.

Field: Beta

Field is Imported: No
Format: Controlled by program
Units: Unitless

The diameter of the brace member divided by the diameter of the chord member.Beta = BraceDiam / ChordDiam.

Field: Gamma

Field is Imported: No
Format: Controlled by program
Units: Unitless

The diameter of the chord member divided by two times the thickness of the chord member.Gamma = ChordDiam / (2 * ChordTh).

Field: QBeta

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Q subscript Beta factor.

Field: Qg

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qg factor.

Field: PPerp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load component perpendicular to the chord.

Field: WeldThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The lesser of the weld throat thickness or the thickness t of the thinner brace.

Field: L1OverL

Field is Imported: No
Format: Controlled by program
Units: Unitless

The circumference for that portion of the brace that contacts the chord (L1) divided by the circumference of the brace contact with the chord neglecting the presence of the overlap.

Field: L2

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The projected chord length (one side) of the overlapping weld, measured perpendicular to the chord, in an overlapping joint.

Field: PPerpCap

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial load component capacity perpendicular to the chord.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: API Punch Details 2 - Punching Shear Method - API RP2A-WSD2000

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Joint object.

Field: Chord

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a line object considered to be a chord.

Field: Brace

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a line object considered to be a chord.

Field: JointClass

Field is Imported: No
Format: Controlled by program
Units: Text

The joint classification associated with a Brace-type element. This is either K Overlap, K Gap, T & Y, Cross w/o Diaph, or Cross with Diaph.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: OneThirdInc

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if a one third stress increase is applied. Otherwise it is No.

Field: Ratio1

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio obtained using API RP2A-WSD2000 equation 4.3.1-3a.

Field: Ratio2

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio obtained using API RP2A-WSD2000 equation 4.3.1-3b.

Field: Ratio3

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio obtained using API RP2A-WSD2000 equation 4.3.2-1.

Field: RatioGov

Field is Imported: No
Format: Controlled by program
Units: Unitless

The governing stress ratio for the specified chord and brace.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The code equation used to calculate the governing stress ratio.

Field: ChordP

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial force in the chord.

Field: ChordInM

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The in-plane moment in the chord. In-plane means in the plane of the chord and brace.

Field: ChordOutM

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The out-of-plane moment in the chord. Out-of-plane means out of the plane of the chord and brace.

Field: BraceP

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial force in the brace.

Field: BraceInM

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The in-plane moment in the brace. In-plane means in the plane of the chord and brace.

Field: BraceOutM

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The out-of-plane moment in the brace. Out-of-plane means out of the plane of the chord and brace.

Field: QqAxial

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qq factor for axial load used in evaluating the punching load.

Field: QqInM

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qq factor for in-plane moment used in evaluating the punching load. In-plane means in the plane of the chord and brace.

Field: QqOutM

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qq factor for out-of-plane moment used in evaluating the punching load.Out-of-plane means out of the plane of the chord and brace.

Field: QfAxial

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qf factor for axial load used in evaluating the punching load.

Field: QfInM

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qf factor for in-plane moment used in evaluating the punching load. In-plane means in the plane of the chord and brace.

Field: QfOutM

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qf factor for out-of-plane moment used in evaluating the punching load.Out-of-plane means out of the plane of the chord and brace.

Field: VpAxial

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The applied stress in the brace due to axial loads.

Field: VpInM

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The applied stress in the brace due to in-plane bending loads. In-plane means in the plane of the chord and brace.

Field: VpOutM

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The applied stress due in the brace to out-of-plane bending loads. Out-of-plane means out of the plane of the chord and brace.

Field: VpaAxial

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable stress in the brace due to axial loads.

Field: VpaInM

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable stress in the brace due to in-plane bending loads. In-plane means in the plane of the chord and brace.

Field: VpaOutM

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable stress due in the brace to out-of-plane bending loads. Out-of-plane means out of the plane of the chord and brace.

Field: Fyc

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The smaller of the yield strength of the chord member or 2/3 of the tensile strength of the chord member.

Field: BraceAngle

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured in degrees from the Chord-type element to the Brace-type element. .

Field: Gap

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The gap distance associated with the brace. This item only applies when the joint classification is K Gap.

Field: ChordTh

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the chord member.

Field: BraceTh

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the brace member.

Field: ChordDiam

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The diameter of the chord member.

Field: BraceDiam

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The diameter of the brace member.

Field: Tau

Field is Imported: No
Format: Controlled by program
Units: Unitless

The thickness of the brace member divided by the thickness of the chord member.Tau = BraceTh / ChordTh.

Field: Beta

Field is Imported: No
Format: Controlled by program
Units: Unitless

The diameter of the brace member divided by the diameter of the chord member.Beta = BraceDiam / ChordDiam.

Field: Gamma

Field is Imported: No
Format: Controlled by program
Units: Unitless

The diameter of the chord member divided by two times the thickness of the chord member.Gamma = ChordDiam / (2 * ChordTh).

Field: QBeta

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Q subscript Beta factor.

Field: Qg

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qg factor.

Field: PPerp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial load component perpendicular to the chord.

Field: WeldThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The lesser of the weld throat thickness or the thickness t of the thinner brace.

Field: L

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The circumference of brace contact with the chord neglecting the presence of overlap.

Field: L1

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The circumference for that portion of the brace which contacts the chord.

Field: L2

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The projected chord length (one side) of the overlapping weld, measured perpendicular to the chord, in an overlapping joint.

Field: PPerpAllow

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The allowable axial load component perpendicular to the chord.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: API Punch Details 2 - Nominal Load Method - API RP2A-WSD2000

Field: Joint

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Joint object.

Field: Chord

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a line object considered to be a chord.

Field: Brace

Field is Imported: No
Format: Controlled by program
Units: Text

The name of a line object considered to be a chord.

Field: JointClass

Field is Imported: No
Format: Controlled by program
Units: Text

The joint classification associated with a Brace-type element. This is either K Overlap, K Gap, T & Y, Cross w/o Diaph, or Cross with Diaph.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: OneThirdInc

Field is Imported: No
Format: Controlled by program
Units: Yes/No

This item is Yes if a one third stress increase is applied. Otherwise it is No.

Field: Ratio1

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio obtained using API RP2A-WSD2000 equation 4.3.1-5a.

Field: Ratio2

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio obtained using API RP2A-WSD2000 equation 4.3.1-5b.

Field: Ratio3

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio obtained using API RP2A-WSD2000 equation 4.3.2-2.

Field: RatioGov

Field is Imported: No
Format: Controlled by program
Units: Unitless

The governing stress ratio for the specified chord and brace.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The code equation used to calculate the governing stress ratio.

Field: ChordP

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial force in the chord.

Field: ChordInM

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The in-plane moment in the chord. In-plane means in the plane of the chord and brace.

Field: ChordOutM

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The out-of-plane moment in the chord. Out-of-plane means out of the plane of the chord and brace.

Field: BraceP

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial force in the brace.

Field: BraceInM

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The in-plane moment in the brace. In-plane means in the plane of the chord and brace.

Field: BraceOutM

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The out-of-plane moment in the brace. Out-of-plane means out of the plane of the chord and brace.

Field: QuAxial

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qu factor for axial load used in evaluating the punching load.

Field: QuInM

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qu factor for in-plane moment used in evaluating the punching load. In-plane means in the plane of the chord and brace.

Field: QuOutM

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qu factor for out-of-plane moment used in evaluating the punching load.Out-of-plane means out of the plane of the chord and brace.

Field: QfAxial

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qf factor for axial load used in evaluating the punching load.

Field: QfInM

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qf factor for in-plane moment used in evaluating the punching load. In-plane means in the plane of the chord and brace.

Field: QfOutM

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qf factor for out-of-plane moment used in evaluating the punching load.Out-of-plane means out of the plane of the chord and brace.

Field: Pa

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

.

Field: MaIn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The allowable in-plane bending moment in the brace. In-plane means in the plane of the chord and brace.

Field: MaOut

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The allowable out-of-plane bending moment in the brace. Out-of-plane means out of the plane of the chord and brace.

Field: Fyc

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The smaller of the yield strength of the chord member or 2/3 of the tensile strength of the chord member.

Field: BraceAngle

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured in degrees from the Chord-type element to the Brace-type element. .

Field: Gap

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The gap distance associated with the brace. This item only applies when the joint classification is K Gap.

Field: ChordTh

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the chord member.

Field: BraceTh

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The thickness of the brace member.

Field: ChordDiam

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The diameter of the chord member.

Field: BraceDiam

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The diameter of the brace member.

Field: Tau

Field is Imported: No
Format: Controlled by program
Units: Unitless

The thickness of the brace member divided by the thickness of the chord member.Tau = BraceTh / ChordTh.

Field: Beta

Field is Imported: No
Format: Controlled by program
Units: Unitless

The diameter of the brace member divided by the diameter of the chord member.Beta = BraceDiam / ChordDiam.

Field: Gamma

Field is Imported: No
Format: Controlled by program
Units: Unitless

The diameter of the chord member divided by two times the thickness of the chord member.Gamma = ChordDiam / (2 * ChordTh).

Field: QBeta

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Q subscript Beta factor.

Field: Qg

Field is Imported: No
Format: Controlled by program
Units: Unitless

The Qg factor.

Field: PPerp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial load component perpendicular to the chord.

Field: WeldThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The lesser of the weld throat thickness or the thickness t of the thinner brace.

Field: L1OverL

Field is Imported: No
Format: Controlled by program
Units: Unitless

The circumference for that portion of the brace that contacts the chord (L1) divided by the circumference of the brace contact with the chord neglecting the presence of the overlap.

Field: L2

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The projected chord length (one side) of the overlapping weld, measured perpendicular to the chord, in an overlapping joint.

Field: PPerpAllow

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The allowable axial load component perpendicular to the chord.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 1 - Column Summary Data - AASHTO Concrete 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 1 - Column Summary Data - ACI 318-02

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other

design locations for the same member.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 1 - Column Summary Data - ACI 318-99

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

.

Table: Concrete Design 1 - Column Summary Data - BS8110 89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 1 - Column Summary Data - BS8110 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 1 - Column Summary Data - CSA-A233-94

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 1 - Column Summary Data - EUROCODE 2-1992

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other

design locations for the same member.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 1 - Column Summary Data - Indian IS 456-2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other

design locations for the same member.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 1 - Column Summary Data - Italian DM 14-2-92

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other

design locations for the same member.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 1 - Column Summary Data - KCI-1999

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other

design locations for the same member.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 1 - Column Summary Data - Mexican RCDF 2001

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other

design locations for the same member.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 1 - Column Summary Data - NZS 3101-95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other

design locations for the same member.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 1 - Column Summary Data - UBC97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other

design locations for the same member.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 2 - Beam Summary Data - AASHTO Concrete 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 2 - Beam Summary Data - ACI 318-02

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 2 - Beam Summary Data - ACI 318-99

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-

specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 2 - Beam Summary Data - BS8110 89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 2 - Beam Summary Data - BS8110 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-

specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 2 - Beam Summary Data - CSA-A233-94

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 2 - Beam Summary Data - EUROCODE 2-1992

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-

specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 2 - Beam Summary Data - Indian IS 456-2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 2 - Beam Summary Data - Italian DM 14-2-92

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-

specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 2 - Beam Summary Data - KCI-1999

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 2 - Beam Summary Data - Mexican RCDF 2001

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-

specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 2 - Beam Summary Data - NZS 3101-95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 2 - Beam Summary Data - UBC97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-

specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 3 - Joint Summary Data - AASHTO Concrete 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified

column.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 3 - Joint Summary Data - ACI 318-02

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members

(or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles)

major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 3 - Joint Summary Data - ACI 318-99

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 3 - Joint Summary Data - BS8110 89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A

design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified

design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 3 - Joint Summary Data - BS8110 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles)

minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 3 - Joint Summary Data - CSA-A233-94

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified

column.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 3 - Joint Summary Data - EUROCODE 2-1992

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members

(or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles)

major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 3 - Joint Summary Data - Indian IS 456-2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 3 - Joint Summary Data - Italian DM 14-2-92

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A

design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified

design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 3 - Joint Summary Data - KCI-1999

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles)

minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 3 - Joint Summary Data - Mexican RCDF 2001

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified

column.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 3 - Joint Summary Data - NZS 3101-95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members

(or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles)

major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Design 3 - Joint Summary Data - UBC97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 1 - Column Summary Data - AASHTO Concrete 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 1 - Column Summary Data - ACI 318-02

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other

design locations for the same member.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 1 - Column Summary Data - ACI 318-99

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other

design locations for the same member.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 1 - Column Summary Data - BS8110 89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other

design locations for the same member.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 1 - Column Summary Data - BS8110 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other

design locations for the same member.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 1 - Column Summary Data - CSA-A233-94

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other

design locations for the same member.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 1 - Column Summary Data - EUROCODE 2-1992

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other

design locations for the same member.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 1 - Column Summary Data - Indian IS 456-2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other

design locations for the same member.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 1 - Column Summary Data - Italian DM 14-2-92

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other

design locations for the same member.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 1 - Column Summary Data - KCI-1999

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other

design locations for the same member.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 1 - Column Summary Data - Mexican RCDF 2001

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other

design locations for the same member.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 1 - Column Summary Data - NZS 3101-95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other

design locations for the same member.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 1 - Column Summary Data - UBC97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: DesignOpt

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Check or Design indicating whether the frame object is to be checked or designed.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: PMMCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM bar area or ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: PMMArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal rebar area required for the axial force plus biaxial moment (PMM) design at the specified location. This item is only applicable if the DesignOpt item is Design.

Field: PMMRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial force plus biaxial moment (PMM) stress ratio at the specified location. This item is only applicable if the DesignOpt item is Check.

Field: VMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other

design locations for the same member.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for major shear at the specified location.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear bar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for minor shear at the specified location.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 2 - Beam Summary Data - AASHTO Concrete 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 2 - Beam Summary Data - ACI 318-02

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 2 - Beam Summary Data - ACI 318-99

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-

specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 2 - Beam Summary Data - BS8110 89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 2 - Beam Summary Data - BS8110 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-

specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 2 - Beam Summary Data - CSA-A233-94

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 2 - Beam Summary Data - EUROCODE 2-1992

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-

specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 2 - Beam Summary Data - Indian IS 456-2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 2 - Beam Summary Data - Italian DM 14-2-92

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-

specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 2 - Beam Summary Data - KCI-1999

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 2 - Beam Summary Data - Mexican RCDF 2001

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-

specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 2 - Beam Summary Data - NZS 3101-95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 2 - Beam Summary Data - UBC97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: FTopCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural top bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-

specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FTopArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal top rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: FBotCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the flexural bottom bar area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: FBotArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The total longitudinal bottom rebar area required for flexure at the specified location. This does not include the area of longitudinal rebar required for torsion, if any.

Field: VCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear rebar area per unit length is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: VRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area of transverse shear reinforcing per unit length along the beam for shear at the specified location. This does not include the area of transverse reinforcing required for torsion, if any.

Field: TLngCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of longitudinal rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TLngArea

Field is Imported: No
Format: Rebar Area (Section Dimensions section of form)
Units: Length2

The required area of longitudinal reinforcing required for torsion. This does not include the area of longitudinal rebar required for flexure, if any.

Field: TTrnCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the area of transverse rebar for torsion is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.

Field: TTrnRebar

Field is Imported: No
Format: Rebar Area/Length (Section Dimensions section of form)
Units: in2/ft

The required area per unit length along the beam of one leg of a closed stirrup around the perimeter of the beam at the specified location. This does not include the area of transverse reinforcing required for shear, if any.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 3 - Joint Summary Data - AASHTO Concrete 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified

column.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 3 - Joint Summary Data - ACI 318-02

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members

(or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles)

major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 3 - Joint Summary Data - ACI 318-99

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 3 - Joint Summary Data - BS8110 89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A

design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified

design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 3 - Joint Summary Data - BS8110 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles)

minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 3 - Joint Summary Data - CSA-A233-94

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified

column.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 3 - Joint Summary Data - EUROCODE 2-1992

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members

(or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles)

major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 3 - Joint Summary Data - Indian IS 456-2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 3 - Joint Summary Data - Italian DM 14-2-92

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A

design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified

design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 3 - Joint Summary Data - KCI-1999

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles)

minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 3 - Joint Summary Data - Mexican RCDF 2001

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified

column.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 3 - Joint Summary Data - NZS 3101-95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members

(or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles)

major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Concrete Details 3 - Joint Summary Data - UBC97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: JSMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: JSMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the joint shear ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: JSMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

This is the joint shear divided by the joint shear capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMajCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column major axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CBMinCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam capacity ratio associated with the column minor axis is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that either the design loads were obtained either by applying special, code-specific, multipliers to all or part of the specified design load combination; or that the design was based on the capacity of other members (or other design locations for the same member.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CBMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam capacity ratio associated with the column major axis. This is the sum of the column capacities divided by the sum of the beam capacities at the top of the specified column.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 1 - Summary Data - AASHTO Steel 04

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 1 - Summary Data - AISC-ASD89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 1 - Summary Data - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 1 - Summary Data - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 1 - Summary Data - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 1 - Summary Data - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 1 - Summary Data - BS5950 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 1 - Summary Data - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 1 - Summary Data - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 1 - Summary Data - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 1 - Summary Data - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 1 - Summary Data - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 1 - Summary Data - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details - AASHTO Steel 04

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PuDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: PhiPnc

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compressive force capacity.

Field: PhiPnt

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tensile force capacity.

Field: MuMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiMnMaj

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DBMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DSMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MuMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiMnMin

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DBMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DSMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details - AISC-ASD89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: P

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial load for the specified combo.

Field: MMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: T

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: ffa

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design axial stress.

Field: Fa

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial compressive stress.

Field: Ft

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial tensile stress.

Field: MMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design major moment. This moment includes applicable amplification factors, if any.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major moment bending stress.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major axis bending stress.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FeMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for major axis bending stress divided by a factor of safety.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design minor moment. This moment includes applicable amplification factors, if any.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor moment bending stress.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor axis bending stress.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FeMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for minor axis bending stress divided by a factor of safety.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP)

indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical

sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PuDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: PhiPnc

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compressive force capacity.

Field: PhiPnt

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tensile force capacity.

Field: MuMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiMnMaj

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B1Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B2Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical

sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MuMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiMnMin

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B1Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B2Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame

object length gives the effective length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SeisZone

Field is Imported: No
Format: Controlled by program
Units: Text

The seismic zone. This is either Zone 0, Zone 1, Zone 2, Zone 3 or Zone 4.

Field: Omega0

Field is Imported: No
Format: Controlled by program
Units: Unitless

Omega0 factor that is related to seismic force and ductility.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP)

indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical

sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PuDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: PhiPnc

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compressive force capacity.

Field: PhiPnt

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tensile force capacity.

Field: MuMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiMnMaj

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B1Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B2Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical

sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MuMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiMnMin

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B1Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B2Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame

object length gives the effective length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details for Pipes - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical

sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PuDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: PhiPnc

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compressive force capacity.

Field: PhiPnt

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tensile force capacity.

Field: Fxe

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The elastic local buckling strength in stress units.

Field: Fxc

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The inelastic local buckling strength in stress units.

Field: Fh

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The hoop stress due to hydrostatic pressure.

Field: PhiFhc

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The critical hoop buckling stress.

Field: Fhe

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The elastic hoop buckling stress.

Field: Fx

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The factor fx used in computing the combined axial compression, bending and hydrostatic pressure interaction ratio.

Field: A

Field is Imported: No
Format: Controlled by program
Units: Unitless

The factor A used in computing the combined axial tension, bending and hydrostatic pressure interaction ratio.

Field: B

Field is Imported: No
Format: Controlled by program
Units: Unitless

The factor B used in computing the combined axial tension, bending and hydrostatic pressure interaction ratio.

Field: Eta

Field is Imported: No
Format: Controlled by program
Units: Unitless

The factor Eta (greek letter) used in computing the combined axial tension, bending and hydrostatic pressure interaction ratio.

Field: HydroPressu

Field is Imported: No
Format: Force/Area (Forces section of form)
Units: Force/Length2

The factored confining hydrostatic pressure.

Field: MuMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiMnMaj

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B1Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B2Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MuMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiMnMin

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B1Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B2Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP)

indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: P

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial load for the specified combo.

Field: MMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: T

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical

sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: ffa

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design axial stress.

Field: Fa

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial compressive stress.

Field: Ft

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial tensile stress.

Field: MMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design major moment. This moment includes applicable amplification factors, if any.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major moment bending stress.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major axis bending stress.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FeMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for major axis bending stress divided by a factor of safety.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design minor moment. This moment includes applicable amplification factors, if any.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor moment bending stress.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor axis bending stress.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FeMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for minor axis bending stress divided by a factor of safety.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections minor

bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details for Pipes - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: P

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial load for the specified combo.

Field: MMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: T

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: ffa

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design axial stress.

Field: Fa

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial compressive stress.

Field: Ft

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial tensile stress.

Field: Fxe

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The elastic local buckling stress.

Field: Fxc

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The inelastic local buckling stress.

Field: Fh

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The hoop stress due to hydrostatic pressure.

Field: Fhc

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The critical hoop buckling stress.

Field: Fhe

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The elastic hoop buckling stress.

Field: Fx

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The factor fx used in computing the combined axial compression and hydrostatic pressure interaction ratio.

Field: A

Field is Imported: No
Format: Controlled by program
Units: Unitless

The factor A used in computing the combined axial tension and hydrostatic pressure interaction ratio.

Field: B

Field is Imported: No
Format: Controlled by program
Units: Unitless

The factor B used in computing the combined axial tension and hydrostatic pressure interaction ratio.

Field: HydroPress

Field is Imported: No
Format: Force/Area (Forces section of form)
Units: Force/Length2

The confining hydrostatic pressure.

Field: MMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design major moment. This moment includes applicable amplification factors, if any.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major moment bending stress.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major axis bending stress.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FeMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for major axis bending stress divided by a factor of safety.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design minor moment. This moment includes applicable amplification factors, if any.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor moment bending stress.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor axis bending stress.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FeMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for minor axis bending stress divided by a factor of safety.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections minor

bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: Pac

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The allowable axial compression force.

Field: Pat

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The allowable axial tension force.

Field: MMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design major moment. This moment includes applicable amplification factors, if any.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MaMaj

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PeMaj

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The Euler buckling force for major axis bending.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design minor moment. This moment includes applicable amplification factors, if any.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: MaMin

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PeMin

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The Euler buckling force for minor axis bending.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections minor

bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details for Angles - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PM stress ratio. The total PM stress ratio consists of the sum of the axial and resultant moment components.

Field: MRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The resultant moment component of the total PM stress ratio. The total PM stress ratio consists of the sum of the axial and resultant moment components.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: Pac

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The allowable axial compression force.

Field: Pat

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The allowable axial tension force.

Field: MDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The resultant factored moment. This moment includes applicable amplification factors, if any.

Field: Ma

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The resultant moment capacity.

Field: Pe

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The Euler buckling force for bending in the resultant moment direction.

Field: Cm

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for bending that is used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

Field: XK

Field is Imported: No
Format: Controlled by program
Units: Unitless

The effective length factor. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

Field: XL

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Myt

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The moment that produces tensile yield at the extreme fiber.

Field: Mb

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The moment that causes lateral buckling.

Field: Myc

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The moment that produces compressive yield at the extreme fiber.

Field: Me

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The elastic critical moment.

Field: LoadAngle

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle between the angle section Z-axis and the resultant load.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details - BS5950 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: FtOrFcDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: Pc

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance.

Field: Pt

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tensile force capacity.

Field: PcMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance considering buckling about the major axis only.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PcMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance considering buckling about the minor axis only.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: MfMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.For symmetrical sections major bending is bending about the local 3-axis.

For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: McMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity .For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Mb

Field is Imported: No
Format: Controlled by program
Units: Unitless

The buckling resistance moment.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: mMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

The equivalent uniform moment factor for major axis bending.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles)

major bending is the bending about the section principal axis with the larger moment of inertia.

Field: mLT

Field is Imported: No
Format: Controlled by program
Units: Unitless

The equivalent uniform moment factor for lateral-torsional buckling.

Field: MfMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: McMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: mMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

The equivalent uniform moment factor for minor axis bending.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles)

major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: FtOrFcDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: Pc

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance.

Field: Pt

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tensile force capacity.

Field: MfMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: McMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity .For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Mb

Field is Imported: No
Format: Controlled by program
Units: Unitless

The buckling resistance moment.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: mMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

The equivalent uniform moment factor for major axis bending.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: N

Field is Imported: No
Format: Controlled by program
Units: Unitless

The slenderness corection factor.

Field: MfMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: McMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: mMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

The equivalent uniform moment factor for minor axis bending.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: CfOrCtDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: Cr

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored compressive resistance.

Field: Tr

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored tensile resistance.

Field: MfMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MrMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major moment resistance.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: U1Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: U2Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Omega1Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Coefficient used to determine equivalent uniform major axis bending.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Omega2

Field is Imported: No
Format: Controlled by program
Units: Unitless

Coefficient to account for increased moment resistance due to moment gradient.

Field: MfMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: MrMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor moment resistance.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: U1Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: U2Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections minor

bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Omega1Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Coefficient used to determine equivalent uniform minor axis bending.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical

sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: NsdDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: Ncrd

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance force.

Field: Ntrd

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tension resistance force.

Field: NbrdMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance force.

Field: NbrdMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance force.

Field: MsdMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design major moment. This moment includes applicable amplification factors, if any.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: McrdMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending full moment resistance.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MvrdMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending reduced resistance moment due to shear.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MbrdMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending buckling resistance moment.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: kMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Factor applied to the major design moment in the interaction equations.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: klt

Field is Imported: No
Format: Controlled by program
Units: Unitless

Factor applied to the major design moment in the interaction equation checking for failure due to lateral-torsional buckling.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: C1

Field is Imported: No
Format: Controlled by program
Units: Unitless

A bending coefficient.

Field: MsdMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design minor moment. This moment includes applicable amplification factors, if any.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: McrdMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending full moment resistance.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: MvrdMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending reduced resistance moment due to shear.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections minor

bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: kMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Factor applied to the minor design moment in the interaction equations.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles)

major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: NsdDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: Ncrd

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance force.

Field: Ntrd

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tension resistance force.

Field: NbrdMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance force.

Field: NbrdMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance force.

Field: MsdMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design major moment. This moment includes applicable amplification factors, if any.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: McrdMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending full moment resistance.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MvrdMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending reduced resistance moment due to shear.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MbrdMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending buckling resistance moment.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: kMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Factor applied to the major design moment in the interaction equations.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: klt

Field is Imported: No
Format: Controlled by program
Units: Unitless

Factor applied to the major design moment in the interaction equation checking for failure due to lateral-torsional buckling.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: C1

Field is Imported: No
Format: Controlled by program
Units: Unitless

A bending coefficient.

Field: MsdMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design minor moment. This moment includes applicable amplification factors, if any.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: McrdMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending full moment resistance.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: MvrdMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending reduced resistance moment due to shear.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: kMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Factor applied to the minor design moment in the interaction equations.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: P

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial load for the specified combo.

Field: MMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: T

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: ffa

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design axial stress.

Field: Fa

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial compressive stress.

Field: Ft

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial tensile stress.

Field: MMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design major moment. This moment includes applicable amplification factors, if any.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major moment bending stress.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major axis bending stress.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FeMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for major axis bending stress divided by a factor of safety.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design minor moment. This moment includes applicable amplification factors, if any.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor moment bending stress.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor axis bending stress.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FeMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for minor axis bending stress divided by a factor of safety.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SeisZone

Field is Imported: No
Format: Controlled by program
Units: Text

The seismic zone. This is either Zone 0, Zone 1, Zone 2, Zone 3 or Zone 4.

Field: Omega0

Field is Imported: No
Format: Controlled by program
Units: Unitless

Omega0 factor that is related to seismic force and ductility.

Field: HEQFactor

Field is Imported: No
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 2 - PMM Details - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PuDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: PhiPnc

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compressive force capacity.

Field: PhiPnt

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tensile force capacity.

Field: MuMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiMnMaj

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B1Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B2Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MuMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiMnMin

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B1Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B2Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SeisZone

Field is Imported: No
Format: Controlled by program
Units: Text

The seismic zone. This is either Zone 0, Zone 1, Zone 2, Zone 3 or Zone 4.

Field: Omega0

Field is Imported: No
Format: Controlled by program
Units: Unitless

Omega0 factor that is related to seismic force and ductility.

Field: HEQFactor

Field is Imported: No
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 3 - Shear Details - AASHTO Steel 04

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored major shear.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiVnMaj

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major direction shear capacity.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored minor shear.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiVnMin

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor direction shear capacity.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 3 - Shear Details - AISC-ASD89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major shear stress.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major direction shear.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections

(e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor shear stress.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor direction shear.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear

associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 3 - Shear Details - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by

(SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored major shear.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiVnMaj

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major direction shear capacity.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored minor shear.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiVnMin

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor direction shear capacity.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 3 - Shear Details - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by

(SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored major shear.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiVnMaj

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major direction shear capacity.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored minor shear.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiVnMin

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor direction shear capacity.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 3 - Shear Details - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by

(SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major shear stress.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major direction shear.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor shear stress.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor direction shear.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 3 - Shear Details - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major shear stress.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major direction shear.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections

(e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor shear stress.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor direction shear.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear

associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 3 - Shear Details for Angles - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by

(SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is used for design.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: fvTotalMaj

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The total design major shear stress. This stress is calculated by summing the stresses due to major shear and torsion.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: fvShearMaj

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major shear stress not including the effects of torsion.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: fvTorsMaj

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The shear stress in the major direction due to torsion.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major direction shear.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is used for design.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: fvTotalMin

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The total design minor shear stress. This stress is calculated by summing the stresses due to minor shear and torsion.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: fvShearMin

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor shear stress not including the effects of torsion.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: fvTorsMin

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The shear stress in the minor direction due to torsion.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor direction shear.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 3 - Shear Details - BS5950 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FvMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored major shear.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PvMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major direction shear capacity.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FvMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored minor shear.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PvMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor direction shear capacity.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 3 - Shear Details - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FvMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored major shear.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PvMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major direction shear capacity.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FvMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored minor shear.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PvMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor direction shear capacity.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 3 - Shear Details - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VfMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored major shear.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VrMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear resistance.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VfMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored minor shear.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VrMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear resistance.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 3 - Shear Details - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VsdMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design major shear.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VrdMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear resistance.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VsdMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design minor shear.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VrdMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear resistance.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 3 - Shear Details - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VsdMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design major shear.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VrdMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear resistance.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VsdMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design minor shear.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VrdMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear resistance.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 3 - Shear Details - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major shear stress.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major direction shear.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor shear stress.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor direction shear.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 3 - Shear Details - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored major shear.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiVnMaj

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major direction shear capacity.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored minor shear.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiVnMin

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor direction shear capacity.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear

associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 4 - Continuity Plates - AASHTO Steel 04

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 4 - Continuity Plates - AISC-ASD89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 4 - Continuity Plates - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 4 - Continuity Plates - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 4 - Continuity Plates - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified

design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 4 - Continuity Plates - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 4 - Continuity Plates - BS5950 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 4 - Continuity Plates - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified

design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 4 - Continuity Plates - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 4 - Continuity Plates - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 4 - Continuity Plates - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified

design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 4 - Continuity Plates - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 4 - Continuity Plates - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 5 - Doubler Plates - AASHTO Steel 04

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a

specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 5 - Doubler Plates - AISC-ASD89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 5 - Doubler Plates - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 5 - Doubler Plates - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a

specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 5 - Doubler Plates - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 5 - Doubler Plates - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 5 - Doubler Plates - BS5950 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a

specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 5 - Doubler Plates - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 5 - Doubler Plates - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 5 - Doubler Plates - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a

specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 5 - Doubler Plates - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 5 - Doubler Plates - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 5 - Doubler Plates - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a

specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 6 - Beam/Column Ratios - AASHTO Steel 04

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 6 - Beam/Column Ratios - AISC-ASD89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 6 - Beam/Column Ratios - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 6 - Beam/Column Ratios - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 6 - Beam/Column Ratios - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 6 - Beam/Column Ratios - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 6 - Beam/Column Ratios - BS5950 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 6 - Beam/Column Ratios - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 6 - Beam/Column Ratios - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 6 - Beam/Column Ratios - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 6 - Beam/Column Ratios - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 6 - Beam/Column Ratios - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 6 - Beam/Column Ratios - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Design 7 - Beam Shear Forces - AASHTO Steel 04

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Design 7 - Beam Shear Forces - AISC-ASD89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Design 7 - Beam Shear Forces - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Design 7 - Beam Shear Forces - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Design 7 - Beam Shear Forces - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Design 7 - Beam Shear Forces - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Design 7 - Beam Shear Forces - BS5950 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Design 7 - Beam Shear Forces - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Design 7 - Beam Shear Forces - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Design 7 - Beam Shear Forces - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Design 7 - Beam Shear Forces - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Design 7 - Beam Shear Forces - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Design 7 - Beam Shear Forces - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Design 8 - Brace Max Axial Load - AASHTO Steel 04

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Design 8 - Brace Max Axial Load - AISC-ASD89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Design 8 - Brace Max Axial Load - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Design 8 - Brace Max Axial Load - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Design 8 - Brace Max Axial Load - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Design 8 - Brace Max Axial Load - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Design 8 - Brace Max Axial Load - BS5950 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Design 8 - Brace Max Axial Load - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Design 8 - Brace Max Axial Load - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Design 8 - Brace Max Axial Load - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Design 8 - Brace Max Axial Load - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Design 8 - Brace Max Axial Load - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Design 8 - Brace Max Axial Load - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Details 1 - Summary Data - AASHTO Steel 04

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 1 - Summary Data - AISC-ASD89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 1 - Summary Data - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 1 - Summary Data - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 1 - Summary Data - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 1 - Summary Data - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 1 - Summary Data - BS5950 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 1 - Summary Data - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 1 - Summary Data - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 1 - Summary Data - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 1 - Summary Data - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 1 - Summary Data - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 1 - Summary Data - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Ratio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The controlling stress ratio at the specified location.

Field: RatioType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either PMM, Major Shear, Minor Shear or Other indicating the origin of the reported TotalRatio.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the stress ratio is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details - AASHTO Steel 04

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PuDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: PhiPnc

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compressive force capacity.

Field: PhiPnt

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tensile force capacity.

Field: MuMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiMnMaj

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DBMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: DSMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MuMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiMnMin

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DBMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: DSMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details - AISC-ASD89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: P

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial load for the specified combo.

Field: MMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: T

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: ffa

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design axial stress.

Field: Fa

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial compressive stress.

Field: Ft

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial tensile stress.

Field: MMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design major moment. This moment includes applicable amplification factors, if any.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major moment bending stress.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major axis bending stress.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FeMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for major axis bending stress divided by a factor of safety.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design minor moment. This moment includes applicable amplification factors, if any.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor moment bending stress.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor axis bending stress.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FeMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for minor axis bending stress divided by a factor of safety.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP)

indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical

sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PuDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: PhiPnc

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compressive force capacity.

Field: PhiPnt

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tensile force capacity.

Field: MuMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiMnMaj

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B1Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B2Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical

sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MuMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiMnMin

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B1Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B2Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame

object length gives the effective length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SeisZone

Field is Imported: No
Format: Controlled by program
Units: Text

The seismic zone. This is either Zone 0, Zone 1, Zone 2, Zone 3 or Zone 4.

Field: Omega0

Field is Imported: No
Format: Controlled by program
Units: Unitless

Omega0 factor that is related to seismic force and ductility.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP)

indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical

sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PuDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: PhiPnc

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compressive force capacity.

Field: PhiPnt

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tensile force capacity.

Field: MuMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiMnMaj

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B1Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B2Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical

sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MuMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiMnMin

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B1Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B2Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame

object length gives the effective length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details for Pipes - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical

sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PuDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: PhiPnc

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compressive force capacity.

Field: PhiPnt

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tensile force capacity.

Field: Fxe

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The elastic local buckling strength in stress units.

Field: Fxc

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The inelastic local buckling strength in stress units.

Field: Fh

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The hoop stress due to hydrostatic pressure.

Field: PhiFhc

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The critical hoop buckling stress.

Field: Fhe

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The elastic hoop buckling stress.

Field: Fx

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The factor fx used in computing the combined axial compression, bending and hydrostatic pressure interaction ratio.

Field: A

Field is Imported: No
Format: Controlled by program
Units: Unitless

The factor A used in computing the combined axial tension, bending and hydrostatic pressure interaction ratio.

Field: B

Field is Imported: No
Format: Controlled by program
Units: Unitless

The factor B used in computing the combined axial tension, bending and hydrostatic pressure interaction ratio.

Field: Eta

Field is Imported: No
Format: Controlled by program
Units: Unitless

The factor Eta (greek letter) used in computing the combined axial tension, bending and hydrostatic pressure interaction ratio.

Field: HydroPressu

Field is Imported: No
Format: Force/Area (Forces section of form)
Units: Force/Length2

The factored confining hydrostatic pressure.

Field: MuMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiMnMaj

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B1Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B2Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MuMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiMnMin

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B1Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B2Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP)

indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: P

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial load for the specified combo.

Field: MMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: T

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical

sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: ffa

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design axial stress.

Field: Fa

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial compressive stress.

Field: Ft

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial tensile stress.

Field: MMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design major moment. This moment includes applicable amplification factors, if any.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major moment bending stress.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major axis bending stress.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FeMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for major axis bending stress divided by a factor of safety.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design minor moment. This moment includes applicable amplification factors, if any.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor moment bending stress.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor axis bending stress.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FeMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for minor axis bending stress divided by a factor of safety.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections minor

bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details for Pipes - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: P

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial load for the specified combo.

Field: MMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: T

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: ffa

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design axial stress.

Field: Fa

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial compressive stress.

Field: Ft

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial tensile stress.

Field: Fxe

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The elastic local buckling stress.

Field: Fxc

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The inelastic local buckling stress.

Field: Fh

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The hoop stress due to hydrostatic pressure.

Field: Fhc

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The critical hoop buckling stress.

Field: Fhe

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The elastic hoop buckling stress.

Field: Fx

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The factor fx used in computing the combined axial compression and hydrostatic pressure interaction ratio.

Field: A

Field is Imported: No
Format: Controlled by program
Units: Unitless

The factor A used in computing the combined axial tension and hydrostatic pressure interaction ratio.

Field: B

Field is Imported: No
Format: Controlled by program
Units: Unitless

The factor B used in computing the combined axial tension and hydrostatic pressure interaction ratio.

Field: HydroPress

Field is Imported: No
Format: Force/Area (Forces section of form)
Units: Force/Length2

The confining hydrostatic pressure.

Field: MMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design major moment. This moment includes applicable amplification factors, if any.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major moment bending stress.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major axis bending stress.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FeMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for major axis bending stress divided by a factor of safety.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design minor moment. This moment includes applicable amplification factors, if any.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor moment bending stress.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor axis bending stress.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FeMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for minor axis bending stress divided by a factor of safety.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections minor

bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: Pac

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The allowable axial compression force.

Field: Pat

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The allowable axial tension force.

Field: MMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design major moment. This moment includes applicable amplification factors, if any.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MaMaj

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PeMaj

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The Euler buckling force for major axis bending.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design minor moment. This moment includes applicable amplification factors, if any.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: MaMin

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PeMin

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The Euler buckling force for minor axis bending.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections minor

bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details for Angles - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PM stress ratio. The total PM stress ratio consists of the sum of the axial and resultant moment components.

Field: MRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The resultant moment component of the total PM stress ratio. The total PM stress ratio consists of the sum of the axial and resultant moment components.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: Pac

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The allowable axial compression force.

Field: Pat

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The allowable axial tension force.

Field: MDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The resultant factored moment. This moment includes applicable amplification factors, if any.

Field: Ma

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The resultant moment capacity.

Field: Pe

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The Euler buckling force for bending in the resultant moment direction.

Field: Cm

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for bending that is used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.

Field: XK

Field is Imported: No
Format: Controlled by program
Units: Unitless

The effective length factor. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.

Field: XL

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Myt

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The moment that produces tensile yield at the extreme fiber.

Field: Mb

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The moment that causes lateral buckling.

Field: Myc

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The moment that produces compressive yield at the extreme fiber.

Field: Me

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The elastic critical moment.

Field: LoadAngle

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle between the angle section Z-axis and the resultant load.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details - BS5950 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: FtOrFcDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: Pc

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance.

Field: Pt

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tensile force capacity.

Field: PcMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance considering buckling about the major axis only.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PcMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance considering buckling about the minor axis only.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: MfMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.For symmetrical sections major bending is bending about the local 3-axis.

For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: McMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity .For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Mb

Field is Imported: No
Format: Controlled by program
Units: Unitless

The buckling resistance moment.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: mMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

The equivalent uniform moment factor for major axis bending.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles)

major bending is the bending about the section principal axis with the larger moment of inertia.

Field: mLT

Field is Imported: No
Format: Controlled by program
Units: Unitless

The equivalent uniform moment factor for lateral-torsional buckling.

Field: MfMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: McMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: mMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

The equivalent uniform moment factor for minor axis bending.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles)

major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: FtOrFcDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: Pc

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance.

Field: Pt

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tensile force capacity.

Field: MfMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: McMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity .For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Mb

Field is Imported: No
Format: Controlled by program
Units: Unitless

The buckling resistance moment.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: mMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

The equivalent uniform moment factor for major axis bending.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: N

Field is Imported: No
Format: Controlled by program
Units: Unitless

The slenderness corection factor.

Field: MfMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: McMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: mMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

The equivalent uniform moment factor for minor axis bending.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: CfOrCtDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: Cr

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored compressive resistance.

Field: Tr

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored tensile resistance.

Field: MfMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MrMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major moment resistance.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: U1Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: U2Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Omega1Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Coefficient used to determine equivalent uniform major axis bending.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Omega2

Field is Imported: No
Format: Controlled by program
Units: Unitless

Coefficient to account for increased moment resistance due to moment gradient.

Field: MfMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: MrMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor moment resistance.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: U1Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: U2Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections minor

bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Omega1Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Coefficient used to determine equivalent uniform minor axis bending.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical

sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: NsdDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: Ncrd

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance force.

Field: Ntrd

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tension resistance force.

Field: NbrdMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance force.

Field: NbrdMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance force.

Field: MsdMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design major moment. This moment includes applicable amplification factors, if any.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: McrdMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending full moment resistance.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MvrdMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending reduced resistance moment due to shear.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MbrdMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending buckling resistance moment.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: kMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Factor applied to the major design moment in the interaction equations.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: klt

Field is Imported: No
Format: Controlled by program
Units: Unitless

Factor applied to the major design moment in the interaction equation checking for failure due to lateral-torsional buckling.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: C1

Field is Imported: No
Format: Controlled by program
Units: Unitless

A bending coefficient.

Field: MsdMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design minor moment. This moment includes applicable amplification factors, if any.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: McrdMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending full moment resistance.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: MvrdMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending reduced resistance moment due to shear.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections minor

bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: kMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Factor applied to the minor design moment in the interaction equations.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles)

major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: NsdDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: Ncrd

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance force.

Field: Ntrd

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tension resistance force.

Field: NbrdMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance force.

Field: NbrdMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compression resistance force.

Field: MsdMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design major moment. This moment includes applicable amplification factors, if any.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: McrdMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending full moment resistance.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MvrdMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending reduced resistance moment due to shear.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MbrdMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending buckling resistance moment.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: kMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Factor applied to the major design moment in the interaction equations.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: klt

Field is Imported: No
Format: Controlled by program
Units: Unitless

Factor applied to the major design moment in the interaction equation checking for failure due to lateral-torsional buckling.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: C1

Field is Imported: No
Format: Controlled by program
Units: Unitless

A bending coefficient.

Field: MsdMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design minor moment. This moment includes applicable amplification factors, if any.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: McrdMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending full moment resistance.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: MvrdMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending reduced resistance moment due to shear.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: kMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Factor applied to the minor design moment in the interaction equations.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: P

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial load for the specified combo.

Field: MMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: T

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design axial force.

Field: ffa

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design axial stress.

Field: Fa

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial compressive stress.

Field: Ft

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable axial tensile stress.

Field: MMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design major moment. This moment includes applicable amplification factors, if any.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major moment bending stress.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FbMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major axis bending stress.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FeMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for major axis bending stress divided by a factor of safety.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design minor moment. This moment includes applicable amplification factors, if any.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor moment bending stress.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FbMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor axis bending stress.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FeMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

Euler stress for minor axis bending stress divided by a factor of safety.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SeisZone

Field is Imported: No
Format: Controlled by program
Units: Text

The seismic zone. This is either Zone 0, Zone 1, Zone 2, Zone 3 or Zone 4.

Field: Omega0

Field is Imported: No
Format: Controlled by program
Units: Unitless

Omega0 factor that is related to seismic force and ductility.

Field: HEQFactor

Field is Imported: No
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 2 - PMM Details - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the PMM details are reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: Location

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: Pu

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored axial load for the specified combo.

Field: MuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored major bending moment for the specified combo.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored minor bending moment for the specified combo.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Tu

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified combo. This item is reported for information only. It is not used in the design.

Field: Equation

Field is Imported: No
Format: Controlled by program
Units: Text

The equation used to obtain the reported ratios.

Field: TotalRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The total PMM stress ratio. This ratio is the sum of the axial, major moment and minor moment stress ratio components.

Field: PRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The axial component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.

Field: MMajRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: MMinRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor moment component of the total PMM stress ratio. The total PMM stress ratio consists of the sum of the axial, major moment and minor moment components.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: PuDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored axial force.

Field: PhiPnc

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial compressive force capacity.

Field: PhiPnt

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The axial tensile force capacity.

Field: MuMajDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored major moment. This moment includes applicable amplification factors, if any.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiMnMaj

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The major axis bending moment capacity.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: CmMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for major axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B1Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway major-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: B2Major

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway major-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XKMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object local major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: XLMajor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object major axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections major bending is bending about the local 3-axis. For unsymmetrical sections (e.g., angles) major bending is the bending about the section principal axis with the larger moment of inertia.

Field: Cb

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cb, used in determining the allowable bending stress.

Field: MuMinDsgn

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The design factored minor moment. This moment includes applicable amplification factors, if any.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiMnMin

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The minor axis bending moment capacity.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: CmMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless factor, Cm, for minor axis bending used in determining the stress ratio. It captures the effect of non-uniform moment distribution along the length.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B1Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for non-sway minor-axis bending moment. Nonsway moments are assumed to be those resulting from dead and live loads.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: B2Minor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unitless moment magnification factor for sway minor-axis bending moment. Sway moments are assumed to be those resulting from all loads except dead and live loads.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XKMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Effective length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the effective length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: XLMinor

Field is Imported: No
Format: Controlled by program
Units: Unitless

Unbraced length factor for buckling about the frame object minor axis. This item is specified as a fraction of the frame object length. Multiplying this factor times the frame object length gives the unbraced length for the object.For symmetrical sections minor bending is bending about the local 2-axis. For unsymmetrical sections (e.g., angles) minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: Fy

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The steel yield stress for the design section.

Field: E

Field is Imported: No
Format: Stress Input (Stresses section of form)
Units: Force/Length2

The modulus of elasticity for the design section.

Field: Length

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The total length of the frame object (not clear length).

Field: MajAxisAng

Field is Imported: No
Format: Angles (Structure Dimensions section of form)
Units: Degrees

The angle measured counterclockwise from the local 3-axis to the major axis.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: SectClass

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Compact, Non-Compact, Slender or Too Slender indicating the classification of the section.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: SeisZone

Field is Imported: No
Format: Controlled by program
Units: Text

The seismic zone. This is either Zone 0, Zone 1, Zone 2, Zone 3 or Zone 4.

Field: Omega0

Field is Imported: No
Format: Controlled by program
Units: Unitless

Omega0 factor that is related to seismic force and ductility.

Field: HEQFactor

Field is Imported: No
Format: Controlled by program
Units: Unitless

A multiplier that is applied to all horizontal earthquake loads. This multiplier is applied to the forces obtained from the horizontal component of 1) any static load specified as type Quake, 2) any resonse spectrum case, and 3) any time history case.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 3 - Shear Details - AASHTO Steel 04

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored major shear.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiVnMaj

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major direction shear capacity.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored minor shear.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiVnMin

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor direction shear capacity.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 3 - Shear Details - AISC-ASD89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major shear stress.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major direction shear.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections

(e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor shear stress.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor direction shear.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear

associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 3 - Shear Details - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by

(SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored major shear.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiVnMaj

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major direction shear capacity.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored minor shear.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiVnMin

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor direction shear capacity.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 3 - Shear Details - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by

(SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored major shear.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiVnMaj

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major direction shear capacity.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored minor shear.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiVnMin

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor direction shear capacity.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 3 - Shear Details - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by

(SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major shear stress.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major direction shear.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor shear stress.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor direction shear.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 3 - Shear Details - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major shear stress.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major direction shear.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections

(e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor shear stress.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor direction shear.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear

associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 3 - Shear Details for Angles - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by

(SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VuMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is used for design.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: fvTotalMaj

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The total design major shear stress. This stress is calculated by summing the stresses due to major shear and torsion.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: fvShearMaj

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major shear stress not including the effects of torsion.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: fvTorsMaj

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The shear stress in the major direction due to torsion.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major direction shear.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VuMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is used for design.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: fvTotalMin

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The total design minor shear stress. This stress is calculated by summing the stresses due to minor shear and torsion.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: fvShearMin

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor shear stress not including the effects of torsion.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: fvTorsMin

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The shear stress in the minor direction due to torsion.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor direction shear.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 3 - Shear Details - BS5950 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FvMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored major shear.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PvMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major direction shear capacity.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FvMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored minor shear.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PvMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor direction shear capacity.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 3 - Shear Details - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FvMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored major shear.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PvMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major direction shear capacity.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FvMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored minor shear.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PvMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor direction shear capacity.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 3 - Shear Details - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VfMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored major shear.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VrMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored major shear resistance.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VfMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored minor shear.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VrMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The factored minor shear resistance.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 3 - Shear Details - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VsdMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design major shear.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VrdMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear resistance.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VsdMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design minor shear.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VrdMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear resistance.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 3 - Shear Details - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VsdMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design major shear.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VrdMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear resistance.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VsdMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design minor shear.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VrdMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear resistance.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 3 - Shear Details - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear for the specified combo.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ffvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design major shear stress.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: FvMajor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable major direction shear.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinor

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor shear for the specified combo.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: ffvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The design minor shear stress.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: FvMinor

Field is Imported: No
Format: Stress Output (Stresses section of form)
Units: Force/Length2

The allowable minor direction shear.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 3 - Shear Details - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: DesignType

Field is Imported: No
Format: Controlled by program
Units: Text

This is either Beam, Brace or Column indicating the frame object design type.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'Overstressed', 'See ErrMsg', 'See WarnMsg', 'See ErrMsg and WarnMsg', or 'Overstressed and See WarnMsg' indicating the design status.

Field: VMajorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the major shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VMajorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMajorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The major shear stress ratio.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: VuMajDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored major shear.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: PhiVnMaj

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major direction shear capacity.For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: TuMajor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMajorCombo. This item is reported for information only. It is not used in the design.

Field: VMinorCombo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the minor shear data is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VMinorLoc

Field is Imported: No
Format: Absolute Distance (Structure Dimensions section of form)
Units: Length

The distance measured from the left end (I-End) of the frame object to the location where output is reported.

Field: VMinorRatio

Field is Imported: No
Format: Controlled by program
Units: Unitless

The minor shear stress ratio.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: VuMinDsgn

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The design factored minor shear.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: PhiVnMin

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The minor direction shear capacity.For symmetrical sections minor shear is shear in the local 3-axis direction. For unsymmetrical sections (e.g., angles) minor shear is the shear

associated with minor bending. Note that minor bending is the bending about the section principal axis with the smaller moment of inertia.

Field: TuMinor

Field is Imported: No
Format: Moment (Forces section of form)
Units: Force-Length

The factored torsion (about the local 1-axis) for the specified VMinorCombo. This item is reported for information only. It is not used in the design.

Field: SRLimit

Field is Imported: No
Format: Controlled by program
Units: Unitless

The stress ratio limit as specified in the preferences. Stress ratios that are less than or equal to this value are considered acceptable.

Field: RLLF

Field is Imported: No
Format: Controlled by program
Units: Unitless

The reduced live load factor. A reducible live load is multiplied by this factor to obtain the reduced live load for the frame object.

Field: FramingType

Field is Imported: No
Format: Controlled by program
Units: Text

The framing type. This is either Moment Frame or Braced Frame. This item is used for ductility considerations in the design.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 4 - Continuity Plates - AASHTO Steel 04

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 4 - Continuity Plates - AISC-ASD89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 4 - Continuity Plates - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 4 - Continuity Plates - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 4 - Continuity Plates - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified

design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 4 - Continuity Plates - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 4 - Continuity Plates - BS5950 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 4 - Continuity Plates - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified

design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 4 - Continuity Plates - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 4 - Continuity Plates - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 4 - Continuity Plates - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified

design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 4 - Continuity Plates - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 4 - Continuity Plates - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the continuity plate area is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: ContPlArea

Field is Imported: No
Format: Area (Section Dimensions section of form)
Units: Length2

The required continuity plate area.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 5 - Doubler Plates - AASHTO Steel 04

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a

specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 5 - Doubler Plates - AISC-ASD89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 5 - Doubler Plates - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 5 - Doubler Plates - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a

specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 5 - Doubler Plates - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 5 - Doubler Plates - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 5 - Doubler Plates - BS5950 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a

specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 5 - Doubler Plates - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 5 - Doubler Plates - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 5 - Doubler Plates - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a

specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 5 - Doubler Plates - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 5 - Doubler Plates - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 5 - Doubler Plates - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: Combo

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the doubler plate thickness is reported. It is either the name of a specified design load combination, or the name of a

specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: DblPlThick

Field is Imported: No
Format: Length (Section Dimensions section of form)
Units: Length

The required doubler plate thickness.

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 6 - Beam/Column Ratios - AASHTO Steel 04

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 6 - Beam/Column Ratios - AISC-ASD89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 6 - Beam/Column Ratios - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 6 - Beam/Column Ratios - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 6 - Beam/Column Ratios - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 6 - Beam/Column Ratios - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 6 - Beam/Column Ratios - BS5950 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 6 - Beam/Column Ratios - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 6 - Beam/Column Ratios - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 6 - Beam/Column Ratios - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 6 - Beam/Column Ratios - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 6 - Beam/Column Ratios - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 6 - Beam/Column Ratios - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: Status

Field is Imported: No
Format: Controlled by program
Units: Text

This is either 'No Messages', 'See ErrMsg', 'See WarnMsg', or 'See ErrMsg and WarnMsg' indicating the design status.

Field: ComboMajor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column major moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMaj

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for major moment (bending about column local 3-axis).

Field: ComboMinor

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the column/beam strength ratio for column minor moment is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: CBRatioMin

Field is Imported: No
Format: Controlled by program
Units: Unitless

The column/beam strength ratio for minor moment (bending about column local 2-axis).

Field: ErrMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Error messages generated during the design/check, if any. If no error messages exist then this item is reported as None.

Field: WarnMsg

Field is Imported: No
Format: Controlled by program
Units: Text

Warning messages generated during the design/check, if any. If no warning messages exist then this item is reported as None.

Table: Steel Details 7 - Beam Shear Forces - AASHTO Steel 04

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Details 7 - Beam Shear Forces - AISC-ASD89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Details 7 - Beam Shear Forces - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Details 7 - Beam Shear Forces - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Details 7 - Beam Shear Forces - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Details 7 - Beam Shear Forces - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Details 7 - Beam Shear Forces - BS5950 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Details 7 - Beam Shear Forces - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Details 7 - Beam Shear Forces - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Details 7 - Beam Shear Forces - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Details 7 - Beam Shear Forces - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Details 7 - Beam Shear Forces - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Details 7 - Beam Shear Forces - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboLeft

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam left end (I-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorLeft

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam left end (I-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Field: ComboRight

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the shear at the beam right end (J-end) is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: VMajorRight

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The major shear at the beam right end (J-End).For symmetrical sections major shear is shear in the local 2-axis direction. For unsymmetrical sections (e.g., angles) major shear is the shear associated with major bending. Note that major bending is the bending about the section principal axis with the larger moment of inertia.

Table: Steel Details 8 - Brace Max Axial Load - AASHTO Steel 04

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Details 8 - Brace Max Axial Load - AISC-ASD89

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Details 8 - Brace Max Axial Load - AISC-LRFD93

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Details 8 - Brace Max Axial Load - API RP2A-LRFD 97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Details 8 - Brace Max Axial Load - API RP2A-WSD2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Details 8 - Brace Max Axial Load - ASCE 10-97

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Details 8 - Brace Max Axial Load - BS5950 2000

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Details 8 - Brace Max Axial Load - BS5950 90

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Details 8 - Brace Max Axial Load - CISC 95

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Details 8 - Brace Max Axial Load - EUROCODE 3-1993

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Details 8 - Brace Max Axial Load - Italian UNI 10011

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Details 8 - Brace Max Axial Load - UBC97-ASD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: Steel Details 8 - Brace Max Axial Load - UBC97-LRFD

Field: Frame

Field is Imported: No
Format: Controlled by program
Units: Text

Label of a Frame object.

Field: DesignSect

Field is Imported: No
Format: Controlled by program
Units: Text

The current design section for the frame object.

Field: ComboComp

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the compression axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxComp

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest compression axial force in the brace.

Field: ComboTens

Field is Imported: No
Format: Controlled by program
Units: Text

This identifies the design load combination for which the tension axial force is reported. It is either the name of a specified design load combination, or the name of a specified design load combination followed by (SP).A design load combination name followed by (SP) indicates that the design loads were obtained by applying special, code-specific, seismic multipliers to part of the specified design load combination.

Field: PMaxTens

Field is Imported: No
Format: Force (Forces section of form)
Units: Force

The largest tension axial force in the brace.

Table: User Defined Table Definition 1

Field: TableKey

Field is Imported: Yes
Format: Controlled by program
Units: Text

The table key for the user defined table. This item is predefined by the program. The user can not change the program defined table keys.

Field: TableActive

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the table is active. It is No if is inactive. An inactive table will not be created, and if it already exists it will be deleted.

Field: TableName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The user defined name for the table.Table names should include alphanumeric characters, spaces, dashes and underscore characters, '_', only. Table names must be unique. They can not conflict with any other program defined table names or user defined table names.If this item is blank the user defined table will not be created, and if one associated with the specified table key already exists it will be deleted.

Field: TableType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Model Definition, Analysis Results, or Design Results indicating the type of user defined table.

Field: TableDLL

Field is Imported: Yes
Format: Controlled by program
Units: Text

The program defined *.dll associated with this user defined table. If this item is not specified the user defined table will not be created, and if it already exists it will be deleted.

Table: User Defined Table Definition 2

Field: TableName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The user defined name for the table.

Field: FieldName

Field is Imported: Yes
Format: Controlled by program
Units: Text

The user defined name for a field in the specified table.Field names must be unique within a table and they must be limited to no more than 11 alphanumeric characters with no spaces. Underscore characters, '_', can also be used.

Field: FieldType

Field is Imported: Yes
Format: Controlled by program
Units: Text

This is either Integer, Single Precision, Double Precision, or Text indicating the data type for the user defined field.

Field: FieldFormat

Field is Imported: Yes
Format: Controlled by program
Units: Text

Options form which is accessed using the Options menu > Database > Set Program Default DB Formatting command.

Field: FieldImport

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the field is to be imported into the program. It is No if it a comment field not intended to be imported into the program.

Field: FieldRepeat

Field is Imported: Yes
Format: Controlled by program
Units: Yes/No

This item is Yes if the field is to be repeated when a printed table is split because it is too wide for the paper.

Field: FieldDesc

Field is Imported: Yes
Format: Controlled by program
Units: Text

This item is a user defined description of the field.