

Hinge first steps (SAP2000)

Tutorial	
Name:	Hinge first steps (SAP2000)
Description:	Basic introduction to hinge application in SAP2000.
Program:	SAP2000
Version:	
Model ID:	na

Users must assign concentrated [hinges](#) to [frame](#) elements which may experience nonlinear behavior. Definition of nonlinear material behavior does not enable plastic behavior, though it is necessary for the generation of the interaction surface and moment-rotation curves which characterize the yield criteria of a nonlinear frame element.

Key steps to modeling hinges

- Define hinge properties using the Define > Section Properties > Hinge Properties menu.
- Assign hinges to nonlinear frame elements using the Assign > Frame > Hinges menu.
- Create a nonlinear [load case](#) and run the analysis.
- Use the Display > Show Hinge Results menu to plot hinge deformation against applied loading. Moment vs. plastic rotation is one such option.

See Also

- [CSI Analysis Reference Manual](#) (Frame Hinge Properties, page 131)
- Verification Example 1-026, available through Help > Documentation > Analysis Verification > Frames > 1-026 Moment and Shear Hinges
- Habibullah, A., Pyle, S. (1998). *Practical Three Dimensional Nonlinear Static Pushover Analysis* , Computers and Structures, Inc., Berkeley, CA