Cable tips

A series of **cable tips** are given as follows:

- **Perform a nonlinear analysis.** Forces in the cable are dependent on its shape; therefore, a nonlinear analysis is required for understanding cable behavior.
- **Draw initial cable geometry accurately,** as this will affect subsequent behavior.
- **Cables over roller or pulley systems** – A cable may be modeled with a roller support such that the undeformed length between the roller and adjacent support points remains the same, independent of applied loading, while the roller is free to translate according to load application.

- **Load the cables after defining geometry and supports.**
- **To apply a point load to a cable,** multiple cable segments should be modeled such that a point object exists at the location of load application.
- **To apply a uniform load over part of a cable,** subdivide the cable into one or more segments where the length of the segment(s) is the length of the uniform load. Then apply the uniform load to the segment(s).

- **If a cable location needs to be changed,** delete the cable and redraw it in the new location, rather than changing joint coordinates. Cable stiffness will change unless the distance between joints remains exactly the same.

See Also

- CSI *Analysis Reference Manual* (The Cable Element)
- SAP2000 - 16 Cable Objects of the CSI Watch & Learn video series presents a useful demonstration on this topic.