# External tendon

To model **external tendons**, a series of tips are listed as follows:

* Model tendons as objects, rather than loads, to ensure that tension carries through the external portion of each tendon. It is possible to model external tendons as loads, though additional considerations are then necessary.

* Ensure that tendons are not within the bounding box for any object to which tendons should be external. When tendons are within a box girder which is modeled as a frame object, complexities may arise. The box girder may instead be modeled using shells such that external portions are positioned within the hollow region of the section. As an alternative, a group may be defined which specifies those objects which the tendon may load, then external objects may be excluded from the group.

* Modify losses to account for external segments. It may be most accurate to model separate tendon objects for internal and external segments, then distributed losses may be set to zero for external portions, and nonzero for internal. If the tendon is entirely external except for a few connection points, a single tendon with zero distributed losses should be sufficent.

## See Also

* Modeling different types of tendons article