

## Plates on Steel Beams

Currently it is not possible to specify a plate material on a beam by others during input. This can be challenging when the beam is flush in the floor system and mechanical connectors are required.

### Challenges:

- Modeling a full depth Beam By Other (BBO) in Javelin assumes a solid section material (not I shape). When higher loads occur in the model longer nails (typical 10d common nails are 3" long) for connectors may be specified but may not be able to be used on site because the plate is only 1½" deep.
- It is difficult to model a single 1½" BBO and provide support for the flush beam in the floor system.

Is it possible to have Javelin design the correct connector and nails for the application with higher loads? Yes it is! You must model two Beams by Other one above the other. Follow the example below to learn how.

### Assumptions for example:

- Standard Wall Height 9' 1⅞"
- Floor Depth 11⅞"
- BBO input Depth same as Floor Container

### Steps:

- Draw your structure as you would normally.
- Important this will trim the Joists back and set the bearing to the plate on the BBO.** When modeling Generic BBO decrease the Width by 1/16" on each side of the 5 ½" plate (5⅜") and the Depth less the plate thickness 1½" (10⅜").

**Tip:** Let the system do the math, type in the depth cell =11 7/8"-1.5" (member or floor container depth less plate thickness), then the tab key to confirm.

- Draw another BBO over the existing; change the Label to Plate this will makes it easier to identify and select (F2+Click) if it needs to be edited. Set the Generic Beam Properties to Width to 5½", Depth to 1½" and Elevation Offset to 10⅜" to sit on top of the first BBO.

**Note:** The connectors should change to Top Mount connection if input at the correct Elevation. This set the bearing to the Plate BBO rather than the lower BBO1. This is also why the lower beam is 5⅜" so it will not create bearings on the lower beam.

- Depending on where the beam is started, a hanger connection may be created on the Rim Board. If so, select the bearing and make it Inactive on both ends of the beam to remove the connectors.

This example will limit the hanger connector solutions to only what will work with the 1½" plate depth.

**Warning:** This method can also be done with an 1½" Solid Wall with a Sill Plate, but keep in mind the TJ-Pro™ Rating calculation for the joists would be affected by 2 to 3 points because the joists would be supported by a Wall rather than a Beam.

