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Beam to column-web moment connection

Johan - 2019-09-27 - 0 Comments - in S12:Beam column connection design

Prokon has a number of steel connection design modules. They can be grouped in two distinct classes — shear and moment connections. Shear connections have the ability to transfer axial force and shear. Moment connections have the ability to transfer axial force, shear and moments.

The Beam column connection design module allow users to design various configurations of beam to column moment connections. These connections must involve I and H-sections exclusively. The connection can be welded or bolted. Stiffening plates may be added for additional stiffness.

However the module does not allow the user to design a beam to column connection where the beam is connected to the web of the column. The module requires that the beam be connected to flange of the column.

The design codes do not provide guidelines for beam to column connections where the beam is connected to the web of the column. This is because an I-section has a greatly reduced moment capacity about it's weak axis. Subsequently, Prokon only allows for a beam to column connection where the column and beam are bent about their strong axes. The beam must be connected to the flange of the column to be able to transfer a moment.

A Beam connected to the web of a column will have to be considered a pinned connection (i.e. zero moment at the connection). The connection can then be designed as a shear connection with one of Prokon's shear connection design modules.