

PROKON Support Portal

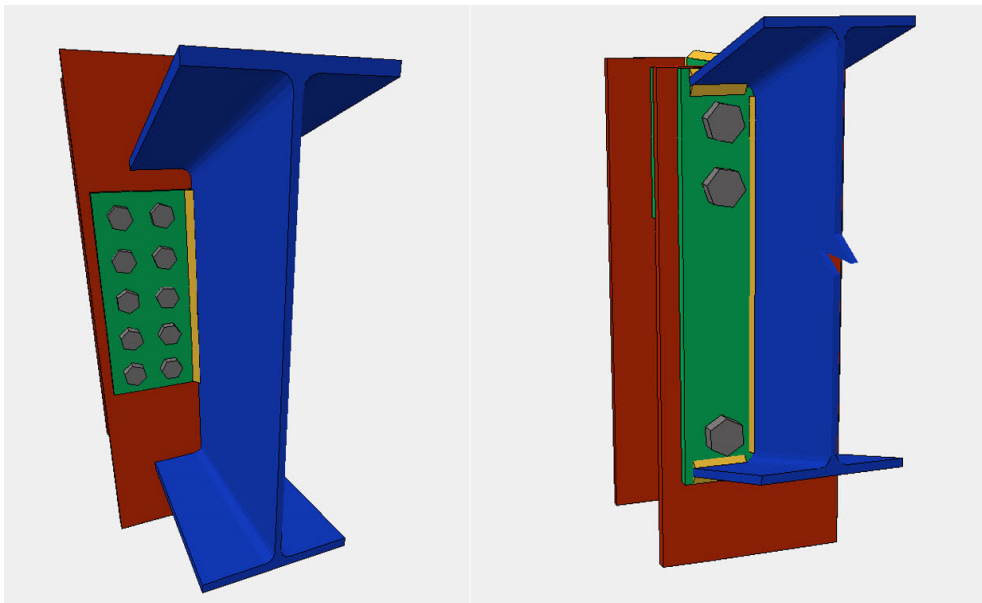
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Bolt configuration of Beam Column Design and End Plate Design

Joep - 2017-02-20 - 0 Comments - in Steel Connection Design

This article relates to the bolt configuration of Beam Column Design and End Plate Design.

Why can End Plate Design have multiple bolt columns on each side of the beam's web and Beam Column design only one bolt column on each side of the beam's web?



End Plate Design (multiple bolt columns)

Beam Column Design (one in-plane bolt column)

The **Beam Column connection design** is not able to have more than two columns of bolts per side of the web. This moment connection design module can analyse connections that transmit shear, **moment** and axial force. Only forces in the plane of the connection are considered, i.e. vertical shear, axial compression or tension and **in-plane moment**. Hence only in-plane bolt configurations are considered. These connections typically apply to the rafter - column connection of portal frames.

In **End Plate Connection Design**, the option is available to add an x amount of bolt columns. This simple connection design module can analyse connections that transmit **end shear and axial force only**. This connection has negligible resistance to rotation and is thus **incapable of transmitting significant moments** at ultimate limit state. Hence the configuration of linear moment distribution in bolts is discarded. A typical example where

end plate design would be used is mezzanine floors for internal beam ties. These connections do not transmit in-plane moments through the connections, but the moments are carried by the loaded element.