



Backing for Seismic Moment Connections to the Weak Axis of Columns

This question is about designing a moment connection between a beam and a column web for an ordinary moment frame, where the beam flanges are welded to stiffeners that extend beyond the column flanges. If these welds are subjected to seismic demands and considered demand-critical, must the backing be removed? If the backing is left in place, must a fillet weld be applied between the backing and the flange or stiffener?

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Larry S. Muir, P.E.

Tension in Bolted Connections with Multiple Lines of Bolts

Do you have any information for the design of unstiffened bolted end-plate hanger connections that have multiple bolt rows (e.g., an HSS welded to an end plate that has two rows of two bolts on each side of the HSS)? I would generally assume that the entire load, including prying, is taken by the first bolt rows and the outer bolts are ineffective. But if the plate is thick enough to eliminate prying at the first bolt row, is it reasonable to use a portion of the outer rows?

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Column Web Subjected to Out-of-Plane Loading

I am connecting a brace to the web of a wide-flange column using a gusset plate. There is no beam at this location. Section J10 in the AISC Specification only deals with member local checks for forces applied on flanges. What local checks apply for this condition?

The questioner is asking about the design of a brace-to-column web connection using a gusset plate. There is no beam at this location. Section J10 in the AISC Specification only deals with member local checks for forces applied on flanges. What local checks apply for this condition?

Carlo Lini, P.E.

Beam-Column Restrained at One Flange