

Protected Zones in SMF

During shop drawing review, we noticed that we had located a gravity beam such that it fell in the reduced beam section (RBS) protected zone in the moment frame beam. The connection is a single-plate shear connection with bolts to the gravity beam and fillet welds to the moment frame beam. Is this acceptable?

No. Connections should not be located within the protected zone for a special moment frame (SMF). The concern within protected zones is with items that may cause discontinuities that precipitate fracture in zones for which significant inelastic behavior is expected.

Steel Plate Thicknesses

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A tower fabricated with HSS has leg splices that are made with bolted butt plates. There are no drainage or venting holes at the butt plates, but I observed water weeping out of a connection and there has been a history of corrosion in the HSS just above the butt plates. Are there any recommendations in AISC literature for sealing or venting such a condition?

Section M2.10 in the 2005 AISC Specification requires drain holes when water can collect inside HSS or box members, or that the member be sealed or suitably protected. The Specification is a free download at www.aisc.org/epubs.

steel interchange

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