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## Fillet Weld Design

**How should I design the fillet weld for the load condition shown below?**

AISC does not have provisions for this case because it is recommended to avoid loading a fillet weld in this manner. The reasoning is stated on page 36 of AISC Design Guide No. 21, *Connections to Beams*, "Because fillet welds do not fuse the cross-section of the joint, there will always be an unfused plane under the root of the fillet, or in the case of double-sided fillets, between the two (unless the fillet is applied on top of a groove weld). Single-sided fillet welded joints should be checked to ensure that the rotation about the root of the joint cannot occur, regardless of the loading condition."

Design Guide 21 is available as a free download for AISC members, and for purchase by non-members, at [www.aisc.org/dg](http://www.aisc.org/dg).

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## Design of Bracing Connections

**Is the variation of the Uniform Force Method found in the 14th Edition AISC Steel Construction Manual section titled "Analysis of Existing Diagonal Bracing Connections" applicable to new construction?**

Yes, you can use the method under "Analysis of Existing Diagonal Bracing Connections" for new construction. The connection will distribute loads in the most efficient way possible and does not know whether it is being analyzed as part of an existing or new structure.

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## Single-Angle Shear Strength

AISC 360-05 Section G4, Single Angles, states, “The nominal shear strength of a single angle leg shall be determined using Equation G2-1 with  $C_v=1.0$ , ..., and  $k_v=1.2$ .” If  $C_v=1.0$ , what is  $k_v$  used for?

The variable  $k_v$  is only used to compute  $C$ , so it isn't actually needed in Section G4. The 2010 AISC [www.aisc.org](http://www.aisc.org)