

Weld Prep Transition

The picture below is a simplified view of the variation in dihedral angle on a small sloped pipe to pipe connection from toe zone to heel zone.

The dihedral angle at the toe zone is too large for a fillet weld. A full penetration weld is the best option for a strong connection with a minimum of weld volume. At the heel zone the dihedral angle is much smaller.

A full pen opening here needs a lot of weld volume to create a strong connection. A better option here is a fillet weld. It needs less weld volume, easier to weld and easier to cut. Somewhere between these weld types along the joint is a zone where the change from one weld type to the other occurs. This zone is called the 'transition zone'.

