FILLET WELD AND SOCKET WELD PROFILES

Equal Leg Fillet Weld

Surface of Vertical Member
Convex Fillet Weld
Theoretical Throat
Surface of Horizontal Member
Concave Fillet Weld

Size of Weld
Size of Weld

The size of an equal leg fillet weld is the leg length of the largest inscribed right isosceles triangle.
Theoretical Throat = 0.7 x size of weld

Unequal Leg Fillet Weld

Surface of Vertical Member
Convex Fillet Weld
Theoretical Throat
Surface of Horizontal Member
Concave Fillet Weld

The size of an unequal leg fillet weld is the shorter leg length of the largest right triangle which can be inscribed within the fillet weld cross section.

Skewed T Joints

Intersecting Member
135 deg. max.

60 deg. min.¹
Through Member

Theoretical Throat

¹When the intersecting member is less than 60 degrees, the weld shall be considered a partial penetration groove weld.

Socket Welding Flanges and Fittings

x_{min.} \leq 1.4 t_n or the thickness of the hub, whichever is smaller, but not less than 1/8 in. (3 mm)
t_n = nominal pipe wall thickness. C_x = 1.09 t_n

x_{min.} \approx 1/16 in. (1.5 mm)
approx. before welding

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