

Bridge Design Details 11.3 February 2025

Complete Joint Penetration and Partial Joint Penetration Groove Welds

The Complete Joint Penetration (CJP) groove weld is a groove weld that extends completely through the thickness of components joined and should have the same strength as the components being joined. The Partial Joint Penetration (PJP) groove weld is a groove weld that does not extend completely through the thickness of components joined.

When a CJP groove weld or a PJP groove weld is used, do not detail specific groove details and do not call out the symbol for a specific weld type (Example: a double-V-groove or square-groove). Instead, point the weld arrow to the joint location and call out CJP or PJP, as shown in the following figures.

The welding symbol for CJP weld does not denote weld size:



Figure 11.3.1 CJP Welding Symbol

The welding symbol for PJP weld denotes effective weld size (E_1) for other side and (E_2) for arrow side:

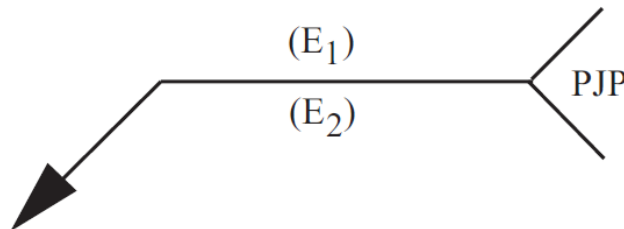


Figure 11.3.2 PJP Welding Symbol



The welding symbol for a PJP weld that uses minimum effective weld size, specified by Section 55-1.02E(7) in the Caltrans Standard Specifications, is denoted without dimensions:

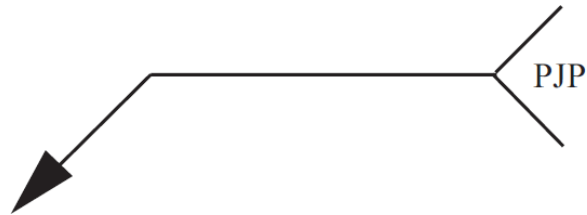


Figure 11.3.3 Minimum Effective Weld Size PJP Welding Symbol

Specific weld types for CJP and PJP will be shown in shop drawings prepared by the Contractor and reviewed by the Designer, the Structure Representative, and a representative from the Materials Engineering and Testing Services (METS).

For other weld information types and symbols, see *Bridge Design Details: 11 American Welding Society Symbols*, Attachment 11A.B.1 through 11A.B.4.