



## AWS D1.1 Interpretation

**Subject:** 6GR Test  
**Code Edition:** D1.1-84  
**Code Provision:** Table 5.10.5 and Figure 5.21A  
**AWS Log:** D1-85-029

**Inquiry:**

- (1) In the welded 6GR test joint (Figure 5.21A) is it permissible to machine the ID of the heavier wall pipe to the other pipe before performing radiographic examination?
- (2) In joints between parts of unequal thickness does the term “complete joint penetration” refer to the situation where the weld metal completely fills the groove and is fused to the thinner base metal throughout its total thickness?
- (3) When removing side bend specimens from the 6GR welded test joint, is it permissible, prior to bending, to machine sufficient metal from the thicker wall pipe section to obtain a uniform test specimen cross section?
- (4) When removing test specimens from the 6GR welded test joint for tension testing, is it permissible to machine the ID of the heavier wall pipe to the ID of the other pipe to obtain a test specimen of uniform cross section?
- (5) For qualification of T-, Y-, and K-connections, is it permissible to use job size pipe?
- (6) In qualifying in the 6GR position, may job size pipe of different wall thickness other than shown in Figure 5.12A be used?
- (7) Does procedure qualification of pipe or tubing in the 6GR position qualify for all positions of plate and pipe welding?
- (8) Are there prerequisites for procedure or personnel qualification?

**Response:**

- (1) Yes, if so stated in the contract documents. (See also 6.10.3 of the Commentary.)
- (2) Yes.
- (3) Yes. Figure 5.10.1.3H shows the pipe thickness the same as the size of the weld.
- (4) Yes. In AWS D1.1-86, Figure 5.10.1.3F, the specimen thickness is shown as being uniform throughout the test specimen except for the edges of a pipe specimen.
- (5) Yes. See Table 5.10.1-2.
- (6) Yes. The specific thickness and root “high-low” conditions need not be met, but the thickness differential between the pipes should be maintained to the extent possible. (See Table 10.12, Single Welded T-, Y-, and K-Connections, Other.)
- (7) Yes.
- (8) No. The contractor need only have a qualified (or prequalified) joint welding procedure for the work to be performed; the contractor only needs to have qualified personnel for the work they will perform.

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AWS D1.1, Structural Welding Code—Steel, is prepared by the AWS Structural Welding Committee. Because the Code is written in the form of a specification, it cannot present background material or discuss the committee’s intent.

Since the publication of the first edition of the Code, the nature of inquiries directed to the American Welding Society and the Structural Welding Committee has indicated that there are some requirements in the Code that are either difficult to understand or not sufficiently specific, and other that appear to be overly conservative.

It should be recognized that the fundamental premise of the Code is to provide general stipulations applicable to any situation and to leave sufficient latitude for the exercise of engineering judgment. Another point to be recognized is that the Code represents the collective experience of the committee; and, while some provisions may seem overly conservative, they have been based on sound engineering practice.