



AWS D1.1 Interpretation

Subject: Fillet Weld Mechanical Properties
Code Edition: D1.1:2006
Code Provision: Clause 4.11
AWS Log: D1.1-06-I15b

Inquiry:

- (1) Is it the intent of Clause 4.11 to require all welding consumables employed for fillet welds to be proven by the mechanical testing of a CJP or consumable verification weld?
- (2) If the design of the structure requires charpy V-notch impact testing is it a requirement to prove that fillet weld metal is compliant by impact testing a CJP or consumable verification weld?
- (3) Does Clause 4.11.3 also require supplementary essential variables (Table 4.7) to apply to fillet weld metal where the design requires impact testing?

Response:

- (1) No, provided the welding consumable(s) complies with the Filler Metal Requirements listed in Table 3.1.
- (2) Yes. When contract documents require CVN impact testing, a procedure qualification by test including CVN tests is required. See AWS D1.1:2006 4.1.1.3 and 2.2.2. For qualification of fillet welds under Clause 4.11, this may be satisfied by CVN tests taken from consumable verification coupons.
- (3) Yes, when contract documents require CVN impact testing. See 4.11.3(4) and 4.7.1.

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.