



### **AWS D17.1 Interpretation**

**Subject:** Inspection and Examination Requirements  
**Code Edition:** D17.1:2001  
**Code Provision:** Paragraph 4.3.8.1  
**AWS Log:** D17.1-01-I01

**Inquiry:** Paragraph 4.3.8.1 states that test welds for welder qualification shall be inspected to Class A requirements. The paragraph further defines the inspection methods (i.e. visual and X-ray for groove welds with alternative methods of bend testing and metallographic for fillet welds). The suggested record from Figure 4.1 also only defines visual, radiographic and metallographic in the test results section.

Neither paragraph 4.3.8.1 nor Figure 4.1 define that Penetrant Testing (PT) or Magnetic Particle Inspection (MPI) are required.

Class A inspection is however required. In paragraph 6.4 which defines the inspection criteria, PT / MPI are mandated for Class A welds.

For Welder Qualification Tests, is PT for non-ferrous or MPI for ferro-magnetic materials required to be performed?

**Response:** Requirements in paragraph 4.3.8.1 specify both the methods of inspection and acceptance criteria of Class A welds shall be performed for welder and welding operator qualification. Figure 4.1 contains suggested content and format which is provided as an example only.

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AWS D17.1:2001, *Specification for Fusion Welding for Aerospace Applications*, is prepared by the AWS Welding in the Aircraft and Aerospace Industry Committee. Because AWS D17.1:2001 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 AWS D17.1:2001, the nature of inquiries directed to the American Welding Society and the Aircraft and Aerospace Committee has indicated that there are some requirements in AWS D17.1:2001 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 AWS D17.1:2001 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 AWS D17.1:2001 represents the collective experience of the committee; and, while some provisions may seem overly conservative, they have been based on sound engineering practice.