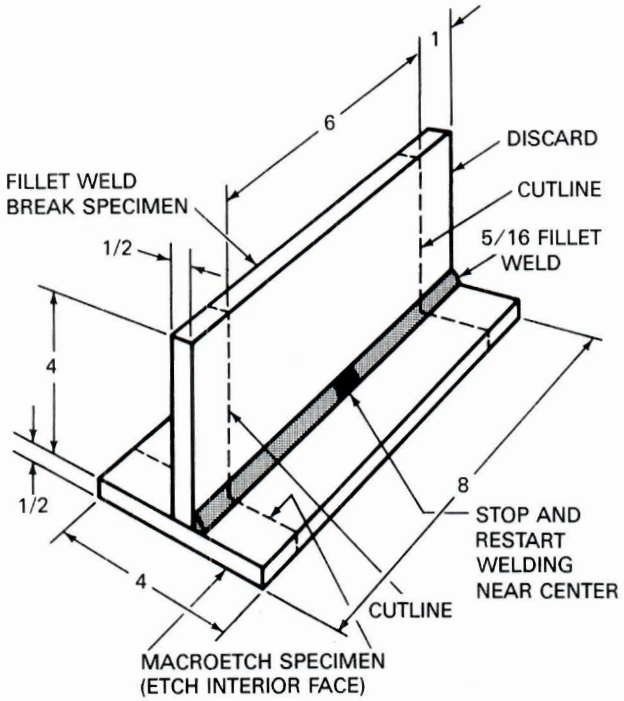


Note: Plate thickness and dimensions are minimum.

Test 1

Figure 5.21 — Fillet-Weld-Break and Macroetch Test Plate — Welder Qualification — Option 1 (see 5.23.1.4)

this code is thereby qualified to weld by that process in the positions qualified by the test position. The maximum thickness qualified is based upon test plate thickness as listed in Table 5.7. The welding operator is also qualified for fillet welding and slot welding of plate and shapes for the process and position tested.

5.23.2.4 Qualification Tests For Fillet Welds Only. Requirements for fillet weld qualification only, on plate and rolled structural shapes, are as follows:

(1) For fillet welds between parts having a dihedral angle (Ψ) of 60 degrees or less, the welding operator shall weld a groove weld test plate as required by 5.23.2. This qualification shall also be valid for joints having a dihedral angle (Ψ) of 60 degrees and greater.

(2) For joints having a dihedral angle (Ψ) greater than 60 degrees, but not exceeding 135 degrees, the welding operator shall weld a test plate in accordance with Option 1 or Option 2, depending upon the contractor's choice, as follows:

(a) Option 1. Weld a T-test plate in accordance with Figure 5.26.

(b) Option 2. Weld a soundness test plate in accordance with Figure 5.27.

5.23.3 Tack Welder Qualification. A tack welder shall be qualified by one fillet-weld-break specimen made in each position in which tack welds are to be made. The tack welder shall make a 1/4 in. (6 mm) maximum size tack weld approximately 2 in. (50 mm) long on the fillet-weld-break specimen, as shown in Figure 5.28.

5.24 Limitation of Variables

5.24.1 Common Requirements for Welders, Welding Operators and Tack Welders. The following requirements shall apply to welder, welding operator, and tack welder qualification. (See 5.24.2 for specific limitations for welders, 5.24.3 for welding operators, and 5.24.4 for tack welders).

5.24.1.1 Base Metal. Qualification established with any one of the steels permitted by this code shall be considered as qualification to weld or tack weld any of the other steels with the following exception:

Qualification to weld or tack weld steel with a minimum yield strength of 90 ksi (620 MPa) or greater shall be established with steel meeting the same specification as steel for the project.

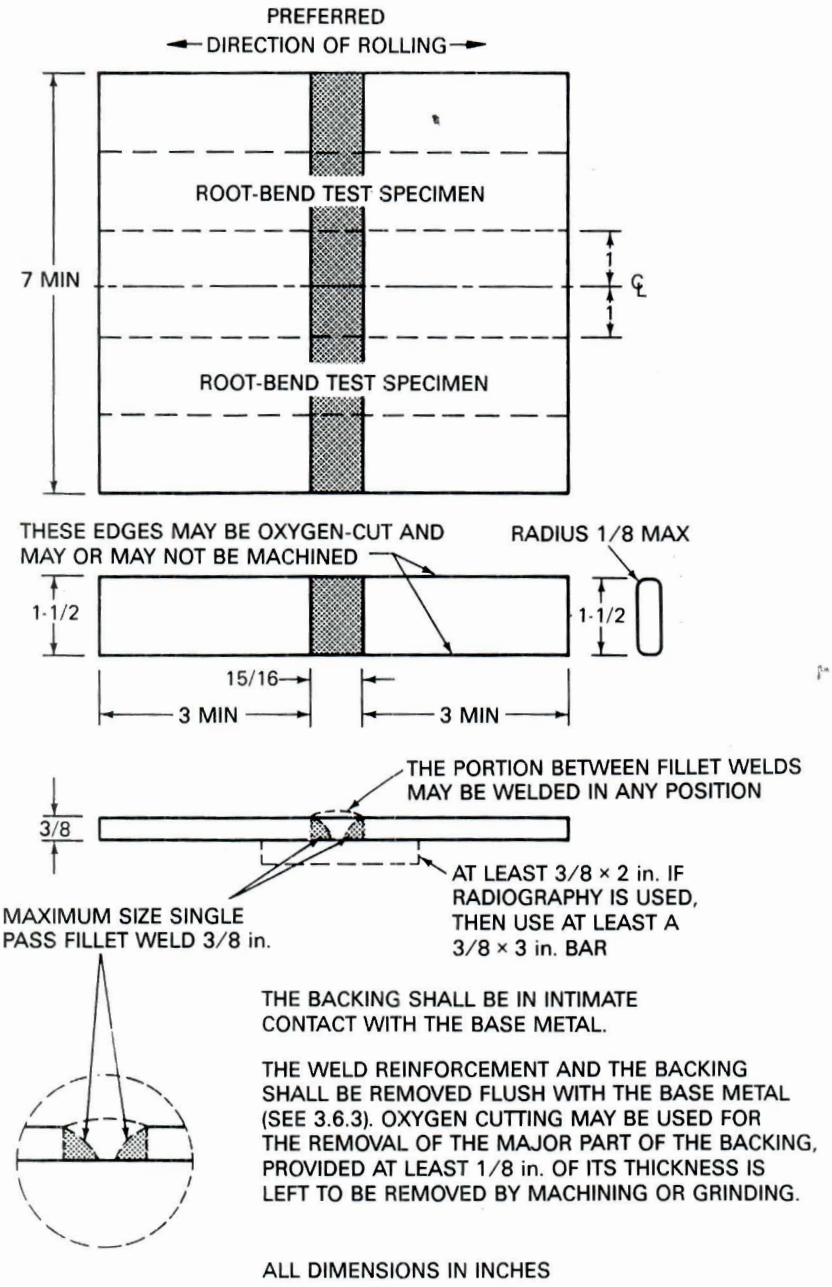
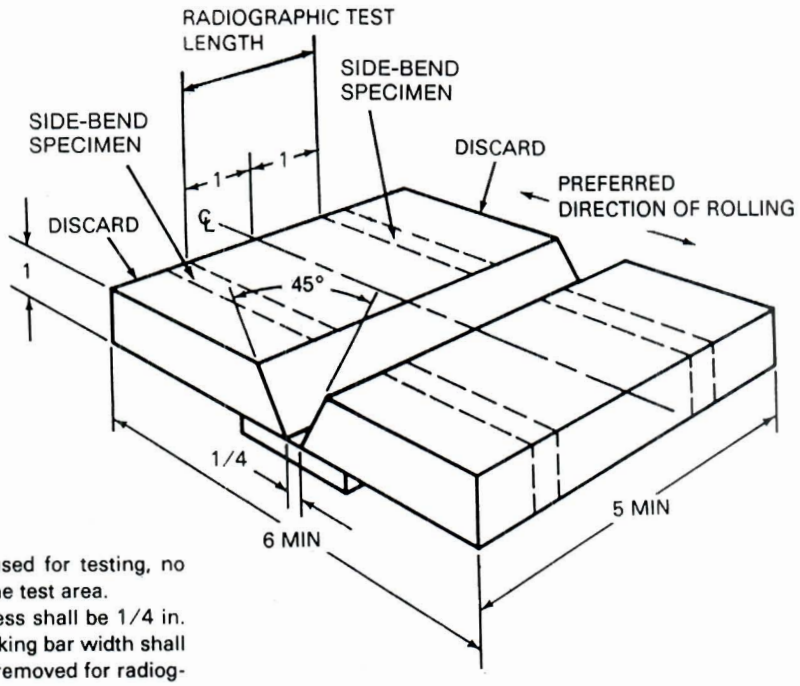


Figure 5.22 — Fillet Weld Root-Bend Test Plate — Welder Qualification — Option 2 (see 5.23.1.4)

Test 2



Notes:

1. When radiography is used for testing, no tack welds shall be in the test area.
2. The backing bar thickness shall be 1/4 in. min to 3/8 in. max; backing bar width shall be 3 in. min when not removed for radiography, otherwise 1 in. min.

Figure 5.17 — Test Plate for Unlimited Thickness — Welder Qualification (see 5.23.1.2)

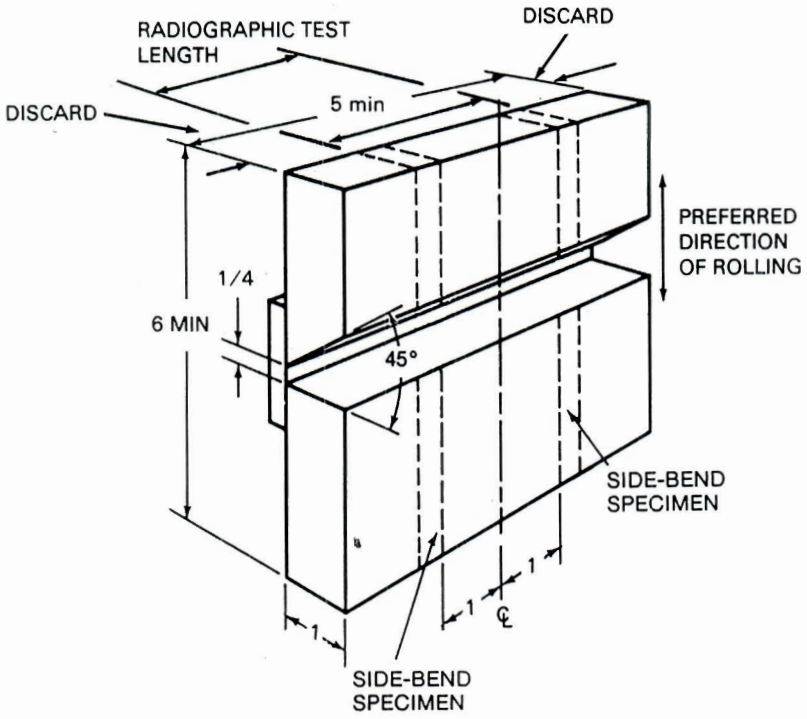
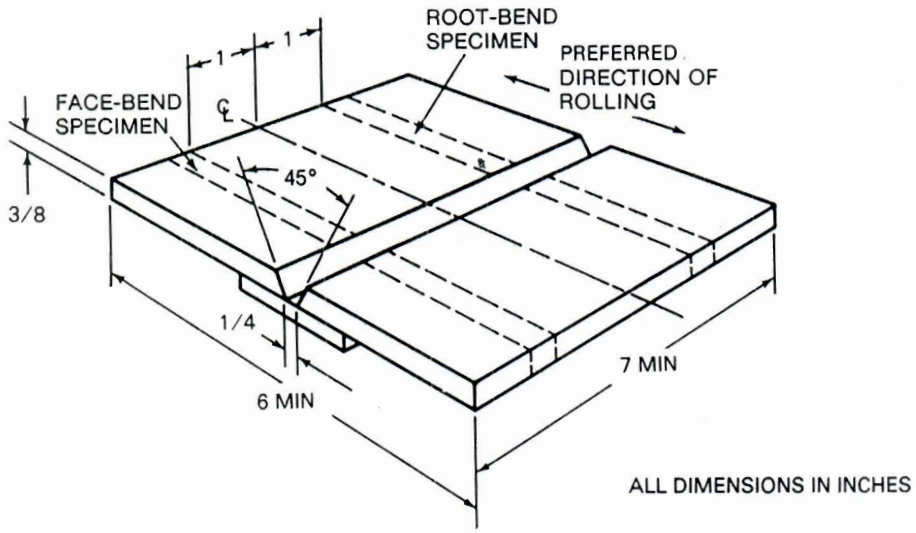
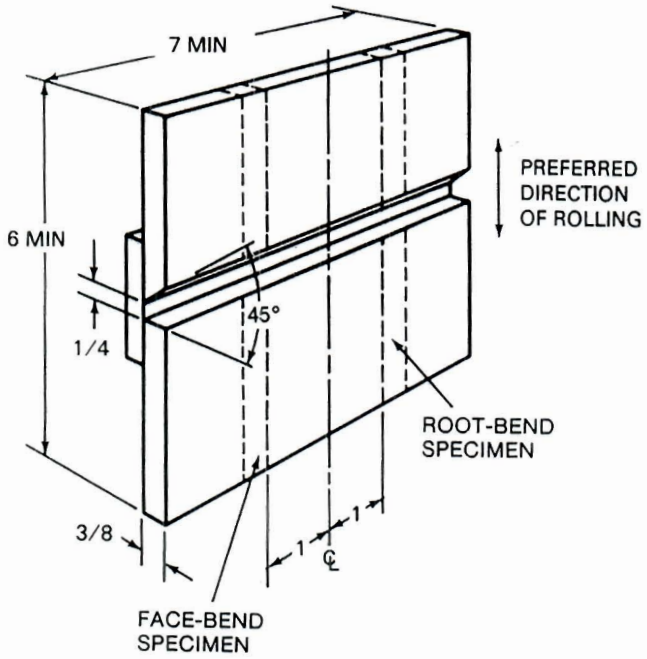


Figure 5.18 — Optional Test Plate for Unlimited Thickness — Horizontal Position — Welder Qualification (see 5.23.1.2)



Test 4

Figure 5.19 — Test Plate for Limited Thickness — All Positions — Welder Qualification (see 5.23.1.3)



Notes:

1. When radiography is used for testing, no tack welds shall be in test area. Weld backing shall not be removed.
2. Then backing bar thickness shall be between 1/4 in. min and 3/8 in. max; backing bar width shall be 3 in. max for radiography and 1 in. min for mechanical testing.

Figure 5.20 — Optional Test Plate for Limited Thickness — Horizontal Position — Welder Qualification (see 5.23.1.3)