Table 13
Procedure Qualification—Type and Position Limitations (see 9.10.5)

Qualification Test		Type of Weld and Position of Welding Qualified[1]			
		Plate[2]		Pipe[2]	
Weld Type	Plate or Pipe Positions[3]	Groove	Fillet	Groove	Fillet
Plate-groove	1G	F	F	F	F
	2G	H	F, H	F, H	F, H
	3G	V	V		
	4G	OH	OH		
Plate-fillet	1F		F		F
	2F		F, H		F, H
	3F		V		V
	4F		OH		OH
Pipe-groove	1G Rotated	F	F	F	F
	2G	F, H	F, H	F, H	F, H
	5G	F, V, OH	F, V, OH	F, V, OH	F, V, OH
	6G[4]	F, H, V, OH	F, H, V, OH	F, H, V, OH	F, H, V, OH

Notes:
(1) Positions of welding: F = flat, H = horizontal, V = vertical, OH = overhead.
(2) Qualifies for a welding axis with an essentially straight line and specifically includes plates, wrought shapes, fabricated sections, and rectangular fabricated sections and pipe or tubing over 24 in. [600 mm] minimum in diameter, except for complete joint penetration welds in tubular T-, Y-, and K-connections. This includes welding along a line parallel to the axis of round pipe.
(3) See Figures 11, 12, and 13.
(4) Qualifies for fillet and groove welds in all positions except for complete joint penetration groove welding of T-, Y-, and K-connections.

(4) Position 6G (pipe inclined, fixed)—The test pipe shall be inclined at 45° with the horizontal. The pipe is not rotated during welding. See Figure 12(D).

9.8.4 Fillet Weld Tests. When making tests to qualify welding procedures for fillet welds, test plates shall be welded in each of the positions to be qualified as follows:

(1) Position 1F (flat)—The test plates shall be so placed that each fillet weld is deposited with its axis and face approximately horizontal, and its throat approximately vertical. See Figure 13(A).

(2) Position 2F (horizontal)—The test plates shall be so placed that each fillet weld is deposited on the upper side of a horizontal surface and against a vertical surface. See Figure 13(B).

(3) Position 3F (vertical)—The test plates shall be placed in an approximately vertical plane, and each fillet weld deposited on vertical surfaces with the axis of the weld vertical. See Figure 13(C).

(4) Position 4F (overhead)—The test plates shall be so placed that each fillet weld is deposited on the underside of a horizontal surface and against a vertical surface.

Note: There are no provisions for separate tests to qualify welding procedures for pipe fillet welds. Pipe groove weld tests will qualify welding procedures for pipe fillet welds.

9.9 Joint Welding Procedure

9.9.1 The procedure for welding a joint shall comply in all respects with the welding procedure specification.

9.9.2 Cleaning during the welding of test weld shall be done in the welding position being qualified.

9.10 Test Specimens

9.10.1 Complete Joint Penetration Groove Welds

9.10.1.1 The type and number of test specimens that shall be tested to qualify a welding procedure are shown in Table 14, together with the range of thickness that is qualified for use in construction. The range is based on the thickness of the test plate, pipe, or tubing used in making the qualification test.

9.10.1.2 Test specimens to qualify groove welds in