

Structural Certification Procedure

To complete phase (3) of training at Fusion Welding Institute you will be required to pass a 2G, 3G and 4G plate test. The procedure below outlines the process and acceptance criteria for successful completion of this part of the program.

Materials:

- (Quantity: 2) 3/8" (.375) Test Plate carbon steel
- (Quantity: 1) Backing strip of carbon steel
- (Quantity: 2#) E7018 SMAW electrodes

Hold Points:

1.) Fit-up

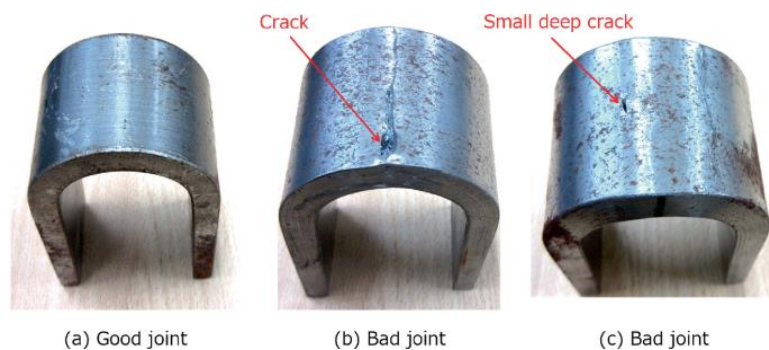
- 37.5 degree bevel on both test plates making up the weld joint.
- Plates and backing strip must be clean on all sides, minimum 1" back from the weld zone
- Root spacing shall be between 1/8" up to 1/4" maximum.
- Bevel edge should fit tight along the backing strip.

2.) Visual inspection

- Cap pass must consist of 2-4 stringers (no on pass caps)
- Cap must be consistent and uniform.
- Cap must not be underfilled
- Cap must not overfill (maximum reinforcement 1/8")
- No visual porosity
- No undercut exceeding 1/32"

3.) Bend test

- Instructor will lay out bend test specimens in accordance with ASME code. One root bend and one face bend specimen per position.
- Using a cut off blade or torch, carefully remove the bend specimens from the test plate.
- Using a grinder and a tiger paw (flap disk), clean the bend specimens on both sides, removing all reinforcement. Slightly round the corners to limit any sharp edges.
- Instructor will bend the test specimens in accordance with the ASME code.
- Any discontinuity (tear, rip, opening) exceeding 1/8" in the weld zone after the bend test will result in a failure. There is no limit on how many discontinuities you can have so long as no individual discontinuity exceeds 1/8".



You will need to pass this test in all (3)
positions.

Horizontal, Vertical & Over Head