COURSE COMPETENCIES

WLD 111 – Welding Process I 3-6 Credits

Upon successful completion of the following competencies, students may earn Programs of Study credits.

General
1. Perform safety inspection of equipment and accessories
2. Make minor repairs to equipment and accessories
3. Set up a shielded metal arc welding operation on plain carbon steel.

Part 1: Steps 4-12 SMAW Carbon Steel Flat Position 1F & 1G
1. Make stringer beads with E-6010 in the flat position
2. Make stringer beads with E-7018 in the flat position
3. Make pad of stringer beads with E-6010 flat position
4. Make pad of stringer beads with E-7018 flat position
5. Make single pass ¼” fillet weld passing visual inspection and fillet break test using E-6010 in the 1F position
6. Make single pass ¼” fillet weld passing visual inspection and fillet break test using E-7018 in the 1F position
7. Make multi pass ½” fillet weld passing visual inspection using E-6010 in the 1F position
8. Make multi pass ½” fillet weld passing visual inspection using E-7018 in the 1F position
9. Make 1G groove weld with backing using E-6010 & E-7018 passing visual inspection and guided bend test (Use 3/8” to 1” plate)

Part 2: Steps 13-21 SMAW Carbon Steel Horizontal Position 2F & 2G
1. Make stringer beads with E-6010 in the horizontal position
2. Make stringer beads with E-7018 in the horizontal position
3. Make pad of stringer beads with E-6010 horizontal position
4. Make pad of stringer beads with E-7018 horizontal position
5. Make single pass ¼” fillet weld passing visual inspection and fillet break test using E-6010 in the 2F position
6. Make single pass ¼” fillet weld passing visual inspection and fillet break test using E-7018 in the 2F position
7. Make multi pass ½” fillet weld passing visual inspection using E-6010 in the 2F position
8. Make multi pass ½” fillet weld passing visual inspection using E-7018 in the 2F position
9. Make 2G groove weld with backing using E-6010 & E-7018 passing visual inspection and guided bend test (Use 3/8” to 1” plate)

Part 3: Steps 22-30 SMAW Carbon Steel Vertical Position 3F & 3G
1. Make stringer beads with E-6010 in the vertical position
2. Make stringer beads with E-7018 in the vertical position
3. Make pad of stringer beads with E-6010 vertical position
4. Make pad of stringer beads with E-7018 vertical position
5. Make single pass ¼” fillet weld passing visual inspection and fillet break test using E-6010 in the 3F position
6. Make single pass ¼” fillet weld passing visual inspection and fillet break test using E-7018 in the 3F position
7. Make multi pass ½” fillet weld passing visual inspection using E-6010 in the 3F position
8. Make multi pass ½” fillet weld passing visual inspection using E-7018 in the 3F position
9. Make 3G groove weld with backing using E-6010 & E-7018 passing visual inspection and guided bend test (Use 3/8" to 1" plate)

**Part 4: Steps 22-30 SMAW Carbon Steel Overhead Position 4F & 4G**

1. Make stringer beads with E-6010 in the overhead position
2. Make stringer beads with E-7018 in the overhead position
3. Make pad of stringer beads with E-6010 overhead position
4. Make pad of stringer beads with E-7018 overhead position
5. Make single pass ¼" fillet weld passing visual inspection and fillet break test using E-6010 in the 4F position
6. Make single pass ¼" fillet weld passing visual inspection and fillet break test using E-7018 in the 4F position
7. Make multi pass ½" fillet weld passing visual inspection using E-6010 in the 4F position
8. Make multi pass ½" fillet weld passing visual inspection using E-7018 in the 4F position
9. Make 4G groove weld with backing using E-6010 & E-7018 passing visual inspection and guided bend test (Use 3/8" to 1" plate)

**These course competencies have been approved by:**

*Shawn McDaniels, BBCC Faculty*