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## SECTION HEADING

### WELD 1350: Pipe Welding Processes

#### Description

Pipe Welding Processes provides an introduction to pipe welding processes in accordance with the American Welding Society 1G & 2G standards. Students will learn basic pipe layout and preparation techniques including bevel, quarter mark, cut, fit, and weld basic pipe joints in various positions from hand drawn templates. Cutting techniques will concentrate on manual Oxy-Fuel cutting pipe joints for accurate fit-up. Each pipe joint will be welded and inspected to meet visual inspection criteria. Hands-on welding techniques for Pipe processes using Shielded Metal Arc Welding, Gas Metal Arc Welding and Gas Tungsten Arc Welding of carbon steel pipe in the 1G & 2G position.

#### Credits

4

#### Prerequisite

None

#### Corequisite

None

#### Topics to be Covered

1. The use and selection of personal protective equipment, eye and face protection, and clothing
2. Weld shop safety
3. Demonstrate open root pass and hot pass
4. Demonstrate fill and cover passes
5. Open root pipe 6010 and 7018 in Shielded Metal Arc Welding
6. Machine set-up and operation
7. Weld 1G & 2G Pipe to AWS Weld procedure specifications
8. Weld symbols for tubular and pipe welding
9. Pipe fitting, beveling, and grinding

#### Learning Outcomes

1. Recognize and demonstrate weld shop safety and the use of personal protective equipment.
2. Demonstrate safe and proper use of GMAW, SMAW, GTAW equipment and components.
3. Perform a groove weld in 1G & 2G positions.
4. Evaluate welds for compliance with American Welding Society standards and codes.
5. Hand cut pipe welding coupons.
6. Hand bevel pipe welding coupons.
7. Demonstrate the proper set up and use of oxy-fuel cutting and pipe beveling.
8. Identify and correctly prepare root nose for welding.
9. Tack weld and feather grind tack welds for welding pipe.
10. Weld 6010 1G & 2G open root and hot passes.
11. Weld 1G & 2G fill and cover passes.
12. Perform accurate measurement and marking for cutting and beveling.
13. Identify pipe welding symbols.

#### Credit Details

Lecture: 1

Lab: 3

OJT: 0

