

MFG 267 : OXYGEN-FUEL AND PLASMA CUTTING

Transcript title

Oxygen-Fuel and Plasma Cutting

Credits

3

Grade mode

Standard letter grades

Contact hours total

60

Other hours

60

Prerequisites

MFG 100.

Description

Covers gas torch, air carbon arc, and plasma gas cutting. Includes torch setup and maintenance, flame setting, diagnostics, track torch operations, circle cutting, and carbon arc scarfing practice.

Learning outcomes

1. Demonstrate safe practices in the welding lab using oxy-fuel processes.
2. Demonstrate appropriate set up, maintenance, and use of oxy-fuel joining and cutting operations.
3. Weld and braze common joint assemblies with oxy-fuel processes to American Welding Society D1.1 Structural Steel Welding Code.
4. Apply visual and destructive examination principles and practices in accordance with relevant industry standards.
5. Cut common shapes and materials using the oxy-fuel process.

Content outline

Gas Welding:

Description, equipment and safe operation of oxyacetylene welding

Flame Cutting Principles:

Description, equipment and safe operation of oxy-fuel cutting

Oxy-Acetylene Cutting

Mild Steel Plate

straight 90 degree lines

bevels

pattern

Bevel on pipe

Plasma Cutting

Mild Steel Plate

straight 90 degree lines

bevels

pattern

Oxy-Acetylene Welding

Flat outside Corner

Horizontal outside corner

Vertical outside corner

Overhead outside corner

Flat butt weld

Horizontal butt weld

Braze Weld

1F lap joint

2F lap joint

Carbon Air Arc Gouging

Required materials

This class requires the purchase of safety equipment, reference books, measurement equipment, and tools.

Grading methods

Assessment for this course may include, either online or in person, written assignments, homework, timed tests, take home tests, oral presentations, and demonstrations of manual skills acquisition as needed to confirm achievement of the course outcomes.