

# ATMW-1490: MILLWRIGHT PILE DRIVER WELD I

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## Cuyahoga Community College

**Viewing: ATMW-1490 : Millwright Pile Driver Weld I**

**Board of Trustees:**

2007-05-24

**Academic Term:**

Spring 2019

**Subject Code**

ATMW - Appld Ind Tech - Millwrighting

**Course Number:**

1490

**Title:**

Millwright Pile Driver Weld I

**Catalog Description:**

Study of basic concepts and implementation of shielded metal arc welding. Topics include theory of arc welding, operation of welding equipment, safety practices, electrode characteristics and selection, identification of weld joint types, and personal protective equipment (PPE).

**Credit Hour(s):**

2

**Lecture Hour(s):**

2

## Requisites

**Prerequisite and Corequisite**

Acceptance to any Applied Industrial Technology program, and ATCT-1301 Introduction to Carpentry or concurrent enrollment; or departmental approval.

## Outcomes

**Course Outcome(s):**

A. Create specified welds wearing correct PPEs while following OSHA safety procedures.

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**Methods of Evaluation:**

1. Quizzes
2. Exams
3. Classroom participation
4. Demonstration of assigned projects

**Course Content Outline:**

A. Concepts

1. Welding history
2. Welding techniques
3. Welding applications
4. Welding equipment
5. Cutting
6. Welding
7. Flat welds
8. Fillet welds

9.PASTA (position, amps, speed, technique, and arc length)

10.Flat 6010 weld

11.6010 rod

12.Flat 6013 fillet weld

13.6013 rod

14.Vertical 7018 fillet weld

15.7018 rod

16.Oxy-ace torch

17.Oxy-ace torch cutting

18.Oxy-ace tanks

19.OSHA safety procedures

20.Shielded metal arc welding

21.Weld polarity

22.Welding rod identification

23.Welding rod properties

24.Welding rod types

25.Welding rod uses

26.Electrodes

27.Electrode selection

28.Joint types

29.Joint type selection

30.PPEs

B.Skills

1.Safely making a flat 6010 weld using appropriate welding equipment

2.Safely making a flat 6013 fillet weld using appropriate welding equipment

3.Safely making a vertical 7018 fillet weld using appropriate welding equipment

4.Using proper cutting techniques while operating an oxy-ace torch

5.Identifying, explaining, and applying critical OSHA safety procedures for cutting and welding

6.Applying principles of shielded metal arc welding to various welding projects

7.Selecting the correct electrode for various welding projects

8.Selecting the correct joint type for various welding projects

9.Applying knowledge of the properties and uses of welding rods

10.Differentiating between types of welding rods

11.Applying knowledge of proper weld polarity

12.Identifying, explaining, and applying knowledge of PPEs

C.Issues

1.Safety

2.Proper use of PPEs

3.Professional demeanor to promote credibility of the trade

4.Communication skills to promote effective interpersonal skills

## Resources

Lincoln Electric Company. *Arc Welding Safety*. Cleveland: Lincoln Electric Company, 1947.

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Lincoln Electric Company. *Weld Directory*. Cleveland: Lincoln Electric Company, 1952.

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OSHA. *Cutting and Welding Standards*. Washington, D.C.: U.S. Dept. of Labor, 1990.

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OSHA. *Welding Health Hazards*. Washington, D.C.: U.S. Dept. of Labor, 1990.

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Key: 515