

# ATPD-2700: MILLWRIGHT-PILE DRIVER WELD IV

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## Cuyahoga Community College

**Viewing: ATPD-2700 : Millwright-Pile Driver Weld IV**

**Board of Trustees:**

2006-05-25

**Academic Term:**

Spring 2019

**Subject Code**

ATPD - Applied Ind Tech-Pile Driving

**Course Number:**

2700

**Title:**

Millwright-Pile Driver Weld IV

**Catalog Description:**

Reinforcement of necessary skills required for large multi-pass welds. Preparation for A.W.S. D1.5 vertical up unlimited thickness certification test. Includes in-depth review of blueprint reading for welders.

**Credit Hour(s):**

2

**Lecture Hour(s):**

2

## Requisites

**Prerequisite and Corequisite**

ATMW-2520 Millwright Pile Driver Weld III, and departmental approval: admission to Carpenter's Apprentice program.

## Outcomes

**Course Outcome(s):**

Recognize welding symbols while reading blueprints and make multi-pass welds and run root passes and stringer beads.

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**Methods of Evaluation:**

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

**Course Content Outline:**

1. Concepts
  - a. Characteristics of track burners including rigid and positive tracking of torch and ability to set constant non-variable travel speed.
  - b. Applications of track burners in the field.
  - c. Welding symbols.
  - d. Appropriate uses of low, medium, and high carbon steel.
  - e. Causes of weld crack formation.
2. Skills
  - a. Creating accurate, fluent welds in the field.
  - b. Operating a track burner including a single-head flame and multi-head burner.
  - c. Creating a multi-pass flat position weld using plates and considering size of object to be welded.

- d. Creating plasma arc cut and air carbon cut using flame cutting and cutting torch by determining pressure, piercing holes, and using safety precautions.
  - e. Identifying and using low, medium, and high-carbon steels.
  - f. Controlling heat by preheating, using process control, and applying postweld heat treatment.
  - g. Identifying the formation of weld cracks including crater cracks, root cracks, and porosity.
3. Issues
- a. Applications of track burners in the field such as permit predictability and accuracy as ability to use exclusively over handcutting.
  - b. Safety.

## Resources

Giachino, J.W. *Welding Skills Practice*. 5th ed. Homewood, IL: American Technical Publishers, Inc., 1985.

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Lincoln Electric Co. *The Procedure Handbook of Arc Welding*. Current ed. Cleveland, OH: Lincoln Electric Co., 1973.

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Lincoln Electric Co. *New Lessons in Arc Welding*. 3rd ed. Cleveland, OH: Lincoln Electric Co., 1981.

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Top of page

Key: 555