

ATPD-2380: ADVANCED PILE DRIVING ON WATER

Cuyahoga Community College

Viewing: ATPD-2380 : Advanced Pile Driving on Water

Board of Trustees:

2006-05-25

Academic Term:

Spring 2019

Subject Code

ATPD - Applied Ind Tech-Pile Driving

Course Number:

2380

Title:

Advanced Pile Driving on Water

Catalog Description:

In depth study of pile driving on water. Topics include sheet pile and caissons, auger cast pile, cofferdams, stone setting, and extraction.

Credit Hour(s):

2

Lecture Hour(s):

2

Requisites

Prerequisite and Corequisite

ATCT-1301 Introduction to Carpentry, and departmental approval: admission to Carpenter's Apprentice program.

Outcomes

Course Outcome(s):

Layout, rig-up, lace, stab, manipulate, extract, open-up, crowd, pull, fresh head, manipulate, cut, shake out, arrange, and stagger sheet pile while using proper tools, rigging techniques, avoiding embedment, and properly rigging up sheets and positioning dunnage.

Course Outcome(s):

Identify cofferdam configurations and describe components, then erect members of template and brace cofferdam during excavation of driven sheets.

Methods of Evaluation:

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

Course Content Outline:

1. Concepts
 - a. Tools used in cofferdam templates including safety glasses, hard hat, leather palmed gloves, and work boots.
 - b. Equipment used in cofferdam templates including steel cofferdam and installation template.
2. Skills
 - a. Designing cofferdam templates using specific components such as pin pile, waler lookouts, upper and lower walers.
 - b. Designing templates with waler dimension by determining template and following waler rules and factors of waler lengths.

- c. Handling sheet pile with tools such as rigging belt, 22 oz. hammer, wrench, side cutter piles, equipment bags, hard hat, leather palm gloves, coveralls.
- d. Handling sheet pile equipment including steel bars, rig and rigging, chain saw and accessories.
- e. Handling sheet pile materials including sheet piling and dunnage.
- f. Following proper procedures for rig set up, arranging sheets, handling sheets, positioning sheets, dunnage, and cribbing.
- g. Preparing sheet pile by fresh heading sheet pile, sniping sheet pile, cutting picking holes, rigging sheet pile, and taglines.
- h. Constructing pile by finding starting point, prepping sheet pile, rigging up with sheet shackles, picking up, positioning, stabilizing, and aligning.
- i. Extracting pile by positioning crane, rigging up, pulling pile, burning hole, placing dunnage, and completing.

Resources

United Brotherhood of Carpenters. *Pile Driving*. First ed. Washington: United Brotherhood of Carpenters, 2001.

APE. *American Piledriving Equipment*. First. Kent, WA: APE, 1998.

Associated Pile and Fitting Corp. *Design Installation of Driven Pile Foundation*. First ed. Clifton, NJ: Associated Pile and Fitting Corp., 2004.

Northern California Pile Drivers JATC. *Pile Driving Land and Water Advanced*. First ed. Northern CA: Northern California Pile Drivers JATC, 1991.

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