ATPD-2220: FALSE WORK AND HEAVY TIMBER

Cuyahoga Community College

Viewing: ATPD-2220 : False Work and Heavy Timber

Board of Trustees:
2006-05-25

Academic Term:
Spring 2019

Subject Code
ATPD - Applied Ind Tech-Pile Driving

Course Number:
2220

Title:
False Work and Heavy Timber

Catalog Description:
Efficient uses, advantages, disadvantages, and special considerations related to shoring methods. Examples of types of shoring equipment shown. Matching most efficient shoring system to application is also included.

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):
Determine correct falsework type, assemble configurations, and stage, erect, and safely release falsework.

Methods of Evaluation:

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

Course Content Outline:

1. Concepts
   a. Appropriate uses/functions of various shoring types including steel-frame, heavy duty frame, shoring towers, and the accessories involved with each.
   b. Components involved in falsework including towers, screw-leg extensions, extra-long screw legs, and extension devices.
   c. Designs of falsework.
   d. Heavy timber framed falsework and bents.
   e. Definitions and designs for timber trestle bridges.
   f. Theory of modern falsework construction.
   g. Safety considerations for releasing falsework.
2. Skills
   a. Calculating self-weight of shoring, frame layouts, frame height stackup, mud sills, shoring bases, and erection tolerances.
   b. Creating falsework drawings using timber notes and horizontal shore notes.

c. Creating foundation ramps for one-basement structure and two-basement excavations.
d. Creating runways and platforms.
e. Erecting shore towers using design check, site preparation, systems and components, layout and placements, equipment handling, placement, grading, set stringers, joist, plywood deck, final grade, stripping soffit, screw jack adjustments, frame end cross braces, adapter pins, and hardware.
f. Erecting three-frame towers, double frame towers, frames on slopes, high-rise towers, and unbalanced loading tower.
g. Calculating frame fill for outboard towers and intermediate towers.

3. Issues
   a. Differing responsibilities within design and creation of timber trestle bridges.
   b. Fabrication procedures for heavy pipe shoring.
   c. Safety.

Resources

Wilson, Dave. *Erection Information for Shore X Towers.* First ed. Lauderhill, FL: Construction Enterprises Inc., 2005.

American Concrete Institute. *Lessons from Failures of Concrete Structures.* First ed. Hills, MI: American Concrete Institute, 2005.

Grundy, P. Kabaila, A. *Construction Loads on Slabs with Shored Formwork in Multistory Buildings.* ACI Dec 1963. Hills, MI: ACI Journal, December 1963 P. 1729-1738, 1963.

Ratay, R. *Handbook of Temporary Structures in Construction.* First ed. Columbus, OH: McGraw Hill, 1984.

Federal OSHA Regulations 29 CFR. *Federal OSHA Regulations 29 CFR 701 Subquart Q.* part 1926. Washington: Federal OSHA Regulations 29 CFR, 2005.

State of California Dept. of Transportation. *Falsework Manual.* {ts '1988-01-01 00:00:00'}.

PDXA, CEA, CECE Contractors. *Miscellaneous Falsework Drawings.* {ts '2004-12-01 00:00:00'}.

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