

CHAPTER OVERVIEW

15: Excavations

[15.1: Introduction to Excavations](#)

[15.2: Protective Systems](#)

[15.3: Soil Classification](#)

[15.A: Review Questions](#)

“Safety isn’t expensive, it’s priceless.” – Author Unknown

Overview

Most construction starts with ground preparation and grading. Excavations are man made depressions and removal of soil and considered a part of ground preparation. A special type of excavation, the trench, a deep and narrow excavation is often needed for placement of underground utilities, electrical cables and pipe for water mains and gas lines. The removal of large amounts of soil that leaves a trench vulnerable to cave in is what makes them extremely hazardous. A cubic meter of soil can weigh as much as a small vehicle and without proper trench protection will crush, suffocate and trap a worker if the sides of trench walls fail. This chapter will discuss the importance of various protective systems needed to keep workers safe when performing excavation work and especially while working in trenches.

Chapter Objective:

1. Determine how to Identify Soil Types.
2. Identify the Hazards Associated with Excavations & Trenching.
3. Understand the Responsibilities of the Competent Person.
4. Select the Proper Method of Protection for Workers in Excavations.
5. Properly Prepare for Excavation Work.

Learning Outcome:

1. List the five most critical excavations hazards.
2. Apply the hierarchy of controls to Subpart P.

Standards: 1926 Subpart P-Excavations

Key Terms:

Cohesive, fissure, shoring, surface encumbrance, unconfined compressive strength

Mini-Lecture: Excavations

Topic Required Time: 1 hrs; Independent Study and reflection 3/4 hour.

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