

Trenching and Excavation

Trenches and excavations can pose a serious health hazard for workers. These hazards can include engulfment, entrapment, flooding, hazardous atmospheres and cave-in. Knowing the hazards for working in or around a trench/excavation is imperative to worker safety.

Some key factors regarding trenching and excavations:

- A competent person must be on-site to test and approve the stability of the trench/excavation. This should be done every day after lunch breaks, if weather conditions change or if other conditions change that warrant reinspection.
- Five (5) feet is the minimum depth of a trench for which you need to provide some type of protection from cave-in/collapse/engulfment:
 - Trench boxes/shoring systems
 - Sloping
 - Shoring
- Four (4) feet is the minimum depth of a trench for which you need to provide some form of access and egress.
- Soil tests must be performed to determine the type of soil class and protective measures needed:
 - Penetrometer
 - Thumb test
 - Elasticity test
 - Shear vane
- All spoil piles and equipment must be two (2) feet from the edge of the trench or excavation.
- Access/egress must be placed within 25 feet in either direction.
- When heavy equipment is operating near the trench or excavation, a warning system must be used to notify operators about the trench or excavation edge (such measures include hand or mechanical warnings, barricades, and stop logs).
- A trench/excavation can also be considered a confined space, so atmospheric monitoring may need to be conducted (especially if the trench/excavation is near a roadway or moving equipment).
- Employees must be safeguarded from water accumulation, and control devices must be in place if water is present.
- Employees must be protected from collapse of adjacent structures, and control devices must be in place if trench or excavation is near a building or retaining wall (such measures include shoring, bracing and underpinning).