



# Weekly Safety Meeting

Your Safety Is Our Business®

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## Safety in Trenching

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Two workers are killed every month in trench collapses. The employer must provide a workplace free of recognized hazards that may cause serious injury or death.

An excavation is any man-made cut, cavity, trench, or depression in an earth surface formed by earth removal.

A trench (Trench excavation) is a narrow excavation (in relation to its length) made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench (measured at the bottom) is not greater than 15 feet.

### Dangers of Trenching and Excavation:

Cave-ins pose the greatest risk and are much more likely than other excavation-related accidents to result in worker fatalities. Other potential hazards include falls, falling loads, hazardous atmospheres, and incidents involving mobile equipment. One cubic yard of soil can weigh as much as a car. An unprotected trench is an early grave. Do not enter an unprotected trench. To avoid these hazards, a workplace must "maintain" order throughout a workday. Although this effort requires a great deal of management and planning, the benefits are many.

### Trench Safety Measures

Trenches 5 feet deep or greater require a protective system unless the excavation is made entirely in stable rock. If the trench is less than 5 feet deep, a competent person may determine that a protective system is not required. Trenches 20 feet deep or greater require that the protective system be designed by a registered professional engineer or be based on tabulated data prepared and/or approved by a registered professional engineer.

### Competent Person:

OSHA standards require that employers inspect trenches daily and as conditions change. The inspection should be done by a competent person, before worker entry, in order to ensure elimination of excavation hazards. A competent person is an individual who is capable of identifying existing and predictable hazards or working conditions that are hazardous, unsanitary, or dangerous to workers, soil types and protective systems required, and who is authorized to take prompt corrective measures to eliminate these hazards and conditions.

### Access and Egress:

OSHA standards require safe access and egress to all excavations, including ladders, steps, ramps, or other safe means of exit for employees working in trench excavations 4 feet or deeper. These devices must be located within 25 feet of all workers.



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## General Trenching and Excavation Rules:

- Keep heavy equipment away from trench edges.
- Identify other sources that might affect trench stability.
- Keep excavated soil (spoils) and other materials at least 2 feet (0.6 meters) from trench edges.
- Know where underground utilities are located before digging.
- Test for atmospheric hazards such as low oxygen, hazardous fumes, and toxic gases when > 4 feet deep.
- Inspect trenches at the start of each shift.
- Inspect trenches following a rainstorm or other water intrusion.
- Do not work under suspended or raised loads and materials.
- Inspect trenches after any occurrence that could have changed conditions in the trench.
- Ensure that personnel wear high visibility or other suitable clothing when exposed to vehicular traffic.

## Protective Systems:

There are different types of protective systems.

**Benching** - means a method of protecting workers from cave-ins by excavating the sides of an excavation to form one or a series of horizontal levels or steps, usually with vertical or near vertical surfaces between levels.

**Benching cannot be done in Type C soil.**

**Sloping** - involves cutting back the trench wall at an angle inclined away from the excavation.

**Shoring** - requires installing aluminum hydraulic or other types of supports to prevent soil movement and cave-ins.

**Shielding** - protects workers by using trench boxes or other types of supports to prevent soil cave-ins. Designing a protective system can be complex because you must consider many factors: soil classification, depth of cut, water content of soil, changes caused by weather or climate, surcharge loads (e.g., spoil, other materials to be used in the trench) and other operations in the vicinity.

Remember you are the one going into the hole, so check the methods being used to protect the excavation. Prior to climbing down the ladder, check the spoil pile location and equipment that is near the excavation. Do you feel comfortable with the excavation, its protection, and the nearby surroundings?

**Entering an unprotected excavation or trench could be the last thing you ever do!!**

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## Safety Meeting Sign-In Sheet

<i>Supervisor:</i>	<i>Subject:</i>
<i>Location:</i>	<i>Date:</i>
<i>Conducted By:</i>	<i>Trainer Signature:</i>

Name (print clearly)	Signature	Comments / Safety Concerns / Training Requests

