



# 5-minute safety talk

## Trenching Hazards

Trenches are inherently hazardous environments. Cave-ins are a major concern and the hazard most likely to result in worker fatalities. Additional hazards such as a lack of (or failure to inspect) a protective system, unsafe placement of excavated material, inhalation of toxic materials and improper means of access/egress can also lead to injury and illness.

You and your co-workers must fully understand the job-related hazards before performing trenching and other excavation activities.

### What do you need to know about trenching hazards?

#### Protective Systems

A protective system, as defined by the Occupational Safety & Health Administration (OSHA), is *"a method of protecting employees from cave-ins, from material that could fall or roll from an excavation face or into an excavation, or from the collapse of adjacent structures."*

Protective systems include support systems such as trench shields, trench boxes, sloping and benching systems, and other systems that offer the protection that is needed.

A protective system should be used in a trench 4 feet or greater (and in some instances less than 4 feet deep). A competent person should evaluate the soil conditions to determine the appropriate protective system for the job. The underground utilities should be located prior to digging. If water accumulation is a problem, surface water should be controlled or diverted, and water intrusion countered by the use of pumping systems.

Trenches and other excavations should be inspected by a competent person each day before construction begins, as needed throughout the shift, and following any hazardous events (such as a rainstorm, vibrations, etc.).

#### Hazardous Atmospheres

A trench is a restricted space. As such, hazards such as oxygen deficiency and the presence of explosive gases, hydrogen sulfide and carbon monoxide should be considered and evaluated. During the daily trench inspection, a competent person should test the atmosphere for the presence of any of these hazards. The area should be properly ventilated and you and your co-workers should be trained in the use of personal protective and emergency response equipment.

#### Excavated Material

Excavated material becomes hazardous if placed too close to the trench—your spoil pile and equipment must be at least 2 feet or more from the edge. If a two foot buffer is not possible, the excavated material may need to be taken to another location.

#### Access/Exit

A safe means of entering and exiting the trench—stairways, ladders, ramps, etc.—must be available in areas that are 4 feet deep or more, and positioned within 25 lateral feet of you and other workers.

**Remember, before entering and working in a trench, you and your co-workers must make sure that:**

- A protective system is in place, with all equipment in good working order. Do not enter a trench that has not been protected.
- The trench and protective system have been inspected and approved by a competent person (including the testing of the atmosphere).
- Excavated material and equipment is placed at least 2 feet from the edge of the trench.
- A ladder, stairway or ramp is provided no more than 25 lateral feet from your working position.

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