



Watch Your Step around Trenches

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Association Coordinator

Excavation and trenching are among the most hazardous construction operations.

Cave-ins pose the greatest risk, but other hazards include falls and falling loads or equipment. Soil composition, gravity and the law of physics combine in a manner that will ensure that all trenches eventually will collapse.

If there are people in the trench when this happens, they could be killed or severely injured.

Here are some general trenching and excavation rules from OSHA's revised standards Subpart P, Excavations, of [29 CFR 1926.650](#), [29 CFR 1926.651](#), and [29 CFR 1926.652](#):

- Keep heavy equipment away from trench edges
- Keep surcharge loads at least 2 feet (0.6 meters) from trench edges
- Know where underground utilities are located
- Test for low oxygen, hazardous fumes and toxic gases
- Inspect trenches at the start of each shift
- Inspect trenches following a rainstorm
- Do not work under raised loads

In addition to these points, trench safety depends on appropriate building techniques and continuous monitoring of soil conditions.

Trench safety lies in the careful preparation of the worksite and testing the soil. Any trench that is five feet deep or deeper requires a protective system, unless the excavation is made entirely in stable rock. Trenches deeper than 20 feet deep require a protective system designed or based on data prepared by a professional engineer.

OSHA approves of two protective systems. They are shoring and sloping. Shoring is the process of installing wood or metal panels against the soil walls inside the trench and securing them in place with bars and vises. Proper shoring prevents soil from falling into the trench.

Shoring should always be installed from the top down and removed from the bottom up.

A sloped trench is wider at the top than at the bottom. The shape is like an inverted triangle. This method is used to reduce the risk of a trench cave-in by removing excess material from its mouth. The angle of slope depends on the soil conditions.

Workers can educate themselves about trench safety and request an assessment if work conditions appear to be unsafe. To maintain safety while working in and around a trench, follow OSHA guidelines, monitor the soil conditions and use appropriate shoring or sloping methods.

If you would like more information on workplace safety please contact your SCF Association Coordinator.

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