OSHA Training Toolbox Talk: When Protection Against Cave-ins Is Required in Excavations

[Reference 1926 Subpart P]

Here's something for you to think about; just one cubic foot of undisturbed soil weighs at least 100 pounds, or even more if the soil has a high moisture content (*refer trainees to the handout accompanying this toolbox talk for an illustration*). That means that just one cubic yard of soil, which contains 27 cubic feet of material, weighs well over 2,700 pounds. That's as much as a small car weighs!

Now imagine you are working inside of a trench when some soil breaks loose from one of the sides and strikes you . . . or traps you up against the other side . . . or buries you up to your chest . . . or covers you up completely. As you can imagine, the ramifications could be disastrous. Often times the person trapped in the caved in soil suffocates, very slowly, because the weight of the soil prevents them from expanding their diaphragm and taking a breath. But other non-fatal injuries could also occur when someone gets trapped in a cave-in, such as broken bones, ruptured internal organs, and muscle damage due to blood flow being restricted by the pressure being exerted by the weight of the soil.

So hopefully the thought of being seriously injured, or even dying, in a cave-in will motivate us all to be mindful of when we are required to have some form of protection from cave-ins when we enter excavations. Can anyone tell me when a protective system is required when you enter an excavation?

Federal OSHA, as well as most State OSHA programs, requires us to utilize some form of approved protective system any time we enter any excavation that is five foot or deeper. It's really that simple, if the excavation is five or more feet deep, then we must utilize a protective system . . . no ifs, ands, or buts about it! (*This is a good time for you to discuss if your state rules, company rules, or work site rules require a protective system at a shallower depth*). And in some cases, the soil may be so unstable that the Competent Person might even have us utilize a protective system even if the excavation is less than five foot deep. But once again I will emphasize, under no circumstances are you, me, or anyone else ever allowed to enter into any excavation that is five feet or deeper unless there is some form of approved protective system in place.

Be aware that it's NOT your job to figure out what kind of protective system to use, or if it is properly built or installed; that job belongs to the Competent Person. But usually it will take one of the following forms:

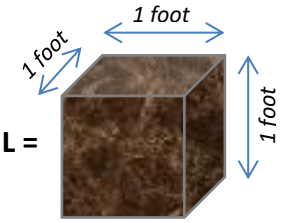
- Sloped sides
- Benched, or stair-stepped, sides
- Timber shoring
- Aluminum shoring
- A trench box, shield, or other manufactured protective system

In addition to these methods of protection against cave-ins, there are others allowed, as long as they are designed or approved by a registered engineer and installed per their directions. We will discuss some attributes of all of these types of protective systems in future toolbox talks so you can better recognize them. But the take-home message of today's toolbox talk is simple; DO NOT for any reason enter any excavation that is five foot or deeper unless there is an appropriate protective system in place. And if there is any doubt, ask your Competent Person.

Does anyone have a question or comment pertaining to when a protective system is required to be in place? Please take a moment and your print your name and provide your signature on our OSHA Safety Training Certification form so you will get credit for attending this toolbox talk.

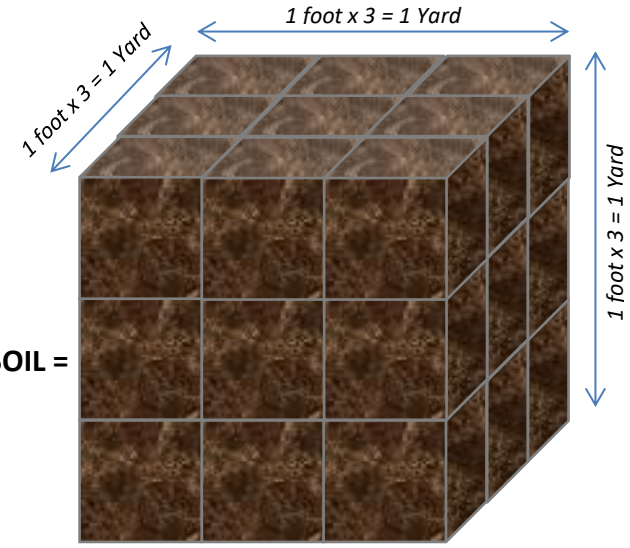
Why Falling Soil Is So Dangerous

ONE CUBIC FOOT OF SOIL =



= 100 Pounds+

ONE CUBIC YARD OF SOIL =



= 2,700 Pounds+

Being struck, trapped, or covered by falling soil while working inside of an excavation can result in severe injuries, or even death. Results could include:

- Torn Ligaments
- Broken Bones
- Ruptured Organs
- Severe Bleeding
- Lack of Blood-flow to Muscles
- Inability to Breath

OSHA SAFETY TRAINING CERTIFICATION FORM

Toolbox Topic Covered: When Protection Against Cave-ins Is Required in Excavations

Company Name: _____ Date: _____

Training led by: _____

PRINT NAME	SIGNATURE
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____