

Loss Control Bulletin

CAL-OSHA Safety Orders Sections 1539 through 1543, Excavations, Trenches and Earthwork, define the responsibilities of a “**Competent Person**”. *The OSHA standard for excavations, including trenches, is 29 CFR* 1926 Subpart P.*

A Competent Person is one who is capable of identifying existing and predictable hazards in the working conditions and the surrounding area that are unsanitary, hazardous or dangerous to employees, and one who has the authorization to take prompt corrective measures to eliminate them. The “Competent Person” must have training and be knowledgeable in the following areas:

- Soil Analysis
- Use of Protective Systems
- Requirements of the CAL-OSHA Safety Orders
- Identification and Hazard Controls

The “Competent Person” is required to remain present at the site at all times during the excavation activities and will be responsible for the following:

- Must be capable of identifying soil classifications based on the result of at least one visual and one manual test.
- Must inspect excavations, adjacent areas and protective systems:
 - Daily, prior to work starting and during the shift as needed
 - After every rainstorm or other hazard-increasing occurrence
- If the Competent Person identifies a potential for a cave-in, protective system failure or other hazardous condition, employees must be removed from the hazardous area.

Section 1541 of the CAL-OSHA Safety Orders contains the general requirements that apply to all excavations. Many of the requirements from the previous standards have been revised or expanded and are included in the new standards. These consist of the following:

- Protecting from **Surface Encumbrances** that may create a hazard to the employees.
- Locating **Underground Installations** prior to opening an excavation.
- Providing adequate means of **Access** and **Egress** for excavations four feet or more in depth.
- Eliminating employees’ **Exposure to Falling Loads**.
- Protecting employees from hazards associated with **Water Accumulation**.
- Reducing employees’ **Exposure to Vehicular Traffic** by the use of highly visible wearing apparel.
- Atmospheric testing in excavations greater than four feet in depth due to the possibility of existing **Hazardous Atmospheric Conditions**.

- Where hazardous atmospheric conditions exist, **Emergency Rescue Equipment** shall be made readily available.
- Providing support systems when the **Stability of Adjacent Structures** is endangered by excavation operations.
- Protecting employees from **Loose Rock and Soil** that may fall or roll into an excavation.
- **Daily Inspections** of excavations by a “Competent Person”.
- Providing appropriate **Fall Protection** for employees crossing over or working near excavations.

There are four soil classifications:

1. **Stable Rock** – Natural solid mineral matter that can be excavated with vertical sides and remain intact while exposed.
2. **Type A**—Cohesive soils with an unconfined, compressive strength of 1.5 ton per square foot (tsf) or greater. Examples: Clay, silty clay, sandy clay, clay loam and, in some cases, silty clay loam and sandy clay loam. Cemented soils such as caliche and hardpan are also considered Type A.

However, soil is not Type A if any of the following conditions exist:

- The soil is fissured; or
 - The soil is subject to vibration from heavy traffic, pile driving, or similar effects; or
 - The soil has been previously disturbed; or
 - The soil is part of a sloped, layered system where the layers dip into the excavation on a slope of four horizontal to one vertical (4H:1V) or greater; or
 - The material is subjected to other factors that would require it to be classified as a less stable material.
3. **Type B**—A cohesive soil with an unconfined compressive strength greater than .5 tsf but less than 1.5 tsf; or
 - Granular cohesion-less soils including: angular gravel (similar to crushed rock), silt, silt loam, sandy loam, and, in some cases, silty clay loam and sandy clay loam.
 - Previously disturbed soils except those which would otherwise be classified as Type C soil; or
 - Soil that meets the unconfined compressive strength or cementation requirements for Type A, but is fissured or subjected to vibration; or
 - Dry rock that is not stable; or
 - Material that is part of a sloped layered system where the layers dip into the excavation on a slope less steep than four horizontal to one vertical (4H:1V), but only if the material would otherwise be classified as Type B.

4. **Type C**—A cohesive soil with an unconfined compressive strength of .5 tsf or less; or
- Granular soils to include gravel, sand and loamy sand; or
 - Submerged soil or soil from which water is freely seeping; or
 - Submerged rock that is not stable; or
 - Material in a sloped, layered system where the layers dip into the excavation on a slope of four horizontal to one vertical (4H:1V) or steeper.

The following are acceptable methods for protection of employees in and around excavations. The soil classification will determine which method to utilize.

- Sloping and Benching Systems
- Support Systems, Shield Systems and other protective systems that have been approved by a registered professional engineer.

The following is a list of the most cited CAL-OSHA violations for excavation operations:

- Lack of proper permits
- Failure to identify a “Competent Person”
- No soil/site analysis
- Lack of and/or improper design of sloping/shoring systems

For more information about trenching and sloping, please visit the following websites:

<https://www.osha.gov/Publications/osha2226.pdf>

<https://www.dir.ca.gov/title8/sb4a6.html>

The guidelines provided in this bulletin are only intended to provide an overview of some of the more important steps that can be taken by management to establish a safe workplace. The guidelines are not considered exhaustive of all measures and controls that can be implemented by management to address all potential loss or injury producing causes. Ultimately it is the responsibility of management to take the necessary steps to provide for employee and customer safety. It is not intended as an offer to write insurance for such conditions or exposures. The liability of Republic Indemnity Company of America and its affiliated insurers is limited to the terms, limits and conditions of the insurance policies underwritten by any of them. © 2022 Republic Indemnity of America, 4500 Park Granada, Suite 300, Calabasas, CA 91302.