



WALLS, CEILINGS, AND FLOORING TRADES

CONCRETE SUBSTRATE PREPARATION

PROJECT OVERVIEW

While renovating a multi-family apartment building, it was discovered that the exterior concrete decks were poured in varying weather conditions during the original construction.

- The renovation General Contractor (GC) observed the concrete condition.
- This task fell to the wayside as other pressing items took their attention. As the schedule was winding down, the concrete decks were called into question.

CONCRETE SUBSTRATE PREPARATION ISSUES

The original building contractor chose to pour the concrete on a rainy day, and it rained later in the day.

- The rain left the concrete in an unfavorable condition for the new concrete finish.

The renovation GC contacted the flooring contractor to request an inspection of the concrete to ensure the substrate met installation requirements.

- The GC was under schedule constraints and wanted the deck process to start ASAP.
- The flooring contractor felt there was an excessive risk by not taking some corrective action to get the concrete within acceptable standards. There were warranty concerns for the final product.

The GC hired a floor grinding contractor to correct the areas in question, and soon, the areas were ready for inspection.

- The flooring contractor was contacted to re-inspect.
- In their opinion, the concrete was now an acceptable substrate for proper application.

Floor grinding contractor to correct the areas in question.



HOW TO DEAL WITH THESE ISSUES

1. Do the following if you are forced to perform work outside of specified conditions based on product specifications.
 - Know the risk you are taking for warranty protection.
 - Know what corrective measures might be needed to apply the full warranty.
2. Take responsibility for the substrate and remember the following:
 - Perform a self-inspection and have a warranty consultant inspect.
 - If corrective measures are required, it would be much better to complete these items early before concrete finishing and other work is in progress.
3. When in doubt, get clarification by applying the following:
 - Use the Request for Information process.
 - Arrange a manufacturer's representative inspection for warranty purposes.

DISCUSSION QUESTIONS

1. If we were to pour concrete on a rainy day, how would you prevent poor conditions?
2. What other options are available to the contractor instead of grinding?
 - Could they change the topping product?
 - What else can be done?
3. What could be the consequences if the company did the work without following the manufacturer's guidelines?

Quality Safety Times wants to present your industry professional, real-life work stories and scenarios. Your stories are learning tools to improve the industry to help reduce rework and improper installation. Consider sharing your stories via our website, www.qualitysafetytimes.com, at *Tell Your Story*

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WALLS, CEILINGS AND FLOORING TRADES
EXCAVATION CAVE-IN
SAFETY TOOLBOX TALK

OVERVIEW

One of the most dangerous construction jobs is working in or near trenching, which kills 40 workers a year on average.

- All construction trades can be exposed to a trenching cave-in even if you do not install products in the ground. Accessing a building site can expose anyone to many excavation sites.
- Excavation cave-in occurs when the trench walls are unstable and collapse, leaving the workers inside the trench trapped and unable to react.
It does not take a very deep trench for the weight of the soil to crush someone and cause a fatality in just a matter of minutes.
Therefore, it is crucial to understand the risks of working in or near an excavation zone and how to prevent a cave-in.
- **Protect yourself and your Finishes–Walls Ceiling Flooring Trade coworkers!**

LEARN AND APPLY THE FOLLOWING

The Hazards of a Cave-In

When working in or near excavation zones, always be aware of trench hazards such as atmospheric conditions, utility lines, trips, and falls, and be aware and take precautions against the most dangerous trench hazard, a cave-in.

- The results of workers being caught in trenches during a cave-in are shocking. Cave-ins can cause broken and crushed limbs, entrapment, suffocation, head injury, internal damage, and death in just a few minutes.

Before and during work, every excavation worker should do the following:

- Look for and know the Rock & Soil Type Stability A, B, and Cs shown below.
- Know the depth of the excavation, always observe weather conditions (frost, rain), and look for standing water inside the trench.
- Look for heavy equipment operating near excavations, barricades, and fallen or falling material and loads.

Preventing a Cave-In

There must be a competent person on site who will inspect Excavation Zones daily.

- Excavation Zones should be re-inspected after rain and other severe weather conditions.
- Shoring equipment, such as hydraulic, vertical, or horizontal rails and trench boxes, should be used for trenches deeper than 5 feet or less than 5 feet when necessary.
- Ensure you have the correct shoring system by checking the "Tabulated Data" provided with each type of shoring.

When in doubt, contact your supervisor or a Trench Shoring provider company.

Workers Should Understand the Rock & Soil Type Stability A, B, Cs

- Soil A: Most Stable–clay, hardpan, solid rock
- Soil B: Second Most Stable–silt, loam, unstable dry rock
- Soil C: Least Stable–gravel, sand, previously dug soils

According to OSHA, there were 157 cave-in fatalities in the United States from 2011 to 2018 alone. All of these were preventable with protective systems, proper training, and a safety and health management system.

DISCUSSION QUESTIONS

1. What should you inspect, verify, or correct at the "start of the day"?
2. What are the methods to prevent cave-ins?
3. What conditions increase the likelihood of cave-ins?
4. What are some key takeaways for Excavation Cave-In Safety?

Figure 1 Trench Cave-In



Figure 2 Shoring a Step-Trench



Meeting Date:

Supervisor:

Employee Name:
