

Trench Work

Frequently Required. Always a Pain!

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Waiting for concrete trenches to cure ... and then dry ... can introduce a significant waiting period into (what is generally) a fast-paced renovation or tenant improvement project.

Many of the contractors we work with have slab-on-grade tenant improvement projects that require Trenchwork.

Fast casual restaurants moving into what had been retail spaces – satellite medical labs repurposing office complexes -- retail chains expanding into small warehouses and auto-service centers -- hotels converting conference areas into higher revenue generating guest rooms -- and hospitals upgrading facilities for new medical and diagnostic equipment.

Digging trenches in existing concrete slabs is almost always required in these situations because water, sewage, or drainage lines need to be installed, replaced, or extended. Trenchwork is also required when installing electrical chases for new high voltage supply lines, piping for new radiant heat systems, or footers for new load-bearing walls.

Beyond being temporarily dusty and noisy, trenching itself is a rather straight-forward process. After the trenches have been dug and the pipes, drains, or electrical lines have been put in place, the trenches are refilled with an approved concrete mix.

That's when the pain starts.

Waiting for the concrete trenches to cure ... and then dry ... can introduce a significant waiting period into (what is generally) a fast-paced renovation or tenant improvement project.



Trench Work *Frequently Required. Always a Pain!*

Concrete drying time is traditionally calculated as 28 days (or more) per inch of concrete placement.

If the concrete fill is “rushed” into curing or drying improperly, the trenched areas may present quality control issues down the road as curling and cracking begin to manifest.

The challenge is to manage the time required for proper curing and drying of the concrete while also achieving the performance specifications required for the application of the final flooring system.

AC•Tech’s Go-Early Technology™ can cut 3 or more weeks off this waiting period while also providing the final moisture, alkalinity, and curling control required of final flooring systems.

The basic application protocol is as follows:

- 1 • Place and finish concrete fill as per project specification. Do not introduce silicate additives into concrete mix design.
- 2 • Proceed with your normal curing compound or curing blanket procedure on the trenched areas (do not use topical silicates for fear of introducing bond-breaking salts into the trenched concrete and surrounding work areas).
- 3 • Initial concrete cure will require 2-5 days depending on ambient temperature and humidity.
- 4 • Mark-off a transition area of 6-8 inches on each side of the trenched area (into the old floor section). Grind-off all old coatings and adhesives as necessary to provide a clean surface.
- 5 • Brush Blast the trench and the 6-8 inch transition areas with a shotblaster to achieve a CSP 3-4 surface profile. Generally a No. 280 shot will do the trick on 3-5 day old concrete. Shot size may vary depending on the hardness of the concrete, so monitor your results and adjust accordingly in order to make a smooth transition between the new and old concrete sections.
- 6 • Remove all fugitive shot, dust and debris to create a clean concrete surface ready to accept the epoxy coating. (As always, clean surfaces generate superior application results).
- 7 • Apply AC•Tech 2170™FC (Fast Cure) at a minimum of 12 mils / 100 sq. ft. per gallon. Insure all high points on the concrete surface are evenly covered and backrolled. Follow all AC•Tech application instructions, product data sheets, and SDS documentation for proper mixing, application, and safety procedures.
- 8 • Allow 4 hours for the epoxy coating to cure (depending on ambient temperatures and humidity levels).
- 9 • At 4 hours cure time, the AC•Tech 2170™FC can accept light foot traffic and is ready to receive final flooring installation. If the renovation project has been scheduled to include heavy construction activities after the concrete trenches are coated, a 48 hour cure time will provide the Shore D82 hard coat protection your slab requires until flooring installation commences at a later time.

