



Chemical Grout Box for Interior Elevator Pit Stabilization

An interior elevator pit needed for ADA retrofit in a multi-level building, inside an old stairwell beside load-bearing wall on sandy soils. Conventional shoring wasn't feasible indoors with tight footprint and headroom limits.

Initial Assessment

- Sandy, below-water-table soils at a planned 7 ft pit depth.
- Footing and slab at risk of undermining excavated untreated.
- No practical option for sheet piling, slurry wall, or trench box.



Proposed Solution

Engineers designed a perimeter grout "box" using AP Soil 600, a low-viscosity, single-component permeation resin that bonds wet sands into a rock-like, load-bearing mass.

Procedures

1. Lay out pit and grout-box perimeter around the planned excavation.
2. Drill and set probes to depths below the final pit grade.
3. Inject AP Soil 600 while slowly extracting probes to form overlapping treated columns.
4. Allow cure, then excavate the pit inside the treated zone.
5. Grind exposed treated face flat and use it as the outer form for the concrete pit.

Results

- Stable excavation adjacent to the load-bearing wall with no observed soil loss.
- Interior elevator pit completed without conventional shoring or large equipment.
- Enabled ADA-compliant vertical access using permeation-stabilized in-place soils.

About Alchatek

Alchatek is an international leader in the manufacture and supply of chemical grouts and construction products for Geotechnical, Leak Seal, and Seawall Repair applications. Providing solutions from its headquarters in Tucker, Georgia and its manufacturing facility in Reno, Nevada, Alchatek specializes in advanced construction technologies for sealing leaks, stabilizing soils, lifting concrete, and protecting infrastructure and seawall structures. To best serve its customers, Alchatek is organized onto three divisions:

The Leak Seal Division combines a full system offering of polymer chemical grouts and equipment with perhaps the most experienced technical team in the industry. It specializes in preventing water ingress through concrete infrastructure including parking garages, culverts, basements and foundations, and sewer manholes.

The Geotechnical Division offers a complete line of single component products for soil stabilization as well as two component polyurethane foams for concrete lifting, void filling, and stabilization of infrastructure. This includes lifting sunken structures such as warehouse floors, back into place.

Seawall Repair Network® is the only national network of certified contractors in the repair, preservation, and protection of Seawalls waterfront barriers. Its proprietary methods and materials are environmentally friendly and safe for use in all marine environments and provide a non-destructive solution for seawall repair at 80% less than the cost of replacement.

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