



# CASE STUDY DEEP SOIL STABILIZATION

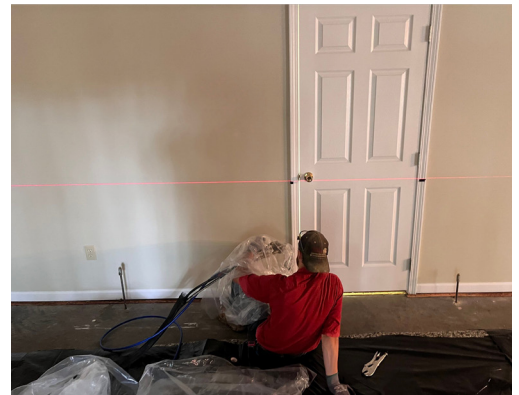
## Deep Soil Stabilization at Residential Property

The residents of a house in Columbia, Missouri noticed the floor in their finished basement was settling. The slab was beginning to sink along the base of a load-bearing wall. It turned out that there was no structural support beneath that area of the floor. They reached out to a local geotechnical contractor. An Alchemy-Spetec technical service professional was invited by the contractor to consult on the job as well.

### Powerful Polymers

AP Lift 430 is a two-component, high-strength, high-density, hydro-insensitive structural polyurethane foam. This very reliable and consistent material was selected because it is ideal for strengthening and compacting soil.

This high-strength closed cell polyurethane bonds with soil and concrete. After installation, the site is often traffic ready in as soon as 15 minutes. AP Lift 430 is also certified to NSF/ANSI/CAN 61 (approved for contact with drinking water).



### Physical Properties - Cured

AP LIFT 430			
Compressive Strength	(ASTM D-1621)	50 p.s.i. or 7,200 p.s.f.	3,447 millibar
Tensile Strength	(ASTM D-638)	88 p.s.i.	6,067 millibar
Expansion	(Unconfined)	22-26 times	-
Density	(ASTM-D 1622)	2.75 to 3.25 lb/ft3	44.05 to 52.06 kg/m3

Properties will vary depending on application conditions.

### **Painless Procedure**

The Alchemy-Spetec technical consultant worked closely with the geotech contractor to develop the injection plan. The crew removed the carpet and then drilled holes every three feet along the length of the affected area. Next, they drove injection tubing through each drill hole, four feet deep into the soil beneath the slab. A technician then injected about 20-40 lbs of AP Lift 430 per tube. The crew monitored for lift during this process. The slab was raised about 1/8 - 1/4 of an inch to ensure that the soil was fully compacted. Next, they injected additional material just beneath the slab (a.k.a. shallow injections) to fill any remaining voids. Finally, they removed the tubes and cleaned up the site.

### **Rapid Result**

After only a few hours, the job was completed, and the site was completely cleaned up. The customer was able to conduct her previously scheduled dance class on that same floor later that day.

### **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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