

Alchatek

CASE STUDY
DEEP SOIL STABILIZATION

CITY CREEK CENTER SHOPPING MALL SALT LAKE CITY, UTAH

Deep Soil *Stabilization at Shopping Center*

INJECTION DEPTH
30 *feet*

PRODUCT
AP Fill 700

I · THE PROBLEM

01 What made this job *difficult.*

CITY CREEK CENTER SHOPPING MALL
SALT LAKE CITY, UTAH

While under construction a five-foot-wide trench, located between two underground parking garages, was back-filled with pea gravel, and then a sidewalk was built on top of it. About ten years later the gravel began to settle enough to cause underground power lines to stretch and finally tear, knocking the power out for many of the local businesses. Engineers determined that the trench could be stabilized with the installation of polyurethane grout at depths of 30 feet below the surface. A local geotechnical services contractor was called in to perform the work.

THE CONSTRAINT

5 *feet*

TRENCH WIDTH

AT A GLANCE

10 tubes
INJECTION TUBES
installed 30 feet deep into the soil

1 gallon per vertical foot
MATERIAL RATE
AP Fill 700 pumped as tubes were pulled up

36 inches
INJECTION POINT SPACING

2 days
SITE WORK DURATION

02 What was specified, *and how it went in.*

AP FILL 700

AP Fill 700 is a single component, water-activated, hydrophobic, low viscosity, closed-cell polyurethane injection resin.

THE MATERIAL

AP Fill 700

AP FILL 700

Tensile Strength 45 psi (3,102 mb); Tensile Elongation 2.9%; Shrinkage Negligible; Compressive Strength (with fine sand) 2,050 psi (141,343 mb); Pre-activated mix viscosity 110-130 cP.

THE METHOD

01
Plan
An Alchatek technical consultant worked closely with the geotech contractor to develop the injection plan, detailing exactly where each of the injection points would be located.

02
Approve
The plan was communicated to the engineer and approval was given to move forward with the project.

03
Install
The geotech crew installed 10 injection tubes 30 feet deep into the soil, spaced about 36 inches apart.

04
Inject
They pumped approximately 1 gallon per vertical foot of AP Fill 700 as they pulled the tubes up 1 foot at a time.

THE STAKES

Settling gravel stretched and tore underground power lines, knocking out power for many local businesses.

The trench sat between two underground parking garages, beneath a sidewalk built on top of the pea gravel backfill.

PLANNED WITH ALCHATEK

An Alchatek technical consultant developed the injection plan with the geotech contractor, and the engineer approved it.

03 What the result was, *and what confirmed it.*

COMPLETION TIME

After only two days the site work was completed, and the general contractor was able to move forward with filling the trench and repairing the sidewalk.

COMPLETION TIME

2 *days*

Site work complete, clearing the way for trench fill and sidewalk repair.

30 FEET DEEP

Engineers determined the trench could be stabilized with polyurethane grout at depths of 30 feet below the surface.

Ten injection tubes, about 36 inches apart, with roughly 1 gallon of AP Fill 700 per vertical foot.

A DECADE IN THE MAKING

About ten years after construction, the pea gravel backfill began to settle beneath the sidewalk.

START THE CONVERSATION

Send us the job.
We will send back an approach.

Send us the soil report or the failure photos and Technical Services will return a written approach within two business days.

TECH SUPPORT

404 · 618 · 0438

WWW.ALCHATEK.COM

Alchatek

Alchatek manufactures polyurethane resins, chemical grouts, and injection equipment for infrastructure repair: leak sealing, soil stabilization, concrete lifting, and seawall repair. Headquarters in Tucker, Georgia, with a bonded warehouse in Reno, Nevada.

Information in this document is believed accurate at the date of publication. Product performance depends on site conditions and application; consult the current Technical Data Sheet, which is the controlling document.

ALC-CS-XX-040
DRAFT V0.1 · SEPT 2026