

Alchatek

CASE STUDY
GEOTECHNICAL

1970S-ERA HOME MONTANA

Strengthening Deep Soil *Underneath a House*

A Montana homeowner contacted a geotechnical specialty contractor after one side of the house began settling into the soil.

JOB COMPLETION TIME
6 *hours*

PRODUCT
AP Lift 430

01 What made this job *difficult.*

1970S-ERA HOME
MONTANA

The owner of a home in Montana contacted a geotechnical specialty contractor about a distressing issue: one side of their house was starting to settle into the soil. This 1970s-era home did not have the proper drainage systems in place, allowing rainwater to accumulate and erode away at the soil underneath. Poor compaction of soil during the construction process was another likely cause of instability. This property owner needed a permanent solution quickly before the exterior, interior, and even the roof of the home were damaged beyond repair.

KEY CONDITION

Rainwater accumulation and poor soil compaction from original construction were eroding and destabilizing the soil beneath one side of the house.

THE CONSTRAINT

No time to wait

SETTLEMENT WAS PROGRESSING

One side of the house was already sinking into eroded, poorly compacted soil. The homeowner needed a permanent fix quickly, before the movement damaged the exterior, the interior, and eventually the roof.

AT A GLANCE

3 ft
INJECTION TUBE SPACING
Pair of tubes installed every three feet along the footing.

8 ft
INITIAL INJECTION DEPTH

4 ft
SECONDARY INJECTION DEPTH
Injected at each point until full compaction was achieved.

6 hours
TOTAL JOB TIME
Two technicians completed the job.

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

AP LIFT 430

The contractor chose to perform deep soil stabilization with Alchatek's AP Lift 430, a high-strength structural polymer suited for challenging soil compaction and void-fill jobs.

THE MATERIAL

AP Lift 430

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.

THE METHOD

01
Install
Installed a pair of injection tubes every three feet along the footing of the house on the side that was beginning to sink.

02
Inject
Stabilized the supporting soil with AP Lift 430, injecting the structural polymer to depths of eight feet.

03
Compact
Continued injecting to four feet at each injection point until full compaction was achieved.

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

COMPLETION TIME

Two technicians completed this job within six hours. They permanently stabilized the soil underneath the sinking side of the house with minimal equipment and no collateral damage to the structure or surrounding property.

COMPLETION TIME
6hours

Permanently stabilized the soil with minimal equipment and no collateral damage to the structure or surrounding property.

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

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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.