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Fixing The Crack In The Foundation Repair Business - Condor SS

Del Williams

A proven chemical stabilization treatment that minimizes soil expansion and contraction can reduce callbacks, warranty claims, and expand business

Each year swelling and shrinking clay-based soils inflict over \$2 billion in damage to houses, buildings, roads, pipelines and other structures in the U.S. alone. Such swelling clays, which occur in 48 states according to a U.S. geological survey, can also “crack” the bottom line of foundation repair companies in the form of costly unpaid callbacks and warranty claims.

The problem: Mechanical stabilization with support piers, a primary foundation repair technique, can keep a home from sinking when clay soil dries and shrinks but cannot keep wet expanding soil from lifting a home off its piers. Clay soil can, in fact, expand up to 15 inches when wet in some cases, often resulting in seasonally recurring cracked walls, stuck doors and windows, and other foundation-related problems.

While good engineering still applies, including proper drainage, soil compaction, a rigid foundation, and support piers when needed, a proven chemical stabilization treatment that minimizes soil expansion and contraction can reduce foundation repair companies’ callbacks and warranty claims, as well as expand their remediation market and profit margins.

“If clay soil is moving a home’s foundation with seasonal expansion and contraction, it can look like the support piers aren’t working,” says Tommy LaLonde, PE, a civil engineer and owner of Lee Engineering, a Dallas, Tex.-based company with expertise in drainage, irrigation and foundation preservation. “That’s when the callbacks and warranty claims start, which can eat into a foundation repair company’s job schedule, profit margin, and reputation. We address the real problem of seasonal foundation movement, expansive clays, by introducing chemical stabilization with Condor SS.”

SOLVING THE CLAY SOIL PROBLEM

Although chemical stabilization has been used for years, some chemicals leach or are simply not effective. With substances like lime and potassium chloride, the potential for environmental damage is a major factor when weighing the decision to inject these chemicals into the ground.

The expansion and contraction of clay soil, however, can be minimized to a safe range of typically less than 1-inch Potential Vertical Rise (PVR) by injecting Condor SS - Soil Stabilizer, an environmentally friendly ion-exchange medium developed by Wilsonville, Ore.-based Earth Science Products, into the ground under a foundation when used for remediation.

Condor SS, a concentrated, water-soluble sulphated oil chemical that meets the U. S. EPA’s requirements for drinking water when used as directed, has stabilized over a billion cubic feet of soil on five continents with zero product failures to date, according to its manufacturer. With over 30 years of performance, it has a proven history longer than any other ion exchange product on the market.

Swelling in clay soil is caused when clay attracts and retains water. This happens because tiny, but powerful, electrical charges present in the soil attract the moisture. Condor SS neutralizes this problem by introducing ions with an opposite charge from those in the clay. Once the ions in the clay have been neutralized, the clay releases the water, which runs off and evaporates naturally. As the structural weight of a home and its foundation compresses clay soil, passages in the soil that previously carried water collapse, giving it greater structural support over time;

Ultimately its support value can approach that of bedrock.

So far Lee Engineering has expanded its chemical stabilization business in the residential remediation market almost entirely by word of mouth, to the tune of about 300 homes in the past two years.

“Pro-active builders who want to lower the risk of warranty claims, lawsuits, buybacks, or other problems caused by seasonally expanding and contracting clay soils have approached us for chemical stabilization remediation,” says LaLonde. “Many times chemical stabilization can be a solution by itself, or it can be used in conjunction with support piers as sort of an insurance policy against the rest of the house moving.”

According to LaLonde, a growing number of builders are choosing to inject the chemical stabilizer under pools, sports courts, driveways, and sidewalks to prevent the potential cracking, crumbling, or raised uneven surfaces that could result from building over seasonally expanding and contracting clay soils. Lee Engineering is a licensed applicator of the Condor SS chemical stabilizer, which typically uses equipment a contractor would use for water injection.

Despite Lee Engineering's growing chemical stabilization remediation business in a tough economy, LaLonde foresees even greater business growth when the economy begins to pick up again. The success of previous commercial chemical stabilization projects by other contractors indicates that he may be right.

For instance, before construction began at the Ted Arendale Ford dealership in Arlington, Tex., pre-injection testing revealed soil swelling potential as high as 10%. By using Condor SS chemical stabilization instead of conventional methods such as excavating existing soil and replacing it with select fill, postinjection testing revealed that soil swelling potential had been reduced to less than 1%. The contractor saved over \$150,000.

On another occasion, a 145-acre mixed-use site in Texas called Frisco Square used chemical stabilization. All of the Building pad sites, driveways, walkways, and parking lots were stabilized with Condor SS while under construction.

The chemical stabilizer allowed the project to function as though clay soils were not present, resulting in smooth streets and curbs, healthy landscaping and a distinct lack of the usual problems associated with the swelling and Contracting of clay soils.

"For companies willing to branch out, chemical stabilization of newly constructed commercial properties will be an even bigger business opportunity than remediation," concludes LaLonde.

"It's easier to apply, more effective, and of course more profitable when applied to larger areas. Preventing excessive clay soil expansion and contraction at the start of a project, rather than remediating at the end is often a better choice for everyone involved, be they builders, owners, tenants, or foundation preservation companies." Besides residential remediation projects, Condor SS has been used for the chemical stabilization of Clay soils at Dallas/Fort Worth Airport, the Veterans Administration, the U.S. Forest Service, as well as many city, state, and national entities.