

Compaction Grouting/House Leveling

Warning Signs of Foundation Failure--

Bulging floors, cracked walls, and doors that won't close are all signs of foundation distress. Sixty percent of all homes built on expansive soil suffer from foundation distress. The problem occurs when only part of the foundation heaves or settles, causing cracks and other damage.

This differential movement is largely caused by a difference in soil moisture. Loss or gain of soil moisture can cause serious shrinkage or swelling. Compaction grouting involves the injection of a still granular mortar grout into subsurface soils under high pressures, to displace and improve the adjacent soils. The key element in any grouting program is the effective control and placement of the grout. In compaction grouting, this control is accomplished by the use of very stiff, granular grout mix. The very stiff compact grouts results in homogenous grout bulb that grows somewhat symmetrically about the grout pipe tip, and remains within the intended treatment area.

The selection of mortar aggregate and water retaining agents such as cement, clay, etc. is extremely important to achieve a pump-able mix that still exhibits high internal shearing resistance to flow and can avoid sand blockages in the required mix and inject such materials under high pressure.

Exterior Warning Signs

- Wall Rotation
- Separation around garage door, window and/or walls
- Cracked bricks
- Broken and/or cracked foundation
- Displaced Moldings

Interior Warning Signs

- Misaligned Doors and Windows
- Cracked Walls and Ceilings
- Cracks in Basement Floor

The success of compaction grouting techniques depends on the correct understanding of the cause of foundation distress or settlements and proper evaluation of the subsurface conditions as well as competent application of the grouting procedures. In addition, a concurrent monitoring program will be carried out during grouting to observe any potential surface heave and associated movements and to verify the effectiveness of the grouting operation.

If you have any questions or would like to help with your compaction grouting project, please contact us at Slabmaster Ltd. at any time.

