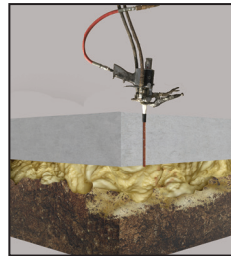




Polyurethane grouting involves injecting expanding geotechnical polyurethane to fill and seal cracks, voids, and re-level slabs. Creating a strong and durable bond with surrounding materials, polyurethane grout provides a lasting structural support, enhancing the stability and load-bearing capacity of structures.

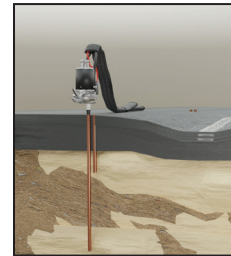
COMMON USES

Fill voids



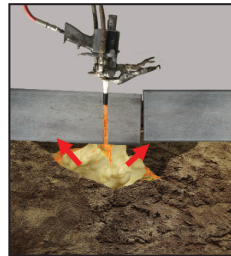
Geotechnical polyurethane grouting efficiently fills void spaces beneath concrete slabs or structures, providing support and preventing further deterioration.

Soil reinforcement



Geotechnical polyurethane grouting effectively strengthens and reinforces soil, preventing settlement and erosion.

Relevel and underseal slabs



Restoring slabs to their original position and providing extra support increases functionality and safety.

Barriers to water flow



Polyurethane grouting creates a strong barrier against water intrusion. Hydrophobic properties make it ideal for waterproofing applications and wet environments.

Seal cracks and joints



By sealing cracks and joints in concrete structures, polyurethane grouting prevents water infiltration, helping to maintain structural integrity.

Infrastructure repair



For aging infrastructure, polyurethane grouting offers a cost-effective solution to stabilize structures and reinforce concrete, extending the structure's service life.

BENEFITS & ADVANTAGES OF KELLER POLYURETHANE GROUTING

- With a quick curing time and small equipment footprint, polyurethane grouting offers rapid project completion, expediting construction schedules.
- Polyurethane grouting can be installed in confined spaces and is minimally invasive, not requiring extensive excavation, demolition, or heavy machinery.
- Grouts available with NSF/ANSI 61 Certification reduce environmental impact during application.

PROCESS

Polyurethane grout comes in two forms, single component, and dual component. Many polyurethane grout techniques are available with variations in density, reaction time, reaction with water, expansion characteristic, and flexibility of the reacted grout. It is essential to select the correct grout for each application.

Plural component polyurethane grouts

These grouts are used to fill large voids and to relevel concrete slabs. These grouts are installed using proportioning equipment that heats the chemicals and pumps them through a series of hoses that attach to an impingement gun that mixes the chemicals at a 1:1 ratio. As the chemicals mix, a chemical reaction begins, creating a polyurethane foam that expands at varying rates based on the formula. These grouts range in density from 2 pcf to 12 pcf and expand up to 28x their liquid volume, exerting approximately 10 psi of pressure, enough to move a concrete slab.

Single-component polyurethane grouts

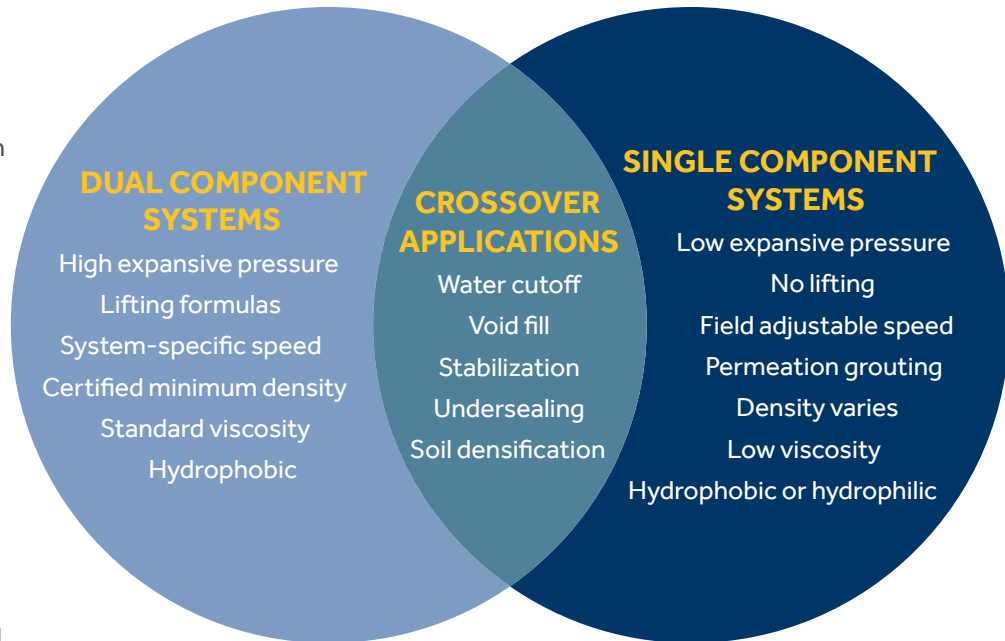
These grouts have a very low viscosity and can be injected into



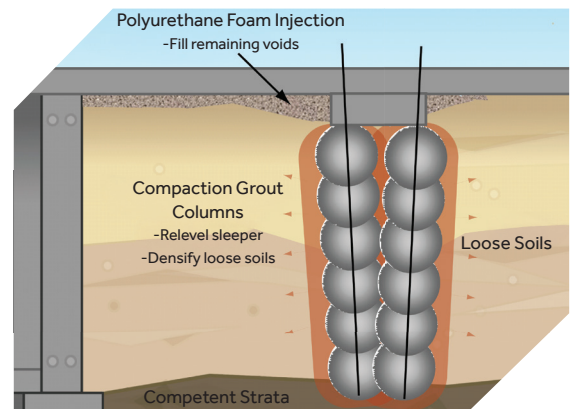
loose sandy soils and react with groundwater. Additional catalysts can be added to speed up reaction times for these grouts. These grouts are typically used to seal leaking cracks in subterranean concrete pipes, walls, tunnels, and culverts. They are also commonly used to reinforce loose sandy soils by injecting into the wet

soils to varying depths either to reinforce them or for curtain grouting to stop underground water migration.

HB PolyLift® Polyurethane Injection is a releveling technique that raises concrete slabs and fills voids using the regulated injection of lightweight, non-hazardous expanding polyurethane grout. When ground improvement is needed along with releveling, compaction grouting is performed first to densify deeper loose zones. Then holes are drilled through the concrete slab or foundation for polyurethane grout to be injected to fill the remaining voids and complete the lifting to the final grade. After releveling, the drill holes are cleaned and filled with cement grout. The result is a densified subgrade, filled voids, and a relevelled and stabilized concrete slab.



Hydrophobic expansive polyurethane grouting to fill voids under the slab at an industrial facility.



Combining compaction grouting and polyurethane grouting provides a versatile and highly effective solution for soil stabilization needs.

