



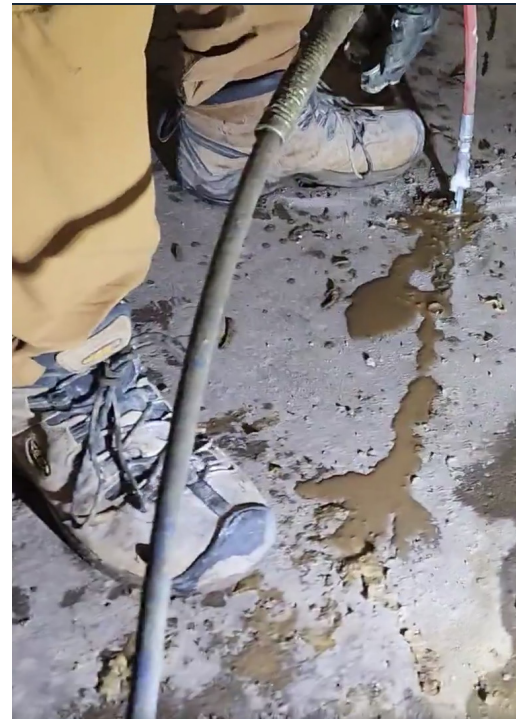
Curtain Grouting a Complex Crack in a Basement Floor

In Louisville, Kentucky the Presbyterian church owned two historic buildings with an alley between them. Last century, an addition was added removing the alley and connecting the two buildings. Unfortunately, the addition was not properly waterproofed during construction. This led to water below-grade infiltration and a plethora of very complex leaking cracks and joints in the basements of both buildings and the new connecting structure.

The building is still home to a Presbyterian church. For years, the administrators have been simply dealing with the water by channeling it, as best they could, to sump pumps. Many and various repair attempts have been made over the years, but none of them have been successful in the long term. Recently, the church administration reached out to a local leak seal contractor for help with this ongoing issue. Due to the complexity of the project, Alchemy-Spetec’s Director of Technical Services - Leak Seal Division Charlie “The Grout Geek” Lerman was called in to consult on the job.

Powerful Polymers

The technicians chose Spetec PUR HighFoamer as the repair material for this job because its expansive nature when catalyzed with Spetec GEN ACC Accelerator makes it a very cost-effective curtain grouting polyurethane resin. This one-component, closed-cell, hydrophobic, water-reactive, solvent, and phthalate-free, low-viscosity resin is also ideal for filling any voids created by the water underneath the basement slabs.



SPETEC® PUR HIGHFOAMER Uncured (Appearance brown liquid)		
Viscosity at 77°F (25°C)	(ASTM D4878-98)	± 251 cP (± 215 mPa.s)
Density	(ASTM D3505-96 [2000])	± 65.9 lbs/ft³ (± 1.12 kg/dm³)
SPETEC® Gen Acc, Accelerator for SPETEC® PUR HIGHFOAMER (Appearance: yellow - orange liquid)		
Viscosity at 77°F (25°C)	(ASTM D4878-98)	± 75 cP (± 75 mPa.s)
Flash point	(ASTM D1310-86)	313°F (156°C)
Density	(ASTM D3505-96 [2000])	± 65.5 lbs/ft³ (± 1.05 kg/dm³)

Painless Procedure

This particular job was what we like to call exploratory grouting, focused on two trial areas of complex cracking. The crew started injecting in the area of the primary leak. As they injected, water and foam began to bubble up along an adjacent and previously unidentified trench-like defect as well as the cracking being addressed. The initial injection covered the main crack and a surrounding area of about 16 feet (thanks to the expansive nature of Spetec PUR HighFoamer). Outgassing (CO2 produced during polymerization) was visible in numerous defects outside of that radius, requiring additional injections to seal the entire area.

Rapid Result

This one-day exploratory grouting project provided the contractor with a very accurate understanding of the type of problem and soil conditions they were dealing in the basements. The contractor and church administrators subsequently agreed upon a long-term maintenance plan based on the church's budget that calls for periodic curtain grouting over the next few years to address the many remaining basement floor defects in both buildings.

About Alchatek

Alchatek is an international leader in the manufacture and supply of chemical grouts and construction products for Geotechnical, Leak Seal, and Seawall Repair applications. Providing solutions from its headquarters in Tucker, Georgia and its manufacturing facility in Reno, Nevada, Alchatek specializes in advanced construction technologies for sealing leaks, stabilizing soils, lifting concrete, and protecting infrastructure and seawall structures. To best serve its customers, Alchatek is organized onto three divisions:

The Leak Seal Division combines a full system offering of polymer chemical grouts and equipment with perhaps the most experienced technical team in the industry. It specializes in preventing water ingress through concrete infrastructure including parking garages, culverts, basements and foundations, and sewer manholes.

The Geotechnical Division offers a complete line of single component products for soil stabilization as well as two component polyurethane foams for concrete lifting, void filling, and stabilization of infrastructure. This includes lifting sunken structures such as warehouse floors, back into place.

Seawall Repair Network® is the only national network of certified contractors in the repair, preservation, and protection of Seawalls waterfront barriers. Its proprietary methods and materials are environmentally friendly and safe for use in all marine environments and provide a non-destructive solution for seawall repair at 80% less than the cost of replacement.

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