

**POWERFUL POLYMERS
PAINLESS PROCEDURES
RAPID RESULTS**

Protecting Drinking Water from Potential Flood Contamination

Planners at Washington D.C.’s water utility, D.C. Water, decided to take proactive measures against potential flooding of their facility. Located right next to the Potomac, their facility could’ve been at risk in the event of an out-of-the-ordinary natural disaster. Determining that the main risk to the water supply in such a case would be permeation through sub-surface soil, they began installing a metal sheet pile wall deep into the substrate between the riverbank and the facility. However, in some spots they were not able to drive a sheet pile panel into the ground because of underground utility lines or rocky substrate. The planners called in a geotech contractor to create sub-surface grout walls in those spots to fill in the gaps.

POWERFUL POLYMER

The crew “constructed” these sections of the underground wall by injecting AP Fill 700. This is a single component, water-activated, hydrophobic, low viscosity, closed-cell polyurethane injection resin. This grout was used because it permeates the soil, fills small voids in the soil, and cuts off water flow.



Driving Injection Pipes

Physical Properties - Cured

AP FILL 700		
Tensile Strength	(ASTM D-1623)	45 psi (3,102 mb)
Tensile Elongation	(ASTM D-1623)	2.9%
Shrinkage	(ASTM D-1042/D-756)	Negligible
Compressive Strength (with fine sand)	(ASTM C-39)	2,050 psi (141,343 mb)
Pre-activated mix viscosity	110 -130 cP	

Properties will vary depending on application conditions.

PAINLESS PROCEDURE

The crew used a Geoprobe to drive injection pipes into the ground (up to 33 feet in some locations). They then injected one gallon per foot using upward staging. The next injection point was 18 inches away from the first one. This process was repeated until a grout wall formed, filling the gap between the two adjacent underground sheet piles. For a large-scale job like this, they used the PolyShark single component grout pump.

RAPID RESULT

With solid, impermeable grout walls filling in the gaps, a sub-surface barrier between the riverbank and the drinking water facility was now in place. The planners at D.C. Water were very satisfied with this solution.

About Alchemy-Spetec

The Leak Seal Division

The Alchemy-Spetec Leak Seal Product Line combines a full-system offering of polymer chemical grouts and equipment with perhaps the most experienced technical team in the industry. For any concrete leak seal application, lean on the Alchemy-Spetec team for phone, field, or engineering support. Our growing network of Regional Managers, Independent Representation, and Nationwide Distribution offers industry professionals many levels of opportunity worth discussing with our team. Consultants at Alchemy-Spetec pride themselves on rapid, powerful, and painless scheduling of field and technical support. We invite you to inquire about our bi-annual factory training held at the Tucker, GA-based manufacturing facility where they can learn from the 20+ year average industry experience of our Regional Management and Technical Team.

The Geotech Division

The Alchemy-Spetec Geotech Product Line offers industry-leading quality, full chemical grout lifting rig training and support, and unmatched contractor support in the field and with sales and marketing. Contact us today to learn about the tangible benefits of joining the Alchemy-Spetec network of geotech contractors. The Alchemy-Spetec MixMaster Pro Gun is a maintenance and production cost-saver for any lifting contractor, while the flagship lifting foams have helped many contractors reduce volume usage while eliminating call-backs. From the Polybadger machine that fits into a pickup truck, to custom boxtruck and trailer rig buildouts, Alchemy-Spetec is widely considered the premier geotechnical chemical grout & equipment supplier. With the additions of ground penetrating radar and penetrometer equipment and support, Alchemy-Spetec is truly on the cutting-edge of the chemical grouting industry.