



# CASE STUDY RETENTION POND REPAIR

## Repairing a Leak in a Retention Pond

A property management company in metro Atlanta contacted a local specialty contractor to address an issue with a neighborhood retention pond that was not holding water at the proper level. The customer reported that the water level was not running through the top of the concrete outlet control structure as designed but water was exiting on the other side of the earthen dam through the concrete outlet pipe. Upon inspection it was discovered that the pond water was piping along the outside of the concrete outlet pipe and leaking back into the outflow pipe through several bad joints in the concrete pipe.

### Powerful Polymers

The specialty contractor choose AP Fill 700, a single component, water-activated, hydrophobic, low viscosity, closed-cell polyurethane injection resin for the repair. Specifically, AP Fill 700 is NSF-approved for contact with drinking water, safe for the environment and allows the crew the ability to adjust the catalyst for set time. The polyurethane material is ideal for permeating soil, filling voids and water cutoff.



### 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

AP Fill 700 was injected on 18-inch centers around the base of the OCS and outlet pipe in order to inject resin into the flow of the piping water. Specifically, the set time of the resin was reduced so that the piping water would take the resin the length of the pipe to the leaking joints. The goal was to have the AP Fill 700 react from downstream back up to the OCS. Crew members observed the pipe joints until AP Fill 700 presented and all the leaks stopped.

## Rapid Result

The job took one day to complete and less than 50 gallons of resin. Within three days the pond was at full pool and the management company and neighborhood residents were very satisfied with the work.

## 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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