



CASE STUDY
LEAK SEAL

Contractor Seals Leaks in Quenching Tanks for Aluminum Manufacturer

A large Mid-Western aluminum manufacturer was losing water from all of its quenching tanks. Losing 3 million gallons in half a year can be expensive, not to mention the massive effect that volume of water can have on soil and the structures it supports. So, they reached out to one of their trusted maintenance contractors, who in turn came to Alchemy-Spetec for guidance on how to efficiently mitigate the leaks with minimal downtime.

Powerful Polymers

After consulting with Alchemy-Spetec, the contractor injected Spetec PUR F400 to seal the leaking cracks. This material is a solvent and phthalate-free, water-reactive, hydrophobic, closed-cell, low viscosity, shrink-free, flexible, one-component polyurethane injection resin designed to shut off water leaks.



Physical Properties - Uncured - (appearance white liquid)

SPETEC PUR F400		
Viscosity at 77°F (25°C)	(ASTM D4878-98)	±340cps (±0.34 Pa·s)
Flash Point	(ASTM D1310-86)	>302°F (>150°C)
Density	(ASTM D3505-96 [2000])	1.067 ± 0.005 oz/ft ³ (1.068 ± 5.006 g/m ³)

Physical Properties - Cured

SPETEC PUR F400		
Tensile Strength	(ASTM D3574-03)	290psi (20 bar)
Elongation at break	-	±100%

Properties will vary depending on application conditions.

Painless Procedure

Concrete crack injection with polyurethane resin is a five-step process:

1. Drill the injection holes.
2. Flush debris out of the holes with water.
3. Install the injection port.
4. Flush the crack with water.
5. Inject the resin.

Rapid Result

The crew repaired leaks in one tank at a time with no manufacturing delays. This meant no production interruption. The work was done at a fraction of the cost of replacing the tanks.

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.

Tech Support:
404-618-0438
www.Alchatek.com

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