



CASE STUDY
SEALING HAIRLINE
CONCRETE CRACKS

Sealing Hairline Concrete Cracks with Acrylic Injection Resin

A concrete tank west of Rollinsville, Colorado began showing numerous, hairline cracks during construction. Previous attempts to seal the cracks using urethane grouts were unsuccessful due to the sheer tightness of the cracks and high amount of reinforcing steel. The tank was critical for a state infrastructure project, so Restruction Corporation was called in to get the job done.

Powerful Polymers

After a phone consultation with an Alchemy-Spetec tech consultant, they determined the best course of action would be to use Spetec AG200, a super-thin acrylate grout that could penetrate the hairline cracks and even the ones previously injected with a urethane grout. This water-swelling hydrogel is based on low-viscous acrylic that cures into an elastic product with 500% elongation.



SUBSTANCE DATA OF COMPONENTS:

Component	Consistency Color Odor	Specific Density (68°F [20°C])	Dynamic Viscosity (68°F [20°C])
Comp. A1	liquid amber characteristic	approx. 71.79lbs/ft3 (1.15 kg/dm3)	approx. 20cps (0.02 Pa-s) ASTM D4878-98
Comp. A2	liquid colorless amine-like	approx. 69.92lbs/ft3 (1.12 kg/dm3)	approx. 280cps (0.28 Pa-s) ASTM D4878-98
Comp. B	solid white odorless	approx. 161.69lbs/ft3 (2.59 kg/dm3)	Bulk density (68°F) approx. 71.79lbs/ft3 (1.15 kg/dm3)

Viscosity at 68°F	Mix: AG200 + TEA + SP + H2O =	5-7cps (0.005-0.007 Pa-s)
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MIXTURE OF A- AND B-COMPONENT:

Processing temperature*	41 - 104°F (5 - 40°C)	substrate temperature
Viscosity of mixture (68°F)	approx. 3-4cps (0.003-0.004Pa-s)	ASTM D4878-98

Properties will vary depending on application conditions.

Painless Procedure

The tech consultant trained a knowledgeable polyurethane grout crew how to handle Spetec AG200 and an acrylic pump. No other chemical grout manufacturer was willing to come out and provide field service for this application.

Rapid Result

After the grout was injected, the cracks sealed quickly. Both the customer and contractor were extremely happy with the results. Yet another successful job for one of our customers!

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 into 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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