



Curtain Grouting in a Repurposed Power Plant Intake Well

Back in the 1990s, the Seaholm Power Plant in the City of Austin, TX closed after four decades of operation. Recently, the entire area has been converted into an indoor-outdoor park and public space called the Seaholm Waterfront. All that's left standing of the original power plant is an intake building that the city decided to repurpose for public use as part of the project. Thirty feet below grade, are chambers that were originally designed to hold water from the river and pump it into the power plant to cool the machinery. The intake building renovation project hit a snag when they discovered that several thousand gallons of water were pouring into the chambers on a daily basis.

"Sealing of the intake gates was necessary in order to eliminate water from being continuously present within the building. Nine of the 10 wells have been successfully sealed off. While pumping the water out of the building, leaks were discovered in one of the wells which will require additional work by the underwater construction crew. Preventing the free-flowing entry of lake water into the building is central to the scope of this project improving the occupancy conditions by lowering humidity levels, eliminating odors and pests, and preserving the integrity of the building materials."

— Austin City Council, April 21, 2021

Initially, concrete was poured into the chambers to stop the leak. This proved to be ineffective and further complicated the job. Specialty contractors Canalco were brought in to seal the leaks via polyurethane curtain grouting, in which the technicians drill holes through concrete and inject water-activated grout on the other side, stopping the leak at its source. Technical assistance was provided by Chamberlin Waterproofing.

Powerful Polymers

The engineering firm Wiss, Janney, Elstner Associates, Inc., specified Spetec PUR HighFoamer as the best grout to handle these high-pressure leaks. Technicians can easily adjust the set time for this material. They can speed it up for gushing leaks and slow it down to maximize coverage and penetration into the substrate for curtain grouting.



SPETEC® PUR HIGHFOAMER Uncured (Appearance brown liquid)		
Viscosity at 77°F (25°C)	(ASTM D4878-98)	± 215 cP (± 215 mPa.s)
Density	(ASTM D3505-96 [2000])	± 65.9 lbs/ft ³ (± 1.12 kg/dm ³)

Painless Procedure

A small crew sent a confined entry certified technician deep into the well to drill 1.25" injection holes 4-7' feet through the concrete. Next, he injected Spetec PUR HighFoamer through five holes to create a grout curtain on the outside of the structure to seal off the leaks.

Rapid Result

The job was completed in just one week. The city continues to monitor the situation and the results have been spectacular given the difficulty of the job and the complications.

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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