

**POWERFUL POLYMERS
PAINLESS PROCEDURES
RAPID RESULTS**

Leak Seal in Water Treatment Plant Pump Station Manhole

The Central Davis Sewer District (CDSD) is a publicly owned collection system and water treatment plant that serves three local cities in Northern Utah. With a new highway being constructed just outside their facility, a new pump station had to be installed on the premises. After installation of the new pump station, a large leak appeared in the manhole which caused it to fill up with about 10 feet of water. The CDSD contacted a local leak seal contractor to see what could be done. The contractor crew pumped all the water out of the manhole and discovered that two of the manhole's horizontal joints had large leaks. These leaks were allowing about 10-15 gallons per minute (over 20,000 gallons per day) of water to infiltrate the pump station.



POWERFUL POLYMER

The contractor worked closely with an Alchemy-Spetec technical service manager to devise a plan to seal the large leaks using Spetec PUR F400. Spetec PUR F400 is a solvent and phthalate-free, water-reactive, hydrophobic, closed-cell, low viscosity, shrink-free, flexible, one-component polyurethane injection resin designed to stop water leaks. It is also certified to NSF/ANSI/CAN 61 (approved for contact with drinking water).

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

The crew drilled four holes around the lower manhole joint and then installed injection ports. As they pumped the polyurethane grout into the ports, it began to travel around the joint, sealing the leaks. Once the grout had traveled as far as it could from one port, the technician moved on to the next port until the entire joint had been sealed water tight. They used oakum to temporarily seal some of the larger leaks until the grout had time to cure. The upper joint only required 3 port injections due to the speed at which the grout traveled.

RAPID RESULT

The crew only took about 3 hours to completely seal all of the leaks and return the manhole to service. There was no way the leaks could have been left un-repaired due to the water treatment cost and the potential damage the erosion would have caused. Replacing the manhole would have easily cost three or more times the price of grouting. In this case, the community wins as many tax dollars are being saved.

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.