

Alchatek

CASE STUDY
LEAK SEALING

TOM MILLER DAM, LARGE GATE #6 AUSTIN, TEXAS

Tom Miller Dam Gate Replacement *Leak Sealing*

Gerace Construction undertook a gate replacement project at the Tom Miller Dam in Austin, Texas, and discovered a leak under the steel gate sill during work on Large Gate #6.

MINIMUM INJECTION PRESSURE
250 *psi*

PRODUCT
Spetec H100

I · THE PROBLEM

01 What made this job *difficult.*

TOM MILLER DAM, LARGE GATE #6
AUSTIN, TEXAS

While working on Large Gate #6, and after installing a needle beam cofferdam system to lower the water level, a continuous wet spot was discovered under the metal gate sill. This indicated a crack in the concrete extending under the sill plate. Sealing the leak was necessary to prepare and coat the steel sill plate, which was crucial for the overall gate replacement.

As per the project specifications, a dry surface was required to apply coatings to the steel sill plate.

KEY CONDITION

The primary challenge was water seeping through a crack, less than one linear foot in length, located in the concrete beneath the steel gate sill.

THE CONSTRAINT

18 *feet*

HEAD PRESSURE UPSTREAM

The cofferdam system had created approximately 18 feet of head pressure upstream, with the water level pumped down about two feet below the sill.

AT A GLANCE

12 inches
PORT SPACING
Injection ports installed at 12-inch centers on alternating sides.

250 psi
MINIMUM INJECTION PRESSURE
Positive displacement equipment capable of maintaining a minimum pressure of 250 psi.

190 psi
MINIMUM INLINE PRESSURE
Inline pressure was monitored throughout to ensure it did not drop below 190 psi during injection.

18 feet
HEAD PRESSURE
The cofferdam system had created approximately 18 feet of head pressure upstream.

02 What was specified, *and how it went in.*

SPETEC H100

Alchatek recommended Spetec H100 to seal the crack. The solution involved injecting the resin into the crack to create a watertight seal, allowing the steel surface to dry for coating application. Alchatek also provided an on-site representative during the injection process, as required by the project specifications.

THE MATERIAL

Spetec H100

SPETEC H100

This hydrophobic polyurethane resin was chosen for its ability to rapidly seal cracks with reasonable water flow and minimal anticipated movement.

THE METHOD

01
Prepared
The contractor established the cofferdam system and lowered the water level to expose the leaking area; injection ports were installed along the crack at 12-inch centers on alternating sides.

02
Injected
Spetec H100 mixed with Alchatek Gen Cat was injected into the crack using positive displacement equipment capable of maintaining a minimum pressure of 250 psi.

03
Monitored
Injection began at the lowest port and continued sequentially upward until grout filled the crack and seepage ceased, with inline pressure monitored to ensure it did not drop below 190 psi.

04
Finished
The injected resin was allowed to cure fully; excess surface seal material was removed, the area was inspected, and injection ports were patched flush with hydraulic cement.

ON-SITE SUPPORT

Alchatek provided an on-site representative during the injection process, as required by the project specifications.

03 What the result was, *and what confirmed it.*

THE OUTCOME

The application of Spetec H100 successfully sealed the leak under the steel gate sill, allowing Gerace Construction to proceed with surface preparation and coating application. The fast-reacting properties of Spetec H100 minimized delays while ensuring long-term durability against water infiltration.

THE OUTCOME

The Lower Colorado River Authority (LCRA) engineering staff approved of the product, and the Alchatek representative provided the required on-site supervision, resulting in a successful repair that restored functionality and structural integrity to Gate #6 at Tom Miller Dam.

DRY SURFACE REQUIRED

Project specifications required a dry surface before coatings could be applied to the steel sill plate.

Sealing the leak was necessary to prepare and coat the sill plate, which was crucial for the overall gate replacement.

START THE CONVERSATION

Send us the job.
We will send back an approach.

Send us the soil report or the failure photos and Technical Services will return a written approach within two business days.

ALCHATEK TECHNICAL SERVICES

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Alchatek

Alchatek manufactures polyurethane resins, chemical grouts, and injection equipment for infrastructure repair: leak sealing, soil stabilization, concrete lifting, and seawall repair. Headquarters in Tucker, Georgia, with a bonded warehouse in Reno, Nevada.

Information in this document is believed accurate at the date of publication. Product performance depends on site conditions and application; consult the current Technical Data Sheet, which is the controlling document.

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