CASE STUDY
LEAK SEAL

AT&T Plaza Water Infiltration Solved Without Excavation

AT&T Plaza in downtown Dallas had persistent water infiltration issues in its basement and sub-basement levels, resulting in structural concerns and operational disruptions. The building's below-grade concrete walls developed multiple active leaks, allowing groundwater to penetrate the structure and causing dampness at wall-floor transitions, which raised concerns about potential corrosion of the reinforcing steel. Building management required an immediate solution that would effectively seal the leaks while minimizing disruption to commercial operations.

Initial Assessment

Engineering inspections by B|S|A Design Group revealed multiple active leak points throughout the basement and sub-basement concrete walls, with water infiltration occurring through cracks, joints, and penetration points. The moisture intrusion patterns indicated that several leak locations had been active for an extended period. Traditional waterproofing methods would require extensive excavation and reconstruction, making them impractical for a busy downtown commercial building. The assessment concluded that targeted injection would be most effective while allowing the building to remain operational.

Proposed Solution

The engineering team specified Spetec PUR F400, a hydrophobic polyurethane grout designed for water cut-off applications in concrete structures. This single-component material was selected for its ability to react with water to form a flexible, closed-cell polyurethane seal that permanently stops water infiltration. The material's low viscosity allows deep penetration into crack networks while its hydrophobic nature ensures effective sealing in wet conditions. This approach would eliminate disruptive excavation while providing a permanent solution.

Procedures

1. Engineers identified and mapped all visible leak points, prioritizing the most severe infiltration locations.
2. Injection ports were drilled at strategic locations to intersect water migration pathways through the concrete structure.
3. Spetec PUR F400 was mixed with appropriate catalyst ratios and injected using controlled pressure techniques.
4. Technicians monitored for complete crack filling and leak cessation, with post-injection inspections confirming successful sealing.
5. Work was coordinated to minimize disruption to building tenants throughout the process.

Results

The injection process successfully eliminated all water infiltration throughout the treated areas. Post-repair monitoring following significant rainfall events confirmed the complete cessation of leaks, with previously wet areas remaining dry. The project was completed with minimal disruption to building operations. The injection approach achieved 98%+ cost savings compared to traditional excavation and membrane installation methods. Additionally, avoiding a building evacuation prevented an estimated $25,000-$ 50,000 in lost rental income and tenant relocation costs.

Alchatek

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.

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