SEAWALL REPAIR NETWORK

Case Study

Duke University Marine Lab Seawall Project

At Duke University Marine Lab in Beaufort, North Carolina, facility managers faced a critical challenge with their aging seawall structure. An assessment revealed serious issues with the 20-foot tall panels, including breaches between joints and undercutting at the base that threatened the wall's stability. With the potential risk of structural collapse looming, a reliable and efficient repair solution became essential. Seawall Repair Network ® contractor Acelution was brought in to address these urgent concerns.



Proposed Solution

The team proposed a targeted repair approach using SW-RP1, a specialized polyurethane product. This solution was selected for several reasons...

- *Deep penetration capabilities:* The product could reach and seal deep cracks and voids.
- *Versatility:* It could address both the joint breaches and undercutting issues.
- *Minimal disruption:* The repair method would not require extensive excavation or replacement of the existing structure.
- *Cost:* The price of this solution is roughly 70-80% of the cost that it would take to replace the seawall.

Procedures

1. The crew used ½ inch steel probes to run down the entire length of the panels to 1 foot below the mud line.
2. Work was focused on specific areas identified by the facilities manager.
3. The product was injected at single points, with additional injection points spaced 10 feet apart.
4. Approximately ½ gallon of product was applied per vertical foot.
5. While injecting, the crew monitored for telltale signs such as bubbles and mud displacement.
6. The technicians treated multiple areas across the facility, adapting the approach as needed.

Results

The project was successful, with multiple areas treated, using between 5 and 10 gallons of product at each spot. In total, approximately 150 gallons of SW-RP1 were used for the Duke University Marine Lab project. The success of this project led to positive recommendations for future projects on the same site.