SEAWALL REPAIR NETWORK

Case Study

Seawall Repair – Lake of the Ozarks, Missouri

A homeowner on the Lake of the Ozarks in Missouri reached out to Seawall Repair Network® member contractor RT Construction after noticing soil erosion behind their seawall. This particular seawall was constructed with stacked stones that had been mortared together. Over the years, some of the stones broke loose and fell out, leaving gaps in the wall. Water poured through these gaps and eroded soil on the landward side of the wall, creating large voids behind the structure. In addition, the old drainage system that had been installed with the wall in order to prevent water buildup on the landward side was no longer working.



Repair Materials

The primary repair material used by Seawall Repair Network® contractors is SW-RP1. This material is ideal for stabilizing soil, filling voids, and stopping leaks. Once a seawall is airtight, it's important to install panel filters to prevent hydrostatic pressure from building up on the landward side due to accumulated rainwater. Panel filters allow water in the soil to drain through to the other side of the wall in a controlled manner.

SW-RP1 Uncured (Appearance brown liquid)		
Viscosity at 77°F (25°C)	(ASTM D4878-98)	± 215 cP (± 215 mPa.s)
Density	(ASTM D3505-96 [2000])	± 70.92 lbs/ft³ (± 1.12 kg/dm³)

SW-RP1 Accelerator, Accelerator for SW-RP1 (Appearance: yellow - orange liquid)		
Viscosity at 77°F (25°C)	(ASTM D4878-98)	± 75 cP (± 75 mPa.s)
Flash point	(ASTM D1310-86)	313°F (156°C)
Density	(ASTM D3505-96 [2000])	± 65.5 lbs/ft³ (± 1.05 kg/dm³)

Procedures

On the landward side of the wall, the crew began by inserting a half-inch injection rod to a depth of about 1 foot below the mud line (the point at which the bottom of the lake intersects with the seawall). SW-RP1 was then injected, the rod raised a little, more material was injected, and so on until that area behind the seawall was stabilized. This process was repeated every few feet along the back of the wall until the entire 100 foot seawall was reinforced and sealed up. Next, the crew installed panel filters between each injection location, allowing for water drainage into the lake and preventing any future damage from hydrostatic pressure.

Results

This entire repair job on all 100 feet of the seawall was completed in only two days. The property owner could see the visible improvements (sealed holes in the wall, filled voids in the soil, brand new panel filters installed) and was very happy with the results.

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