

Pacific Coast Terminals' Tunnel Repairs

Port Moody, BC, Canada (2017)

PRODUCTS USED:

Krytol Plug™ Krytol Repair Grout™ Krytol T1®

OWNER:

Pacific Coast Terminals Co. Ltd.

DISTRIBUTOR:

Kryton International Inc.

BACKGROUND

As part of the Port of Vancouver in British Columbia (BC), Canada, Pacific Coast Terminals Co. Ltd. (PCT) helps contribute to the trade of around \$240 billion in goods, which sustains over 115,000 jobs and \$11.9 billion in gross domestic product. It's a crucial part of local livelihoods in the region, and PCT is able to play a role in that through their exportation services. With both a port for ships and tunnels for transportation to ships in other locations, PCT is able to export thousands and thousands of tonnes of sulphur, ethylene glycol, potash, and canola oil annually around the world.

Of course, that level of trade is only possible when everything runs smoothly. Part of that means keeping transportation routes safe and viable, which by the mid-2010s was threatened when three of PCT's concrete conveyance tunnels started cracking and leaking. While they had been given waterproofing protection during their construction, it had not been effectively applied in a way that would prevent such water infiltration.

Realizing this, PCT sought a concrete leak repair system that could give their tunnels a much more watertight solution.

SOLUTION

It didn't take them long to find Kryton, a BC company with over 45 years of success in permanently repairing and waterproofing concrete. Trusting in Kryton's reputation, PCT turned to the company's Krytol® Leak Repair System. As a result, they had the tunnels' previous contractors apply the system to the three affected areas.

To help make this work a smooth and optimal experience, a tech expert from Kryton lent their waterproofing expertise.

Under their guidance, the contractor teams chiseled a 25.4-millimeter (one-inch) chase across the entire length of each crack. That made room for the leak repair system's Krytol Plug solution, which the contractor teams chose to apply to the entire chase.



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Due to its rapid-setting cement nature, Krystol Plug hardened within a couple minutes, creating a barrier that could stop the infiltration of water no matter the hydrostatic pressure. It was perfect for getting the leaking under control and giving the contractor teams time to add the leak repair system's Krystol Repair Grout.

Before applying it, Kryton's tech expert recommended that the teams use a wire brush to flatten the plug application and remove any of it from the sides of the chase. That would leave room for the grout and allow it to bond to the concrete sides of the chase, giving it the best chance to employ its advanced fiber technology and shrinkage-controlling additives, which would both help prevent the concrete from cracking further.

Moreover, it would supply the area with Krystol® technology, giving the surrounding concrete the ability to chemically react to incoming water. That reaction would create insoluble, interlocking crystals that would fill up any pores in the concrete that water would otherwise be able to pass through.

To finish up this repair process, the tech expert went on to recommend that the teams should apply a coat of Krystol T1 over the entire tunnel area instead of on just the repaired areas. Having a continuous layer of Krystol T1 like that would provide the repaired areas with additional Krystol technology protection and give the tunnel itself a barrier against any further water infiltration.

Before going ahead with this application, one of the contractor teams had been concerned that Krystol T1 could impact their tunnel's required sack finish. After consulting with the tech expert and seeing the results for themselves, they found that Krystol T1 did not impact the finish at all. Instead, it completed the Krystol Leak Repair System and kept each tunnel safe and dry enough for the installation of conveyor belts and related equipment, allowing PCT to continue exporting goods and maintaining the livelihoods of the surrounding locals.

