

700 West 8th

Vancouver, BC, Canada (2012)

PRODUCTS USED:

**Krytol Internal Membrane™ (KIM®) Krytol Assurance Program™ (KAP)
Krytol® Waterstop System**

OWNER:

Westbank Corp.

ARCHITECTS:

Henriquez Partners Architects
Office of McFarlane Biggar Architects + Designers

CONTRACTOR:

ICON Pacific Construction Corp.

READY-MIX SUPPLIER:

Ocean Construction Supplies Ltd.

APPLICATOR:

The Quorum Group

BACKGROUND

To create additional convenient living space for families in the Fairview neighborhood of Vancouver, Canada, Westbank Corp. decided that they would transform the area of 700 West 8th. Initially, the place was just a parking lot for a nearby hotel and casino. However, with Westbank Corp.'s vision, it would soon be a multi-family residence consisting of two mini towers of differing heights, with one being 17 stories and the other 12 stories.

Between the two towers, there would be room for 10 townhouses, six senior apartments, and 106 regular suites. All of which would be located within walking distance of stores, businesses, cafes, and transit. That would make the development not only a very accessible place but also a sustainable one. After all, there would be other travel options to get to and from 700 West 8th instead of relying solely on vehicles.

Westbank Corp. didn't want to leave the development with just that one sustainability advantage, however. The design they had in mind for the development would include green features such as geothermal heating and cooling, rainwater retention, and solar shading.

None of which would come to pass if Westbank Corp.'s construction team couldn't overcome the area's building obstacles first. For one, the team was tasked with maximizing their building space in a tight location without compromising build quality. They would also need to carefully consider waterproofing the area as 700 West 8th was in not only a tight area but one prone to continuous runoff, which came from the base of a nearby long, steep slope.

SOLUTION

When tackling the first obstacle, the team determined that they could optimize building space by using shotcrete for the project's two-story parkade.



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It would be quicker to apply than cast-in-place concrete and would have no need for on-site form storage or a crane for moving forms. But it also came with some concerns. The biggest one was that structural shotcrete was a new concept to the Vancouver market at the time. As a result, fewer professionals had experience working with a shotcrete design. That would make it more of a challenge for the team to produce defective-free concrete.

The other main concern was that it would also make the waterproofing more of a challenge. If the team applied an external waterproofing membrane, there was a chance that the heavy force of the shotcrete coming out of the nozzle would tear right through it, ruining the project's protection against water ingress.

While the first concern would be harder to manage, the team knew they could avoid the concern with external membranes by using Kryton's waterproofing admixture, KIM. With KIM, the team could add the waterproofing protection directly to the shotcrete mix. That would ensure they could forego the need for an external waterproofing membrane while still producing fully waterproofed concrete. It would be all thanks to KIM's Krytol® technology, which allows the concrete itself to chemically react to incoming water in order to block it from passing through the concrete's surface.

Of course, KIM wasn't the only benefit that Kryton offered. After hearing about the first concern the team had, the company proposed their KAP service. Under it, the team would have a performance-based guarantee with a robust, all-inclusive 10-year material and labor warranty combined with a premium quality control service. That meant the team could move forward with their shotcrete choice with much less concern as Kryton would be there to mitigate risk through site support, design detail support, and 10 years of warranty. It would also make for a great selling point to potential residents of the building as they'd know any leaks would be swiftly and professionally taken care of. For further peace of mind, the team also applied Kryton's Krytol Waterstop System to the parkade's vertical and horizontal construction joints so they would be as watertight as the shotcrete itself.

All of which led to Bryan Tucker, the former vice president for ICON Pacific Construction Corp., noting the following:

Using Kryton's KIM in the shotcrete as the concrete waterproofer helped us complete the project on time with a fast-paced schedule. Due to our success on 700 West 8th, we have been using Kryton's Krytol waterproofing system on a variety of other projects in different parts of the lower mainland of BC.

Since then, ICON Pacific Construction Corp. has used the same shotcrete and waterproofing system for 60 West Cordova, 6th and Fir, and the Avra in White Rock, Canada, with more projects to come in the future.

