

Mark on 10th

Calgary, AB, Canada (2016)

PRODUCTS USED:

**Krytol Internal Membrane™ (KIM®) Krytol Waterstop Grout™
Krytol Waterstop Treatment™**

DEVELOPER:

Qualex-Landmark

ARCHITECTS:

BKDI Architects
Rafii Architects Inc.

ENGINEER:

Williams Engineering Canada

CONTRACTOR:

ITC Construction Group

APPLICATOR:

Structural Shotcrete Ltd.

DISTRIBUTOR:

Cascade Aqua-Tech Ltd.

BACKGROUND

The mid- to late 2010s were an especially great time to find a newly constructed watertight building to live or work in around Calgary in Alberta, Canada. With the hard work and waterproofing expertise of Kryton's distributor in Alberta, Cascade Aqua-Tech Ltd., Calgary neighborhoods saw the completed construction of permanently waterproof towers, such as The Concord, The Verve, The Royal, the Eau Claire Tower, and many more.

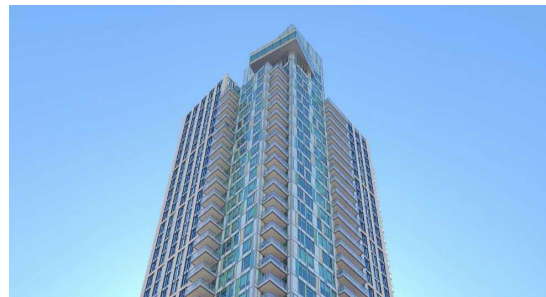
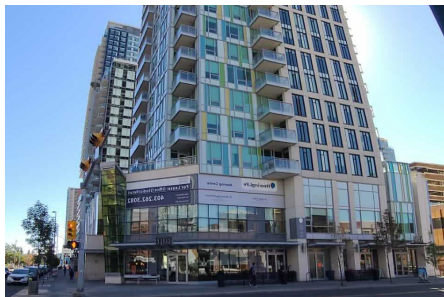
As part of this work, the distributor helped with Qualex-Landmark's Mark on 10th development. Built in a popular Calgary neighborhood known as the Beltline, the Mark on 10th was designed to have office, retail, and residential space. Keeping that multipurpose aspect in mind, BKDI Architects, with the help of Rafii Architects Inc., clearly reflected it throughout the exterior of the tower. As a result, Mark on 10th stands at 35 stories with a sleek modern design that promotes a professional appeal while also taking advantage of unique shapes and different color-tinted glass to give off a fun, playful vibe for residents and shoppers.

The inside of the building is no less appealing either. Within, the tower houses 274 suites, shops that are easily accessible at the street level, second-floor office space, and residential space.

All of which required waterproofing the tower's below grade parkade walls to ensure that the Mark on 10th would survive flooding, which had happened before in the area when Calgary experienced the devastating 2013 Alberta floods.

SOLUTION

To construct the parkade and make it waterproof, the construction team working on the Mark on 10th chose to go with cast-in-place concrete and a bentonite waterproofing membrane.



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It was a traditional way to waterproof a building and seemed to go as expected until the team discovered they would have no more space for the cast-in-place concrete or the membrane for one of the parkade's walls.

The team couldn't just leave one area fully unprotected against the possibility of water ingress. That would let water pass through the concrete unhindered to corrode the reinforcing steel within and weaken the structural integrity of the Mark on 10th. It would also threaten the safety of people using the building.

To prevent that from happening, they decided to take on a more innovative approach. They consulted with Cascade Aqua-Tech Ltd. and determined that they could construct and waterproof the wall at the same time with KIM, an award-winning crystalline waterproofing admixture.

It would be a less time-consuming and labor-intensive process as KIM's application is short. The admixture only needs to be added directly to the shotcrete mix. From there, it will disperse Krytol® technology, which will remain dormant within the shotcrete wall until it encounters the presence of water. As soon as that happens, the Krytol technology will chemically react to the water and nearby unhydrated cement particles to form interlocking crystals that will fill up pores and micro-cracks throughout the concrete, blocking any pathways for the water.

Before applying this innovative waterproofing solution, however, the construction team first needed to apply Krytol Waterstop Grout and Krytol Waterstop Treatment to all the preplanned construction joints. The grout would use fiber reinforcements to reduce any shrinkage and limit cracking while the treatment would provide additional protection to joints using Krytol technology through a cementitious crystalline slurry.

After the construction team finished applying these two solutions and the KIM-treated shotcrete, they noted how much easier the whole process was compared to the time and effort spent applying a membrane to cast-in-place concrete. They no longer had to worry about ensuring their waterproofing barrier would stay intact. Instead, the KIM-treated shotcrete was and will permanently remain both a waterproof barrier and wall.

With Krytol technology in the shotcrete only going dormant and never disappearing, no water will be able to penetrate the shotcrete wall, permanently protecting the wall's reinforcing rebar and showing just how simple and effective KIM waterproofing can be.

