

Oakridge Centre Redevelopment

Vancouver, BC, Canada (2028)

PRODUCTS USED:

Krystol Internal Membrane™ (KIM®) **Krystol Waterstop Treatment™**
Krytonite™ Swelling Waterstop

OWNER:

QuadReal Property Group Ltd.

DEVELOPER:

Westbank Corp.

ARCHITECTS:

Adamson Associates Architects
Henriquez Partners Architects

READY-MIX SUPPLIER:

Lafarge

DISTRIBUTOR:

Kryton International Inc.

BACKGROUND

With an ambitious vision to give Vancouver residents in Oakridge a newer, better standard of living, QuadReal Property Group Ltd. has partnered with Westbank Corp. to redevelop the 28-acre Oakridge Centre site. Under their direction, the site has undergone a \$5-billion overhaul, which will cover 510,967 m² (5,500,000 ft²), making it one of the largest developments in Metro Vancouver. As part of that overhaul, multiple architect firms have helped give the new site a design that combines a vast array of residential, office, retail, public realm, civic, and cultural features. These include thousands of new homes; enough workspace to help create over 5,000 full-time jobs; over 90,000 m² (1,000,000 ft²) of retail space; a nine-acre public park; and a 9,569-square meter (103,000-square foot) civic center that will contain a community center, the second-largest library in Vancouver, a daycare, and performance and cultural spaces.

In short, the Oakridge Centre redevelopment is a massive, visionary undertaking that melds both lush greenery with spacious and convenient modern living. In fact, it's such an extensive undertaking that the project has helped initiate Oakridge Centre's new designation as a municipal town center, making it the second of its kind for Vancouver.

But to keep this new town center standing, QuadReal Property Group Ltd. and Westbank Corp. knew they'd need to protect the concrete foundations of the redevelopment from the site's underground aquifer and surrounding wet terrain. Without that protection, the moisture from such an environment could easily seep through the concrete, introducing waterborne contaminants, corroding any reinforcing rebar within the concrete, and creating leakages. All of which would be a threat to the new municipal town center's structural integrity.



Oakridge Centre Redevelopment

Vancouver, BC, Canada (2028)

PRODUCTS USED:

Krystol Internal Membrane™ (KIM®) **Krystol Waterstop Treatment™**
Krytonite™ Swelling Waterstop

SOLUTION

If Oakridge Centre's redevelopment was going to last as a municipal town center, its protection from water needed to be reliable. That's why the redevelopment construction team went with Kryton's Smart Concrete® solutions for the most high-risk areas, such as the elevator pits and the lowest, wettest parts of the site's base slab, and chose external membranes for the lower risk places. After all, they knew that further away from the redevelopment site's aquifer and wet terrain, any hydrostatic pressure would be much less significant, making it easier for external membranes to protect those spaces without breaking down. Meanwhile, with Kryton's solutions, they could provide the base slab and elevator pits with waterproofing that can withstand hydrostatic pressure permanently.

All the team needed to do to start was apply Kryton's KIM admixture to the concrete mix for those areas. That gave the concrete there the ability to chemically react to both water and unhydrated cement particles, forming solid interlocking crystals. These crystals would then fill up capillary pores and micro-cracks in the concrete, blocking out any pathways for water to get through.

It's a process that only strengthens with time, ensuring that it can protect Oakridge Centre's redevelopment for its entire life span. That in turn reduces the chances of needing to repair or replace the concrete in the redevelopment's high-risk areas, lowering the overall cost and lifetime carbon emissions of the project.

While beneficial for the redevelopment in the long term, it doesn't provide as much protection to the surrounding below grade construction joints. To remedy that, the construction team turned to their other chosen Smart Concrete solutions. As a result, they applied Krystol Waterstop Treatment to both the slab and the perimeter wall joints and Krytonite Swelling Waterstop to the vertical wall joints. The treatment supplied a cementitious crystalline slurry using the same Krystol® technology as the KIM admixture, giving the slab and perimeter wall joints additional waterproofing protection. And the waterstop was placed as a more physical barrier, ensuring that if any water got near the vertical wall joints, it could compressively seal those joints away from contact with moisture.

With all three Smart Concrete solutions alongside additional lower risk protection from waterproofing membranes, the construction team was confident that they could permanently protect Vancouver's soon-to-be-newest municipal town center in a more cost-effective and sustainable way.

