

Scottsdale Waterfront

Scottsdale, AZ, USA (2007)

PRODUCTS USED:

Krytol Internal Membrane™ (KIM®)
Krytol® Waterstop System



ARCHITECT/ENGINEER:

Opus Architects & Engineers

CONTRACTOR:

Opus West Construction Corp.

EXCAVATING/SHORING/FINISHING CONTRACTOR:

Graham Industrial Services

SHOTCRETE SUBCONTRACTOR:

Saguaro Gunitite Inc.

DISTRIBUTOR:

Hill Brothers Chemical Co.

BACKGROUND

The luxurious Scottsdale Waterfront project was built adjacent to 549 m (1,800 ft) of the Arizona Canal, which itself stretches 62 km (38 mi) from the Salt River Pima-Maricopa Indian Community to the Northwest Valley. This large-scale project included two-and-three-story retail office buildings, two 13-story retail office buildings, and two 13-story residential buildings.

Before this project could even be realized, however, the project team needed a concrete waterproofing solution that could withstand seasonal weather challenges. After all, with summer temperatures as high as 40°C (105°F) in Scottsdale, the surrounding desert area was susceptible to monsoon rains, which can be an extremely damaging type of weather, hitting surfaces with up to 2.54 cm (1 in) of rain per hour.

Weather wasn't the only concern for the project team, however. The team also had to consider using a concrete waterproofing system that worked well with a shotcrete application. For instance, if they used an external waterproofing membrane system, there was a chance it could get damaged. Such systems are often easily damaged from backfill operations, soil nails, and tiebacks, resulting in a compromised external membrane that will ultimately lead to both the system failing and leaking.

Other waterproofing concerns involved the buildings' sprinkler system. Because the sprinkler system could not be accessed through the usual city piping systems, it needed on-site water storage tanks. However, the project team first needed a waterproofing system to keep the water from escaping the tanks.

SOLUTION

All of these waterproofing concerns led the project team to go with one of Kryton's distributors, Hill Brothers Chemical Co.



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With this distributor, they used about 1,530 m³ (2,000 y³) of shotcrete that incorporated Kryton's KIM, a concrete waterproofing admixture. This allowed them to waterproof all below grade walls and build the water storage tanks for the buildings' sprinkler system. To protect all the construction joints involved in this work, the team also used Kryton's leading jointing process, the Krytol Waterstop System.

By applying Kryton products to the floor and wall slabs and to the construction joints, Opus West Construction Corp. was able to save a considerable amount of time and money that might otherwise have been spent on working around an external membrane and all the risks that come with it. However, that wasn't the only benefit the Kryton products brought to the table.

When asked why Opus West Construction Corp. chose to use Kryton's KIM admixture in their concrete, the superintendent at the time, Tyge Nason, said:

We chose the integral KIM additive because of its easy one-step application and because of the insurance Kryton added to the prohibition of water intrusion...the one-step nature of KIM saved valuable time in our construction schedule (approx. three weeks). This is a field-tested product that really worked, giving everyone involved peace of mind.

In turn, Buesing Corp., the excavating, shoring, and finishing wall contractor, was able to backfill without worry of damaging an external membrane and shaved precious time off the construction schedule as a result.

Not long after construction was completed, the project earned the Environmental Excellence Award in 2008 from the Valley Forward Association (now known as Arizona Forward) and the 2008 AZRE Real Estate and Development Award for best multi-family project.

