Terminus 100

Atlanta, GA, USA (2007)

PRODUCTS USED:

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

OWNER/DEVELOPER:
Cousins Properties Inc.

ARCHITECTS:
HKS, Inc. (Atlanta)
Duda|Paine Architects

ENGINEER:
Danny Brahana

GENERAL CONTRACTOR:
Hardin Construction

SHORING WALL CONTRACTOR:
ABE Enterprises, Inc.

DISTRIBUTOR:
Kryton International Inc.

BACKGROUND

Buckhead is one of Atlanta's most important and trendy business districts noted for its shopping, entertainment, and high-end residential neighborhoods. Running north and south through the district, the Peachtree Road corridor is characterized by high-rise developments, including the striking Terminus 100 building. At a height of 148 m (485 ft), this building features 26 floors and 60,000 m^2 (650,000 ft^2) of multi-use space (for both ground-floor retail and residential needs) that is topped by a glass crown.

As part of this building's construction, Atlanta's ABE Enterprises, Inc. installed their innovative top-down shoring wall in the parking garage, which is two levels below grade. Rather than digging to the required depth and installing the wall from the bottom up, the company built their shoring wall in stages, starting at grade level. This approach saves on time and cost, but as the concrete is poured directly against the soil, it leaves no room to apply waterproofing membranes. As a result, the project team needed an equally innovative concrete waterproofing system.

SOLUTION

The project team's first choice for a waterproofing system was Kryton's own Smart Concrete® solutions, which included KIM and the Krystol Waterstop System.

With KIM, they added the admixture directly into the concrete mix for the below grade walls and matt slab to fully waterproof the parking garage. This ensured they no longer needed to worry about installing an external membrane and getting into the positive (wet exterior) side of the Terminus 100 building, which had limited access.

KRYTON®
SMART CONCRETE®

Kryton International Inc.
1645 East Kent Avenue, Vancouver, BC, Canada, V5P 2S8 | T 1.604.324.8280 | F 1.604.324.8899 | W kryton.com | E info@kryton.com

Terminus 100

Atlanta, GA, USA (2007)

PRODUCTS USED:

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

If they had chosen a traditional external membrane, there might have been concern over cracking, peeling, tearing, separation of the seams, or deterioration under UV exposure. However, with KIM, these concerns were no longer present. That's because KIM is designed to become part of the concrete matrix and will last for the lifetime of the structure. Unlike traditional membranes, it is unaffected by surface wear and tear and cannot be damaged by backfill.

With these beneficial features, the project team didn't need to schedule a membrane application or deal with any membrane damage that might have come from backfilling. As a result, they managed to shorten their construction time, lower the cost of construction, and reduce downstream maintenance and repairs.

This led them to use a total of 930 m^3 (1,200 y^3) of KIM-treated concrete to waterproof the below grade shoring walls at Terminus 100.

To further simplify the waterproofing for their construction joints, the project team went with Kryton's Krystol Waterstop System. This advanced joint system replaced the need for complicated, labor-intensive polyvinyl chloride (PVC) or bentonite applications. Instead, like KIM, it was made with the same Krystol® technology to permanently waterproof static construction joints. This Krystol technology would protect both construction joints and walls by forming millions of needle-like crystals, filling spaces between concrete particles, blocking the penetration of water and corrosive elements, and resisting hydrostatic pressure. Over time, any incoming water would cause additional crystals to form, self-sealing small concrete cracks.

By using products with such technology, a considerable amount of construction time and cost was saved. The use of KIM eliminated numerous steps traditionally encountered with waterproofing a shoring wall, and it also created the foundation for a watertight structure. Likewise, the use of the Krystol Waterstop System eliminated unnecessary steps in waterproofing construction joints that the project team might have experienced with a PVC or bentonite application.

Hardin Construction was so pleased with the performance of Kryton's Krystol products that they started planning their Terminus 200 project with the technology in mind.

Shoring Wall Contractor ABE Enterprises, Inc. also started incorporating KIM in their new shotcrete-style shoring walls, which became the first of their type on the east coast of the United States of America.

These two companies weren't the only ones to take notice of Kryton's Krystol quality either. In time, the Terminus 100 building was given certification for Leadership in Energy and Environmental Design Platinum, the BOMA 360 Performance Program, and ENERGY STAR.

KRYTON®
SMART CONCRETE®

Kryton International Inc.
1645 East Kent Avenue, Vancouver, BC, Canada, V5P 2S8 | T 1.604.324.8280 | F 1.604.324.8899 | W kryton.com | E info@kryton.com