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KRYTON

volume 8 | issue 1

Krytol Waterstop
Grout & Treatment

Krytol Waterstop
Grout

Slab

Detail

Kryton's Krytol Waterstop System™ was used in place of conventional PVC waterstops during the construction of Spectrum's three-level, below-grade basement parking facility.

Krytol Waterstop System™

An Innovative Application of a Proven Technology

Located on the former Expo 86 lands bordering Vancouver's downtown core, Concord Pacific Place is a 204-acre residential/commercial development that, when completed, will include 9,100 residential units and 2.5 million square feet of retail/commercial space.

The newest Concord Pacific Place project, Spectrum, is a \$170 million, 32-story, four-tower retail/residential complex that includes an in-house movie theatre and a 147,000 square foot Costco store.

During construction of the Spectrum's three-level, below-grade basement parking facility, a PVC waterstop was inadvertently left out of a vital construction joint. The project's forming contractor, Micron Construction, looked to Fairwind Construction Products, a local Kryton distributor, for waterstop alternatives for the unprotected joint. Fairwind recommended the Krytol Waterstop System™.

The Krytol Waterstop System is based on Kryton's proprietary Krytol™ technology, which has been successfully used worldwide for more than 30 years. Krytol is an integral crystalline waterproofing compound that has been proven to waterproof concrete from the inside out, replacing conventional external membranes and waterstop systems.

A worldwide patent is currently pending for this innovative joint design system, which utilizes two cementitious, Krytol-based products: Krytol Waterstop Grout™ and Krytol Waterstop

Did You Know?

Quick! How many meters in a mile?
How many fluid ounces in a gallon? How
do you calculate the volume of a cylinder?

Solve these and other measurement and conversion problems with Kryton's convenient online measurement calculator. The calculator converts metric measurements to imperial, mass, area, volume and much more. It also provides formulas to help you calculate area, circumference, diameter, etc. at a glance.

For the answers to your measurement questions, visit: www.kryton.com/product_specifiers.html.

P.S. One mile equals 1,609.44 meters, one gallon equals 128 fluid ounces, and to calculate the volume of a cylinder, multiply $\text{diameter}^2 \times \text{length} \times 0.7854$.



MEASUREMENT
CALCULATOR

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"Krystol Waterstop System™..." *continued from cover*

Treatment™. For new construction a triangle-shaped strip of Krystol Waterstop Grout is created along the edge of a concrete slab or wall where a new wall is to be poured. Once the grout has cured, Krystol Waterstop Treatment is applied and the wall can be poured as normal.

The Krystol Waterstop System provides superior construction joint protection and offers a number of advantages over conventional barrier systems. The system is easier to install, saving construction time and labour costs and reducing the requirement for skilled trades. It requires no specialized equipment and eliminates the need to prime concrete surfaces. Unlike PVC or bentonite, Krystol technology won't deteriorate over time and because the Krystol Waterstop System combines a chemical barrier with a physical barrier, waterproofing is not compromised even if the application is chipped or damaged. Best of all, the Krystol Waterstop System costs significantly less than other waterstop systems.

After a successful demonstration of the Krystol Waterstop System, the Spectrum project team decided not only to retrofit the unprotected construction joint, but also to use the system in place of the PVC waterstops in all remaining joints. ♦

Coatings Ca



L'aria's concrete exterior is protected with Kryton's Wall-Gard™ and Vika-Graffiti Shield™.

Rooftop Parking Solves Space Issues, Creates Waterproofing Challenges

One of the fastest-growing retail trends in Europe and Asia is the hypermarket – a very large, one-stop retail store offering groceries, dry goods, home furnishings and more. Since hypermarkets are often located in areas where real estate is at a premium, many owners and builders are utilizing rooftop space for parking lots. When building a new Home Plus hypermarket in Dongdaemun, Seoul, Korea, Samsung

was in search of a new waterproofing option for the rooftop parking lot. They had experienced problems with other waterproofing systems, such as rubberized asphalt, polyurethane coatings and various membranes, at other stores in the chain. And since rooftop parking lots are difficult to take out of

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One of four Home Plus stores in Korea using the Krystol Internal Membrane™ admixture to their rooftop parking lot



KRYTON EXTRAS

Kryton Receives Key Certifications



- Kryton's Krystol Internal Membrane™ (KIM™), is the first concrete admixture to be certified by the **"International Code Council - Evaluation Service (ICC-ES)"** as a chemical admixture used in concrete (ACI98). ICC-ES is a non-profit U.S. organization that reviews and evaluates building products, materials and methods to ensure they comply with the 2003 International Building Code and the 1997 Uniform Building Code.

KIM has been accepted and certified by the ICC-ES as being non-detrimental to concrete and is the first product of its type to receive ICC-ES approval.



- KIM-HS™ has qualified for **European CE marking (the "CE mark")**, which signifies that a product adheres to all applicable European Union directives and meets designated safety and quality standards. Manufacturers of 22 different product categories must qualify for, and display, the CE mark

Case Study Grime and Graffiti No Match for Kryton Coatings

It is said that, when it comes to real estate, the three most important factors are location, location and location. Situated in the heart of Vancouver's downtown core, L'Aria is a 13-story residential /retail high-rise that offers a truly urban lifestyle. Unfortunately, the building's location also means increased exposure to dirt, pollution and, of course, graffiti.

During construction, the project team needed a solution to seal L'Aria's concrete exterior and protect it from city grime, graffiti artists and the elements. After viewing several nearby buildings that had used Kryton's Wall-Gard™, and learning about the products long history of success in Vancouver's wet climate, the project architect specified Wall-Gard for the project.

Wall-Gard is a weatherproof, elastomeric coating designed to beautify and protect exterior concrete, stucco, masonry, brick, block and wood. Formulated from a pure acrylic polymer, it offers excellent hiding power and minimal shrinkage. Resistant to dirt pickup and freezing/thawing, Wall-Gard breathes to prevent blistering and peeling. Wall-Gard is U.V. and fade resistant, and comes in a variety of colors.

After applying Wall-Gard to the building exterior, the L'Aria project team applied Kryton's Vika-Graffiti Shield™ to a height of approximately 8 feet on all sides of the building. A two-component urethane coating that cures to a tough, chemical-resistant finish, Vika-Graffiti Shield™ prevents graffiti from penetrating the surface and allows for quick and easy graffiti removal.

The recently completed L'Aria is now available for occupancy and the owners, residents and retailers can enjoy downtown convenience without downtown grime. ■



Close up of the Krystol Waterstop System™

Concrete Basics

Shut the Door on Leaks with an Effective Waterstop System

If you were concerned about home security, you wouldn't lock the windows and leave the doors wide open, right?

But if you're waterproofing a concrete structure and don't use a waterstop system to seal construction joints, that's just what you're doing. When it comes

to concrete waterproofing, the horizontal or vertical joints between pours are among the most vulnerable areas of a structure and without a waterstop system, you're leaving the door wide open for leakage to occur.

There are several types of waterstop systems available. Since the late 1950s, the conventional choice has been waterstop systems that use a physical barrier to block water penetration. Most commonly, a strip of sodium bentonite (clay) is applied to the joint site, or a PVC barrier is placed into a wall or slab before an adjoining wall was poured.

While these systems provide waterstop protection, they also present a number of challenges. Shifting or damage during concrete pours can leave joints unprotected and susceptible to leakage. They require more expensive, skilled labour to install, and they have a finite life, meaning they will eventually deteriorate.

Recently, builders have begun using waterstop systems which are based on integral crystalline waterproofing, a proven, 30-year-old technology.

With a crystalline waterstop system, a cementitious mixture containing a high concentration of crystalline chemicals is applied to the joint area before a new wall is poured. The crystalline technology creates a chemical reaction that causes millions of needle-like crystals to grow, filling the spaces between concrete particles and blocking the movement of water in all directions.

Crystalline waterstop systems offer several key advantages. Because they incorporate a chemical barrier in addition to a strong physical barrier the waterproofing capability is not compromised by damage during pours and they won't deteriorate over time. By self-sealing small cracks, they reduce maintenance and repair costs. Some systems are certified non-toxic and safe for use in potable water containment. And since they're easy to install and don't require skilled labour, crystalline waterstop systems can cost as much as 50% less than physical barrier systems.

The best way to achieve an effective, watertight seal and protect your concrete structure

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to sell to countries within the European Union or European Free Trade Area. To qualify to use the CE marking, Kryton underwent a rigorous assessment including an in-depth product testing regimen in compliance with the European Standard, EN 934-2:2001, a factory inspection and an audit of the company's quality control systems by the British Board of Agrément (BBA).

• Kryton International has received an Agrément Certificate from the **British Board of Agrément (BBA)**, certifying KIM-HS™ as a permeability-reducing admixture that meets or exceeds construction standards in all U.K. countries. BBA Agrément Certificates provide

authoritative and independent information on the performance of building products and contain important data on durability, installation and compliance with UK building regulations. A full report on test results will be available at www.bbacerts.co.uk.

• Kryton's Vikadeck™ Floor Coating System has received approval from the **Canadian Food Inspection Agency (CFIA)** for use in establishments such as restaurants, grocery stores and food processing plants. Both the Vikadeck system as a whole and the individual products that comprise it – Epox-15, Vikadeck 13-340 and Vikadeck 13-320 – were approved. For more information about the CFIA, visit www.inspection.gc.ca.

Kryton Happenings

Kryton's President and CEO Receives ACI Award

On April 17, Kryton's President and CEO, Kari Yuers, received the Young Member Award for Professional Achievement by the American Concrete Institute International at the ACI Spring Convention in New York City.

The Young Member Award recognizes the contributions and professional achievements of ACI members aged 35 or less.

"The American Concrete Institute has long demonstrated a deep commitment to learning and knowledge, and I've always been proud to be associated with the Institute," said Kari Yuers. "It has been my pleasure to be involved with this great group of people in so many ways, and I'm truly honored to be recognized with this award."

Founded in 1904, the American Concrete Institute is a technical and educational society dedicated to improving the design, construction, maintenance and repair of concrete structures.



"Rooftop Parking..." continued from page 2

service for repairs, Samsung needed a more reliable and permanent waterproofing option.

Buil Keonwha Co., Kryton's Korean dealer, recommended the Krystol Internal Membrane™ (KIM™) waterproofing admixture. KIM uses Kryton's proprietary crystalline technology to transform concrete into a watertight barrier. When added to a concrete mix, Krystol reacts with water and unhydrated concrete, causing millions of needle-like crystals to form, blocking the penetration of water and corrosive elements. Even years later, incoming water causes additional crystals to form, self-sealing small cracks and saving repair time and costs.

To avoid shrinkage cracks, the 4,600m², 15-20 cm thick slab was poured in two phases, 15 days apart. The joint between pours was treated with the Krystol Waterstop System™ for added protection.

One-and-a-half years since the first application, the rooftop parking lot at the Dongdaemun Home Plus remains leak-free. Although cracks greater than 0.5mm have appeared, they have all self-sealed and there has been no water penetration.

Samsung is now using KIM in the rooftop parking lots of four other Home Plus stores in Korea, and Buil Keonwha has begun receiving calls from other hypermarket owners interested in learning more about this innovative waterproofing system. ■

"Concrete Basics..." continued from page 3

from expensive and inconvenient leakage problems is to use a reliable waterstop system in combination with an overall waterproofing system.

To learn which waterstop system is right for your concrete construction project, contact your local Kryton representative. ■

Kryton Keeps Growing

We are pleased to announce these additions to our worldwide distribution team:



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the **krystol ball** is the official newsletter of the Kryton Group of Companies

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