



*At the Lab. In the Field.
By Your Side.*

HOME PLUS STORES, KOREA

Korea (Seoul, Bucheon, Ansan and Daegu)

Spring 2005



**CONCRETE
WATERPROOFING**

Page 1 of 2

QUESTIONS: 1-800-267-8280 or www.kryton.com

CHALLENGE

The hypermarket - a very large retail store offering groceries, dry goods, home furnishings and more - is one of the fastest-growing retail trends in Europe and Asia. Naturally, a store of this size requires a sizeable parking facility. And since hypermarkets are often located in areas where real estate is at a premium, many owners and builders utilize the rooftops of these structures as parking lots.

When building a new Home Plus hypermarket in Seoul, Korea, Samsung was in search of a waterproofing solution for the rooftop parking lot. They had utilized a number of different waterproofing systems including rubberized asphalt, polyurethane coatings and various membranes, in past projects, but had experienced challenges with cracking, air pockets, fractures and peeling.

Since rooftop parking lots are expensive to repair and difficult and inconvenient to take out of service, Samsung needed a more reliable and permanent waterproofing option than had previously been used.

SOLUTION

Buil Keonwha Co., Ltd., Kryton's Korean dealer, recommended the Krystol Internal Membrane™ (KIM™) 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. Over time, incoming water causes additional crystals to form, self-sealing small cracks and saving repair and maintenance time and costs.

Because KIM had never before been used in this type of project in Korea, Buil Keonwha faced many questions from the project's architect, supervisor and



Above: Samsung Tesco's first Home Plus Hypermarket store under construction in Seoul.

Below: The first phase of the 4600m2 concrete pour.

Bottom: Careful finishing of the KIM concrete rooftop slab.



PROJECT CASE STUDY

The Kryton Group of Companies.

8280 Ross Street, Vancouver B.C. Canada V5X 4C6 Tel.: 1-604-324-8280 Toll Free: 1-800-267-8280 Fax: 1-604-324-8899 E-mail: info@kryton.com Web: www.kryton.com

HOME PLUS STORES, KOREA

Korea (Seoul, Bucheon, Ansan and Daegu)

Page 2 of 2

contractors. After viewing a successful demonstration, however, the Samsung project team chose to use KIM in place of an unexposed membrane system.

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 no greater than 0.3mm have appeared, they have self-sealed and there has been no water penetration.

Pleased with KIM's performance and the time and cost savings it generated for the first project, Samsung used KIM in the rooftop parking lots of three other Home Plus stores in Korea - Bucheon, Ansan and Daegu. The company also plans to use KIM in all future Home Plus locations.



Above: The KIM concrete experienced less shrinkage and less cracking during the curing period.



LOCATION

Korea (Seoul, Bucheon, Ansan and Daegu)

OWNER

Samsung Tesco Co., Ltd.

ARCHITECT & ENGINEER

Danwoo Architect Office

CONTRACTOR

Samsung Construction Co., Ltd.

SUPPLIER

Buil Keonwha Co. Ltd.

SUPERVISOR

Hanmi Parsons

The Kryton Group of Companies.

8280 Ross Street, Vancouver B.C. Canada V5X 4C6 Tel.: 1-604-324-8280 Toll Free: 1-800-267-8280 Fax: 1-604-324-8899 E-mail: info@kryton.com Web: www.kryton.com