

# Villa Royale

Hong Kong, China (2016)

## PRODUCTS USED:

**Krystol Plug™ Krystol Internal Membrane™ (KIM®)**  
**Krystol Bari-Cote™ Krystol T1®**

### OWNER/DEVELOPER/ARCHITECT/ENGINEER:

Harbour Rich Industrial Ltd.

### CONTRACTOR/APPLICATOR:

Forerunner Energy Service Ltd.

### DISTRIBUTOR:

Chevalier (Building Supplies & Engineering) Ltd.

## BACKGROUND

Hong Kong is home to a plethora of condo and apartment buildings that range in size, luxury, and building methods. Some of these buildings will last well over 100 years, whereas others may become dilapidated after a few short decades. Unfortunately, such dilapidated buildings have seen an increase in numbers. By 2011, there were at least 1,400 buildings more than 30 years old in dilapidated conditions. Six years later, Hong Kong had a higher number of much older buildings in need of redevelopment, with about 10,000 buildings aged 50 years or more.

In short, the city was in need of residential buildings built to last. The Villa Royale was one such building. However, during its construction, workers did apply a traditional external waterproofing membrane, which eventually failed, leading to a leak in the building. To halt that leak in its tracks, the Villa Royale's repair team knew they'd need an innovative waterproofing solution.

## SOLUTION

The contractor on the project recommended the use of Kryton's repair solutions to fix the damaged area of the concrete caused by the failed membrane. These solutions included the use of several main products: Krystol Plug, KIM, Krystol Bari-Cote, and Krystol T1. The workers applied the first three products to the damage around the Villa Royale's roof. The plug's rapid-setting and high-compressive strength allowed the team to stop any water from passing through. KIM then enabled the surrounding concrete to protect itself from the leaking water, giving it the ability to chemically react to water and create needle-shaped crystals to block it. And the Bari-Cote helped resurface the damaged concrete.

For extra protection, the workers also applied Krystol T1 to the inside and outside of the damaged area of the concrete. As a crystalline waterproofing slurry treatment, Krystol T1 uses the same technology as KIM to ensure the concrete remains permanently protected from water. All of which reliably stopped the flow of water and ensured the concrete would not leak even with its original membrane damaged beyond repair.

