

# Anti-Corruption Bureau Headquarters' Expansion

Bandar Seri Begawan, Brunei Darussalam (2014)

PRODUCTS USED:

**Krytol Internal Membrane™ (KIM®)** **Krytol T1®** **Krytol T2®**

**OWNER:**

Anti-Corruption Bureau

**ARCHITECT:**

Arkitek Ibrahim

**ENGINEER:**

Public Works Department

**CONTRACTOR:**

Indramas Sdn. Bhd.

**READY-MIX SUPPLIER:**

Readymix Concrete (B) Sdn. Bhd.

**APPLICATOR:**

BUE Construction

**DISTRIBUTOR:**

BUE Enterprise

## BACKGROUND

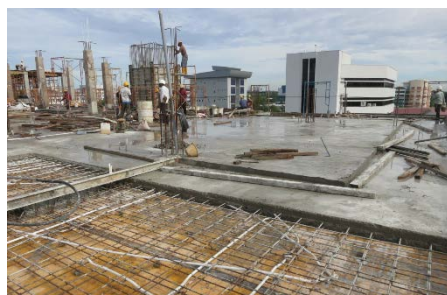
Introduced on January 1, 1982, Brunei Darussalam's Prevention of Corruption Act initiated the creation of the Anti-Corruption Bureau. As the name of both the act and office implies, the two were designed to work together to protect Brunei Darussalam from corruption. To do that, the act provided the bureau with the legal power to investigate certain offences to the country's penal code and other written laws, and the bureau enacted on this legal privilege.

They had been given a responsibility crucial to the well-being of Brunei Darussalam, which meant employees for the bureau needed to work as efficiently as possible. Initially, the Anti-Corruption Bureau's environment worked well enough to promote such efficiency. However, over time, as the bureau's workforce steadily grew, the environment became less conducive to the bureau officers investigating corruption cases.

It was a sign that the bureau needed to expand. Realizing this, the Anti-Corruption Bureau commissioned a new five-story building for B\$12 million under the 10th National Development Plan. This expansion would be built right next to the bureau's headquarters and sport an impressive forward-thinking design from Arkitek Ibrahim. As part of that design, the building would incorporate an uncovered flat roof. That initially worried the project team as previous developments with the same type of roof in the region had experienced waterproofing failures. They wanted to ensure that this didn't happen to the bureau's expansion and that they relied on products that had an indisputable reputation.

## SOLUTION

The project team realized that innovative designs called for reliable innovative products to ensure safe construction.



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That led the team to conduct a comprehensive study, which included a review of previous waterproofing failures and a thorough comparison of all the available waterproofing options. After its completion, the team felt Kryton's waterproofing system was the most compelling. Consisting of KIM and Krytol T1 and Krytol T2, the system possessed a stellar reputation.

All the system's solutions had been thoroughly tested by multiple third-party companies, proving time and time again that they were capable of protecting a structure from water infiltration. For instance, under the examination of the Civil Engineering Testing Center in Kuwait University, KIM showed that it could reduce permeability by around 90% compared to an untreated concrete mix design. As a result, concrete treated with the admixture had an average water penetration depth of 3.7 mm (0.15 in) and untreated concrete had a depth of 36.7 mm (1.44 in).

Krytol T1 and Krytol T2 showed a similar aptitude for waterproofing protection. A study by the Port Authority of New York and New Jersey showed that concrete treated with these surface-applied solutions developed slight leaks at 0.1 MPa (10.8 psi) and 0.5 MPa (64.9 psi) during pressurization at first and then fully self-sealed after, preventing any further leaks.

Such results were made possible due to all three solutions' use of Krytol® technology, which is activated once it comes into contact with water. So when water approaches a concrete slab treated with any of these solutions, the Krytol technology then reacts to form interlocking crystals. That essentially allows the concrete to self-seal, filling up any of its pores, voids, and micro-cracks with crystals and preventing water from passing through its surface.

In short, the team discovered Kryton's waterproofing system was one that couldn't be corrupted by water. Confident in their choice, the team added 225 m<sup>3</sup> (7,946 ft<sup>3</sup>) of KIM to the concrete for the roof and gutter areas and 740 m<sup>2</sup> (7,965 ft<sup>2</sup>) of Krytol T1 and Krytol T2 to the wet areas of the expansion to make the waterproofing application easier.

With such reliable waterproofing protection, the Anti-Corruption Bureau headquarters' expansion has remained safe and dry to any who work or visit there.

