

DHAMAN Hospitals

Al Ahmadi and Al Jahra, Kuwait (2024)

PRODUCTS USED:

Kryston Plug™ Kryston Repair Grout™ Kryston T1®

OWNER:

Rashid Al Marzouq

ENGINEER:

Al-Habshi Engineering Consultants Office

ENGINEER SUPERVISOR:

Dar AJ Consulting Engineering

GENERAL CONTRACTORS:

Promak
Metallurgical Corp. of China Ltd.

READY-MIX SUPPLIER:

Kuwaiti British Readymix Co. W.L.L.

DISTRIBUTOR/APPLICATOR:

Construction Principles Co.

BACKGROUND

As part of their efforts to establish themselves as a prime provider for quality health-care services in Kuwait, DHAMAN has been working on constructing two hospitals. One will be set in Al Ahmadi, serving the communities there, while the other will be set in Al Jahra to do the same.

Despite their different locations, each hospital will come with both generous features and spacing. As a result, the two facilities have been designed to contain 300 inpatient beds, 14 operating rooms, 21 intensive care units for adults and infants, an emergency department with a connection to a helipad area, and more. All of which resides within each hospital's spacious five stories and their 82,000-square meter (882,641-square foot) basement. And to make room for those with vehicles, each hospital will also have a car park building that can host over 500 cars.

More importantly, however, each hospital's design included a specified waterproofing system. DHAMAN wanted to ensure their hospitals would remain safe from groundwater. That was especially the case for the hospital in Al Ahmadi as the groundwater there was known to be particularly aggressive. Consequently, DHAMAN applied a bituminous waterproofing membrane to the hospitals and their car parks' substructure and the walls of the hospital water tanks and an EPDM waterproofing membrane to the water tanks' raft slab.

This form of waterproofing protection proved to be insufficient, however, as water seepage and leaks gradually occurred around the hospitals' substructure and water tank area. In response, DHAMAN's construction team sought out a quality leak repair solution.

SOLUTION

The team didn't need to look for long before deciding on Kryton's particular leak repair system.



SMART CONCRETE®



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While they had initially considered a different system, Kryton's held more appeal. Part of that was because Construction Principles Co., the Kryton system distributor, was very familiar with using crystalline repair products and solutions in Kuwait and the Middle East. Moreover, they were able to fully display that experience when they demonstrated the effective performance of Kryton's Krytol® Leak Repair System.

That allowed the team to clearly see the benefits of the system. With such a system, the team would be able to permanently stop water from flowing through the leaks in the concrete using the rapid-setting cement from Kryton's Krytol Plug solution.

From there, they could add the Krytol Repair Grout to the treated area, preventing the concrete from cracking with the grout's advanced fiber technology and shrinkage-controlling additives. The grout would also introduce Krytol® technology to the concrete. That would enable the concrete to chemically react to water and unhydrated cement particles to form crystals that would block water from passing through.

Then, for extra protection, there was Kryton's Krytol T1 solution. A crystalline slurry treatment, Krytol T1 would introduce even more Krytol technology to the concrete.

Knowing all that, the construction team was confident in their choice of leak repair. Adding to that sentiment, the contractor found it much easier to work with Kryton's system. The solutions within it were easier to mix, had a faster application process, and supplied a better level of performance than other systems the contractor had used before.

To ensure this experience continued to run smoothly, Construction Principles Co. offered their Kryton expertise to help train and supervise the construction team. They also took on the more advanced repair work necessary for the hospitals' water tanks.

With the combined efforts of Construction Principles Co. and the construction team applying Kryton's leak repair system, DHAMAN's hospitals have been receiving quick and permanent repairs, showing no signs of reoccurring leaks.

