

Aster Hospital

Doha, Qatar (2016)

PRODUCTS USED:

Krytol Internal Membrane™ (KIM®) Krytol® Waterstop System

OWNER:

SH. Khalid Hamad Al-Thani

DEVELOPER:

Al Estiana Real Estate Development W.L.L.

ENGINEER:

Dimensions Engineering Consultant

CONTRACTOR:

Hamton International W.L.L.

READY-MIX SUPPLIERS:

Qatar Alpha Beton Ready-Mix Concrete Co. W.L.L.
Green Point Ready Mix Concrete

APPLICATOR/DISTRIBUTOR:

Al Jaber Structural Protection Co.

BACKGROUND

The construction of hospitals is one of the more delicate infrastructure developments that a region can plan for. That was no different for the capital of Qatar. With their population growth continuing to rise, the capital needed to not only build more hospitals but also build them with the ability to handle a larger capacity. It was a challenge the project engineers had to consider when constructing Aster Hospital. On top of that, the engineers knew the hospital would experience hydrostatic water pressure like most buildings in Qatar.

To face both challenges, the engineers determined that they would need two crucial elements. They would need a way to build right up to the hospital's property lines to give the building more space. And they would need a proven waterproofing system that could ensure that the hospital would withstand hydrostatic pressure.

SOLUTION

In response to the situation, Dimensions Engineering Consultant recommended the use of the KIM concrete admixture for their waterproofing solution. Unlike traditional torch-applied bituminous membranes, KIM wouldn't need extra space for application, making it possible for the engineers to address their two major challenges with one solution.



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As an added benefit, KIM would also take less time and labor for its application as construction workers would only need to add KIM to the concrete mix at the time of batching. They wouldn't have to worry about waiting for the concrete to cure and having to prepare its surface for a membrane. In short, it would make the hospital watertight and give it the extra room it needed while also expediting its construction and lowering its cost. Recognizing this, the Aster Hospital project team used 1,700 m³ (60,000 ft³) of KIM-treated concrete for the hospital's raft slab, retaining walls, and water-retaining structures.

That didn't eliminate all concerns, however, as the team considered their construction joints. These were also a potential water ingress risk to the hospital.

To resolve that concern, the team went on to use the Krytol Waterstop System, which helped them waterproof all construction joints and tie holes, making the hospital watertight for the rest of its service life.



SMART CONCRETE®

