

Aljaber Twin Tower

Lusail, Qatar (2021)

PRODUCTS USED:

Krytol Internal Membrane™ (KIM®) **Krytol Waterstop Treatment™**
Krytol Waterstop Grout™

OWNER:

Al-Jaber Group

DEVELOPER:

Qatari Diar Real Estate Investment Co.

ARCHITECT:

Skidmore, Owings & Merrill LLP

ENGINEERS:

Engineering Consultants Group
Eng. Adnan Saffarini Office

GENERAL CONTRACTOR:

Jefferson International Trading & Contracting W.L.L.

READY-MIX SUPPLIER:

Al Wataniya Concrete Co. Ltd.

BACKGROUND

To display how far Qatar has progressed as a country over the years, Qatari Diar Real Estate Investment Co. started developing an entire city from scratch. Known as Lusail, the city is expected to host the World Cup in 2022 and have the infrastructure to accommodate 450,000 people. Of course, to do all of that, the city would need to live up to grand expectations and be filled with top-quality structures worthy of showcasing the latest World Cup host.

To that end, the real estate company went on to develop the Aljaber Twin Tower within Lusail for the Al-Jaber Group. Expected to be completed by 2021, this project will display a dynamic, unique shape that will encompass an office tower, a hotel tower, and a mall. However, the real estate company planned to build this extensive project three levels below grade in the marina district next to the sea. As a result, the project's construction team needed to make sure the twin tower would be safe from potential water ingress while its construction remained on time and on budget.

SOLUTION

Initially, the general contractor had chosen to go with a waterproofing specification that called for a polyvinyl chloride (PVC) membrane compartmental system with injection hoses at the construction joints. This specification was not without its challenges however. During application, it would require considerable attention to detail to the pile head and compartment connections.

Luckily, Kryton was able to offer a less time-consuming solution with their integral crystalline waterproofing system, which included KIM and the Krytol® Waterstop System's treatment and grout. Under this system, the real estate company and the Al-Jaber Group would be able to protect their investment in the twin tower, keep their project schedule and budget on track, and ensure their project would remain durable for the life of the structure.



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The two companies knew these advantages would be critical to making the project a success. They also knew that Kryton's waterproofing system had already been successfully applied to more than 100 projects in Qatar, with some sitting well under the water table, which only made choosing Kryton all the more appealing.

This choice significantly eased the construction of the Aljaber Twin Tower. With Kryton's waterproofing system, the construction team was able to eliminate the use of an external waterproofing membrane. They went on to use 20,000 m³ of KIM-treated concrete instead to transform the massive three-basement concrete structure itself into a permanent waterproof barrier. This then allowed the team to also eliminate the use of shotcrete against a secant piling.

Moreover, the construction team found that applying the pile head treatment process was much easier now that they were using the Krytol Waterstop Treatment.

Overall, the construction was a success, with Projects Director Marc Segers from Jefferson International Trading & Contracting W.L.L. noting the following:

The Kryton system helped us save around 30% on our waterproofing budget and reduced our construction schedule by more than a month.

While the project isn't yet complete, the team can be certain they'll have a reliable waterproofing system for a fraction of the budget and the time they would have spent on an alternative.

