

Al Dosary Factory

Amghara, Kuwait (2022)

PRODUCTS USED:

**Kryston Internal Membrane™ (KIM®) Krytonite™ Swelling Waterstop
Kryston Waterstop Grout™**

OWNER:

Faiz Al Dosary

ENGINEER:

Khaled Abdelatif

READY-MIX SUPPLIER:

Alghanim Ready-Mix

DISTRIBUTOR/APPLICATOR:

Construction Principles Co.

BACKGROUND

During the construction of his seven-meter-deep (23-foot-deep) factory in Amghara, Kuwait, Faiz Al Dosary had two major concerns.

The first was the possible risk of a fire hazard happening. After all, his factory would be surrounded by many other factories that would be producing flammable material, and his own factory's construction site would also host flammable chemicals nearby. If the Al Dosary construction team wasn't careful in this situation, they could end up with a costly and destructive fire outbreak.

It also led to Al Dosary's second major concern: the effectiveness of his waterproofing membrane. With the construction team having initially specified a polymer-modified, torch-applied membrane for the factory's concrete substructure, there was a high risk that the torching and welding equipment involved in applying the membrane could also start a fire outbreak. That would not only set back the installation of Al Dosary's waterproofing protection but also the entire construction of his structure.

To add to Al Dosary's membrane worries, Al Dosary was not convinced that the chosen membrane would properly protect his factory's substructure from high hydrostatic pressure. Furthermore, the membrane had two layers that the construction team would have to install, making it an expensive and time-consuming waterproofing system.

SOLUTION

Instead of going with that specified membrane, Al Dosary turned to a different waterproofing system with Kryton. After discussing Kryton's waterproofing system at length with Construction Principles Co., Al Dosary was convinced that it would be just the system he needed to resolve his concerns. And it would be all thanks to 2,000 kg of Kryton's concrete waterproofing admixture, KIM, and 170 m (558 ft) of Kryton's Krytonite Swelling Waterstop and Kryston Waterstop Grout.



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Both KIM and the grout would introduce Kryston® technology to different sections of the factory's concrete. KIM would do so for the raft slab, retaining walls, and water and chemical tanks while the grout would do the same for the raft-to-wall construction joints. That would allow those areas to form interlocking crystals in a chemical response to water to block up the pathways for the water in the concrete and self-seal any hairline cracks. At the same time, the waterstop would compression seal the factory's raft-to-wall construction joints, further preventing water from penetrating those potential vulnerable areas.

Such waterproofing protection would also be capable of resisting high hydrostatic pressure and would not require a torching and welding application. In fact, Kryton's waterproofing system would have fewer application steps than what the originally specified membrane system would have required, eliminating the time spent on extra steps and the costs of additional labor. In short, it would give Al Dosary the waterproofing protection and fire risk reduction he wanted while also saving him time and money and allowing him to speed up the construction of his factory.

Because of that, the Al Dosary construction team went ahead with Kryton's waterproofing system. As a result, they added KIM to a mixer truck on-site and poured it using Kryton's split application system for waterproofing thick raft slabs. They then went on to install the waterstop and apply the grout.

The end result of this process proved to be just as good as it appeared, leading to Al Dosary's factory remaining safe and durable throughout construction.



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