

Atlantic Square

Glasgow, Scotland (2021)

PRODUCTS USED:

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

GENERAL CONTRACTOR:

BAM Construct U.K.

READY-MIX SUPPLIER:

Aggregate Industries

APPLICATOR:

Carey Group Ltd.

DISTRIBUTOR:

RIW Ltd.

BACKGROUND

Taking advantage of Glasgow's central area for financial business, the Atlantic Square has been built in the heart of the city's International Financial Services District. In such a prime location, the business that uses this multipurpose building will have close proximity to a number of attractive features. These include a large pool of skilled labor; notable firms, such as PricewaterhouseCoopers and J.P. Morgan; and one of the United Kingdom's largest suburban commuter rail networks.

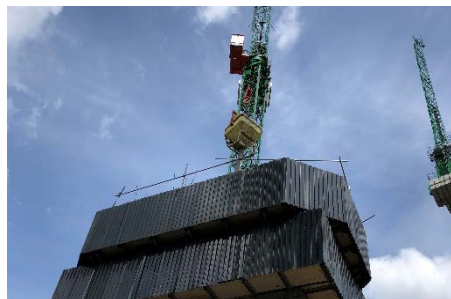
Not to be outdone by the prestige of its own surroundings, the Atlantic Square is striking in appearance with its dark, sleek exterior and 27,871 m² (300,000 ft²) of space. Within the structure, there exists equally impressive residential and office areas with the ground floor saved for retail and leisure opportunities and a single-story basement underneath.

All of which is close to the River Clyde, which cuts through the Glasgow city center. To add to the structure's potential water concerns, the building rests on heavy clay soil, so there was an increased risk of percolating water pressure. Consequently, if the building's basement wasn't properly waterproofed, it could end up cracking and leaking, weakening the rest of the structure's integrity.

To counter these concerns during the Atlantic Square's construction, the project team decided they would go with the combined waterproofing protection as defined in the BS 8102 standard.

SOLUTION

To employ their combined waterproofing protection, the project team chose to apply an external membrane alongside Kryton's Smart Concrete® waterproofing solutions. They were confident in this choice of protection for two main reasons. The most significant was that the applicator of the team, Carey Group Ltd., and the Kryton solution distributor, RIW Ltd., had successful past experiences working with each other. The second reason was they knew the extra protection from both waterproofing methods would provide more peace of mind.



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With that confidence on hand, the construction team worked with RIW Ltd. to sequence all of the waterproofing and installation details for the Atlantic Square.

That made it easier for the team to ensure their on-site waterproofing strategy had a smooth execution. As a result, they added 1,200 m³ (42,378 ft³) of Kryton's LEED-friendly waterproofing admixture, KIM, to the concrete and applied membranes to the surface of that concrete without concern. These efforts were rewarded with a concrete basement that is both internally and externally waterproof. That way, if water gets past the external waterproofing membranes, it will be met with KIM-treated concrete, which can chemically react to the water to form crystals that will block that water out, self-sealing hairline cracks and filling up voids along the way.

To ensure the basement's construction joints had the same full protection as the concrete, the construction team prepared the area before implementing three more Kryton solutions.

Once done with preparations, they applied 1,000 m (3,281 ft) of Kryton's Kryston Waterstop Treatment. Using the same Kryston® technology as KIM, the treatment gave the joints the ability to block water and self-seal when in the presence of moisture. That would keep the joints fully waterproofed and the reinforcing rebar inside safe from corrosion.

For additional protection, the team laid down 1,000 m (3,281 ft) of Kryton's Krytonite Swelling Waterstop to the construction joints and added Kryston Waterstop Grout to all the tie bar holes and general repair areas. With the waterstop's resistance to high hydrostatic pressure and its durable material, the joints would be sealed from water for the life of the structure. Meanwhile, the grout with its Kryston technology and fiber reinforcements would protect its areas from water ingress while also reducing potential shrinkage and cracking.

Such long-term waterproofing protection and durability enhancement would only add to the life span of the Atlantic Square, which helped the structure earn an excellent rating from the BREEAM framework and an energy performance certificate with an A rating.



SMART CONCRETE®