Bond Street Station, London
Sprayed concrete lined tunnels using and a sprayed waterproofing membrane

The background

With a daily average of more than 155,000 passengers using Bond Street station, Crossrail is intended to provide better transportation to the heart of London’s West End and one of the busiest shopping districts in the United Kingdom.

The new Crossrail station at Bond Street has increased capacity and improved accessibility to one of London’s busiest stations. Two new ticket halls were constructed to allow step-free access to the 260m station platforms created 26m below ground level.

The challenge

The requirement was to deliver a world-class watertight structure designed to withstand a minimum 100-year life span, whilst working in the close proximities that Central London provides.

This high intensity project demanded scrupulous attention to detail throughout, both with sprayed concrete lining (SCL) and sprayed waterproofing.
Crossrail Bond Street Station, London
SCL and sprayed waterproofing in Crossrail underground

Our solution

BASF underground construction experts worked closely with the main contractor, BFK (Bam Ferrovial Kier), to not only supply the sprayed waterproofing product used throughout the whole of the SCL works, but to ensure that the works were completed with minimal disruption and improved efficiency, with a high level of support and training.

MasterSeal 345, an EVA polymer based sprayable membrane, was used for the simplicity of its application. MasterSeal 345 is designed to create a two-sided bond to both the primary and secondary lining, allowing for a composite behaviour to take place. This fully bonded system consequently provides excellent watertightness for the Crossrail tunnels.

Unrivalled training enabled a network of sprayers to consistently achieve the high standards of quality set out by the client, with training courses allowing sprayers to master both the theoretical and practical elements of the task. In addition, with the arrival of the Meyco Logica, a fully automatic spraying robot, BASF technical experts were on hand to provide a smooth transition from the traditional manual method of spraying.

A total of 115 tonnes of MasterSeal 345 were used within the SCL tunnels at Crossrail Bond Street Station, providing a time-efficient and highly productive method for watertight tunnels.

Benefits to the customer

- Simple preparation, application and curing method of waterproofing concrete and metal structures.
- MasterRoc TSL 865, a rapid-setting version of MasterSeal 345, enabled continuation of works with slight water ingress.

Projects facts at a glance

- Crossrail will increase central London’s rail capacity by 10% – the largest increase since World War II. This will reduce congestion and allow for more comfortable journey conditions.
- Crossrail will increase the number of people who are able to access employment destinations throughout London.
- Three gangs operated 24-hour, 7-days a week, to ensure the project was met to budget and on time.
- BASF supplied its sprayable membrane to provide a watertight SCL.
- Full technical support from BASF was provided to keep the project on track.

Master Builders Solutions from BASF

The Master Builders Solutions brand brings all of BASF’s expertise together to create chemical solutions for the new construction, maintenance, repair and renovation of structures. Master Builders Solutions is built on the experience gained from more than a century in the construction industry.

The know-how and experience of a global community of BASF construction experts form the core of Master Builders Solutions. We combine the right elements from our portfolio to solve your specific construction challenges. We collaborate across areas of expertise and regions and draw on the experience gained from countless construction projects worldwide. We leverage global BASF technologies, as well as our in-depth knowledge of local building needs, to develop innovations that help make you more successful and drive sustainable construction.

The comprehensive portfolio under the Master Builders Solutions brand encompasses concrete admixtures, cement additives, chemical solutions for underground construction, waterproofing solutions, sealants, concrete repair & protection solutions, performance grouts, performance flooring solutions.

Further information is available at www.master-builders-solutions.basf.co.uk