

Crossrail Bond St Station Upgrade

Case study

Focus products: Intercrete® 4802, Intercrete 4850, Intercrete 4841, Intercrete 4851, Intercrete 4803, Intercrete 4801

Location: London, UK

Client: Crossrail Ltd

Contractor: Various

Summary: Lift shaft waterproofing, concrete repairs and coving and flooring works

Background

The £14.8 billion Crossrail project comprises the construction of 10 new stations and the upgrade of 30 more in order to make travelling in the capital easier and quicker, in turn reducing crowding on London's transport network. Bond Street station is in the heart of London's West End, the busiest shopping district in the UK, and the station is undergoing a major redevelopment to increase capacity and improve accessibility, and to create an interchange with the Elizabeth line being constructed by Crossrail Ltd.

More than 185,000 passengers use Bond Street station daily. When the Elizabeth line arrives in 2018, passenger numbers are expected to increase to 225,000. The redevelopment will deliver a new Tube station entrance on Marylebone Lane leading to a new ticket hall, new escalators serving the Jubilee line and lifts to provide step-free access from street to platform.

The solution

A range of Intercrete products were specified for two separate contracts at Bond Street station. The first involved lift shaft waterproofing and Intercrete 4802 rapid setting repair mortar was initially applied at the junction between the wall and floor. Intercrete 4850 was applied to floor areas before the application of Intercrete 4841 to the walls and vertical areas to provide exceptional waterproofing protection. Impermeable to water under hydrostatic pressure, a 2mm coating of Intercrete 4841 provides the equivalent of 100mm concrete cover. Intercrete 4851 was applied to the primed area and over the 150mm wide application of Intercrete 4841 to provide an exceptionally hard-wearing, trafficable surface.

For the second contract, Intercrete 4803 Class R2 lightweight repair mortar was used for general concrete repairs in various areas, including use as a high build render to reinstate levels prior to fit out along the internal corridors. Able to be rapidly applied up to thicknesses of 100mm in a single application, Intercrete 4803 is a single component product and simply requires the addition of clean water on-site. The thixotropic nature of the product enables easy high build trowel application for the repair of voids and the rendering and re-profiling of both vertical and horizontal surfaces. Due to its water-based composition, Intercrete 4803 can be safely applied in enclosed locations. The coving and flooring works involved the application of Intercrete 4801, a high strength, waterproof, Class R4 structural repair mortar with outstanding abrasion resistance, ensuring a smooth transition from floor to wall.

