

Venetian Bridge

Case study 2018

Focus products: Intercrete® 4871, Intercrete 4800, Intercrete 4822, Intercrete 4811, Intercrete 4891

Location: Clacton-on-Sea, Essex, UK

Project owner: Tendring District Council

Applicator: Prestec UK



Background

The iconic Venetian Bridge in Clacton was built in the Venetian style in 1914. Spanning 'Pier Gap', it provides an impressive entrance for visitors to Clacton Pier. 2014 marked the centenary of this landmark structure but the destructive effects of 100 years of chloride attack became evident when a small section of concrete broke away, resulting in the erection of support scaffolding to temporarily make the bridge safe.

Tendring District Council made the restoration of the Venetian Bridge a corporate priority and £355,000 was allocated for its renovation. A number of different options were considered, including demolition, and Intercrete products were chosen in order to extend the lifetime of the bridge and retain it as a landmark focal point for visitors to the area.

Prestec UK removed all of the defective concrete from the soffits, spandrel and transverse beams, as well as preparing the whole structure using high pressure water jetting. The chosen concrete repair and protection system was designed in consultation with Richard Jackson Consulting Engineers to withstand the aggressive coastal conditions and persistent chloride attack. An essential part of the specification was compliance of all Intercrete products with BS EN 1504, the pan European standard for concrete repair.

The solution

Following the removal of the defective concrete and finishes, Prestec UK applied Intercrete 4871 to the rebars to provide them with a corrosion preventative flexible coating prior to the application of Intercrete 4800 - a high strength, shrinkage compensated, waterproof cementitious mortar which can be applied by trowel up to thicknesses of 80mm in a single application. Intercrete 4822 - an engineering quality fairing coat - was then used to fill minor blow holes and defects and provide a fair faced finish. Intercrete 4811 was applied to the complete surface of the bridge before the application of two coats of Intercrete 4891, a highly advanced, waterborne, elastomeric coating which is ideal for the decorative protection of structures and buildings. It provides excellent protection against carbonation, chloride penetration and water ingress, yet allows damp substrates to breathe.

Intercrete 4891 is a single component, water-based coating so it is user-friendly and cures without the release of strong odour or hazardous solvents. It is ultra-fast drying, enabling two coat applications on the same day and it can be applied all year round. Available in a range of standard and special colours, magnolia was chosen for this project. Even in harsh climatic conditions, Intercrete 4891 demonstrates excellent colour retention and strong UV resistance.