

Hinkley Point B Power Station

Case study 2018

Focus products: Intercrete® 4871, Intercrete 4801, Intercrete 4841

Location: Bridgwater, Somerset, UK

Type of asset: Power Station

Client: EDF Energy

Contractor: CSC Services



Intercrete products have been used to complete the 2018 Concrete Spalling Remediation Programme at Hinkley Point B Power Station for client EDF Energy. The concrete repair work involved the completion of more than 300 significant repairs using Intercrete products over a six month period.

Background

Hinkley Point B is a nuclear power station located near Bridgwater in Somerset. Construction began in 1967 and it comprised the first Advanced Gas-Cooled Reactor to generate electricity to the grid in the UK. It now produces up to 965 megawatts of electricity, enough to meet the needs of more than one million homes.

With widespread areas of spalled reinforced concrete across the power station, the work was planned to mitigate any potential health and safety issues, alleviate any impact on plant reliability and to ensure that there is no impact on ongoing nuclear safety. The concrete had spalled due to the age of the buildings involved and their environmental exposure, as well as occasional areas where water ingress had accelerated degradation.

The solution

Defective concrete was broken out to allow for exposed reinforcement to be prepared and treated. Intercrete 4871 was used to protect the steel rebars prior to the application of Intercrete concrete repair mortars. Intercrete 4801, a high strength, waterproof, class R4 structural repair mortar, was used for the concrete repairs. With outstanding abrasion resistance, Intercrete 4801 is easily trowellable, has excellent low sag properties and can be applied up to thicknesses of 80mm in a single application.

For the structural waterproofing, Intercrete 4841 was specified. It is a high performance, two component, waterborne cementitious modified polymer coating which provides reinstatement of effective cover on precast and in-situ reinforced concrete, enhancing durability to achieve specified design life. A 2mm application of Intercrete 4841 is equivalent to 100mm of good quality concrete and the coating resists positive and negative pressure under a 100 metre head.

All concrete repair works were completed by CSC Services with a 15 year service life guarantee, to satisfy the operational requirements of Hinkley Point B Power Station. Designed to require no maintenance during the lifetime of the repairs, all work was carried out in accordance with BS EN 1504, the pan European standard for concrete repair.