

Seawater Intake Tanks and Pump Refurbishment

Case study

Focus products: Intercrete® 4840, Intercrete® 4804, Intercrete® 4871

Location: Dubai, UAE

Client: Dubai Aluminium Co.

Contractor: Mott MacDonald / Al Futtaim Carillion, Dubai, UAE

Summary: Repair and chloride protection of seawater intake tanks and pumping chambers



Background

The largest aluminium smelting operation in Asia relies on the supply of cooling water produced from a desalination unit.

After 20 years service, the concrete seawater intake tanks and associated pumpin chambers were suffering from extensive corrosion of the steel reinforcement, leading to cracking and spalling of the concrete substrate. The highly aggressive conditions determined the use of a specialist repair and protection system to ensure future durability.

The solution

The Intercrete approach was adopted as a complete range of products was available to meet all the demands of this project. After cleaning of the exposed bars, Intercrete 4871 was applied, followed by Intercrete 4804 to complete the repairs. As a unique chloride barrier coating was to be used overall, the general surfaces were levelled to a standard suitable for treating with Intercrete 4820 and the work was completed with a 2mm layer of Intercrete 4840, providing a tough, chemical resistant finish with very low water permeability and proven performance in similar exposure conditions.