Valero Energy tank base sealing

Case study 2012

Focus products: Intercrete® 4850, Intercrete® 4840, Intercrete® 4872, Intercrete® 4842, Interfine® 691

Location: Kingsbury, Warwickshire, UK

Project owner: Valero Kingsbury Tank Terminal

ISO12944 environment: C3

Background

Underside corrosion of the base of a steel storage tank poses a serious problem to tank owners as leaks due to corrosion cause a serious health and safety risk. A leading tank terminal site in the UK, was concerned about underside tank corrosion caused by water entering the gap between the underside of the steel tank and the concrete foundation the tank sits on. Various solutions have been employed however none provided a long term solution.

The solution

The Intercrete tank base sealing system was selected as it offers a fast, simple and cost effective solution. Intercrete 4850, waterbased acrylic primer, was applied to the concrete base to minimize the effects of out gassing. 1mm of Intercrete 4840 coating was brush applied to both the steel and concrete, then immediately after Intercrete 4872, waterproof reinforcement tape with 600% elongation, was embedded to the wet primer layer.

Intercrete 4842 was applied in 2 coats to provide a flexible waterproof cementitious coating that can resist up to +/- 10 bar water pressure ensuring a lasting solution. The following day Interfine 691 was utilized to provide a black finish as required by the owner.

Inspections have been carried out and Intercrete continues to perform. The system's ability to withstand the movement experienced when tanks are loaded and unloaded as well as the differential in thermal expansion rates between the steel tank and concrete foundation upon heating and cooling ensures it provides a lasting waterproof solution between the tank base and the concrete foundation.