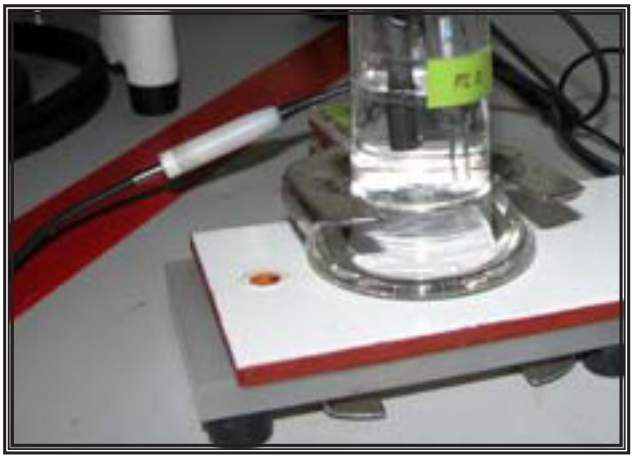
TNB RESEARCH

R&D Fund Project

Coating Assessment For Refurbishment Exercise Of Phase 1 Waste Heat Boiler Structures At Sultan Ismail Power Station, Paka.

Installation of test coupons at site for evaluating best coating materials.



Test set-up for Electrochemical Impedance Spectroscopy technique in evaluating coating materials.

Project Overview

In this project, several coating material options that include polyurethane and polysiloxane coating systems were tested & evaluated to obtain the best coating materials via coupon testing. Corrosion survey audit were conducted to determine the level of corrosion damage on the WHB structure & action required. The economic & technical performance impacts were taken into consideration in proposing the best coating system. It was found that the best coating material for this application is polysiloxane as the top coat, it is able to provide better resistance to ultra violet (UV) degradation.

Deliverables

Coating Technical Specification :

• Coating technical specification for refurbishment exercise.

• The specification which covers all required technical details for coating application and classification of corrosion damage and specific action.

Corrosion Audit Result of WHB structure :

• The result to highlight to SIPS on the structure that requires specific action.

Final Technical Report containing recommendation and action required:

• Final report summarizes all the corrosion audit findings, evaluation of coating materials via Electrochemical Impedance Spectroscopy technique, classification of corrosion damage on the structure and recommendation on the best coating materials to be applied.

Benefits

• Findings from this project has provided valuable technical input for SIPS in carrying out re-painting exercise for the Phase 1 of Waste Heat Boiler structure. The performance of the selected coating materials is expected to last for more than 10 years.