Case study – 32 inch glycol still column

Integrity issue

A 32 inch line off a glycol still column was suffering from external corrosion. A previous composite repair had been applied and reached the end of its design life. It was proposed to use a Futurewrap composite repair over the existing repair to reinstate the integrity of the pipework.

Initial condition of pipework

Design

The design of the Futurewrap repair was according to ISO 24817. The design approach was for pipework strengthening and leak sealing (at edges of the composite repair). The design parameters were; internal pressure 3.5 bar, temperature 230^{0}C, design lifetime 15 years, slot through wall defect length of 25 mm. The repair design resulted in a thickness of 5 mm (4 layers) of Futurewrap Carbon/HT composite repair with an axial length of 460 mm.

After surface preparation

Installation

The installation steps are shown in the photographs. The pipework was depressurised. The surface preparation was to ST2. Heat blankets were used to post cure the repair. Full QA/QC measurements were made to demonstrate that the Futurewrap repair was applied in accordance with ISO 24817.

During repair application

Summary

A 32 inch line with an out of date composite repair was repaired using Futurewrap Carbon/HT composite repair. The repair was completed within 6 days allowing the pipework to be re-pressurised returning the pipework to its original integrity.

Completed repair