

Case study – 6 inch vessel stubs

Integrity issue

Two 6 inch blanked off stubs at the 6 o'clock position of a gas header vessel on a FPSO off the west coast of Africa were suffering from external corrosion. It was proposed to use a Futurewrap composite repair to reinstate the strength and seal the potential threat of a through wall defect.

Design

The design of the Futurewrap repair was according to ISO 24817. The design approach was to strengthen and locally leak seal. The design parameters were; internal pressure 0.5 bar, temperature 40°C, design lifetime 2 years. The repair design resulted in a thickness of 5 mm (6 layers) of Futurewrap Glass/LT composite repair with an axial length of 550 mm.

Installation

The installation steps are shown in the photographs. The surface of the stubs was bristle blasted to ST3. The flanges were then profiled with filler, followed by application of the 6 layers of Futurewrap Glass/LT repair. Full QA/QC measurements were made to demonstrate that the Futurewrap repair was applied in accordance with ISO 24817.

Summary

Two 6 inch blanked off vessel stubs suffering external corrosion were repaired using a Futurewrap Glass/LT composite repair. The repairs were completed within 3 days allowing the header system to be returned to its original integrity.



Initial condition of stub



After profiling



Final cured repair