

Live Leak on a High Temperature Amine Line

Overview

A 40" Amine Line had suffered stress cracking in the weld line due to vibration and loading conditions during operation.

The ICR.IAS JV engineers were able to design a composite repair solution to withstand the loading/vibration conditions with the application completed whilst the plant was still in operation.

Scope

The line had the following specifications:

Structure	Amine Line
Surface Preparation	Sa 2.5
Class Approval	N/A
Design Pressure	5 bar
Design Temperature	95°C
Application Temperature	60°C
Design Life	5 years
Wrap / Repair Length	420mm
Pipe Diameter / Weight of Repair	40"
Geometry	Reducer
Corrosion Type	Weld Crack
Defect Details	15mm circumferential crack



Surface preparation complete



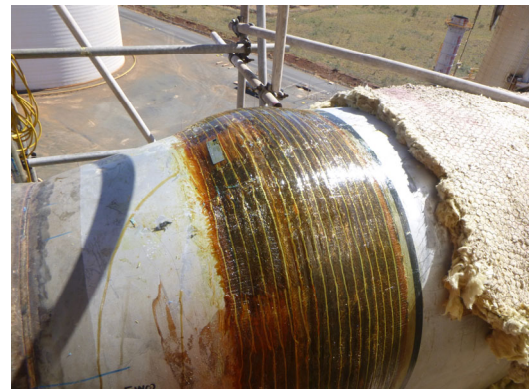
Application of layers

Solution

- Technowrap™ 2K HT system with temperature capability up to 220°C
- Carbon Fibre (SRS) selected due to its increased structural rigidity
- Limited landing design to fit within geometric constraints

Benefits

- Line remained in production avoiding unnecessary shutdown
- Quick turnaround from consultation and engineering through to site mobilisation and execution
- Chemical compatibility with line medium removing any risk of future degradation



Completed Repair