

Composite Repair Of A High Temperature Fuel Gas Line

OVERVIEW

At an offshore facility in Western Australia, internal and external corrosion was discovered on a high temperature fuel gas line. A repair solution was required that could provide structural remediation and withstand high temperatures over a 20-year design life.

SCOPE

The line had the following specifications:

Structure	Pipe elbow
Surface Preparation	ST3
Design Pressure	3.5 bar
Design Temperature	-6°C - 204°C
Application Temperature	25°C
Design Life	20 years
Repair Length	564mm
Pipe Diameter	60.3mm
Damage Mechanism	Internal and external corrosion
Defect Details	300 mm Circumferential (through wall)



Reduced wall thickness was identified along a 560mm section of the line



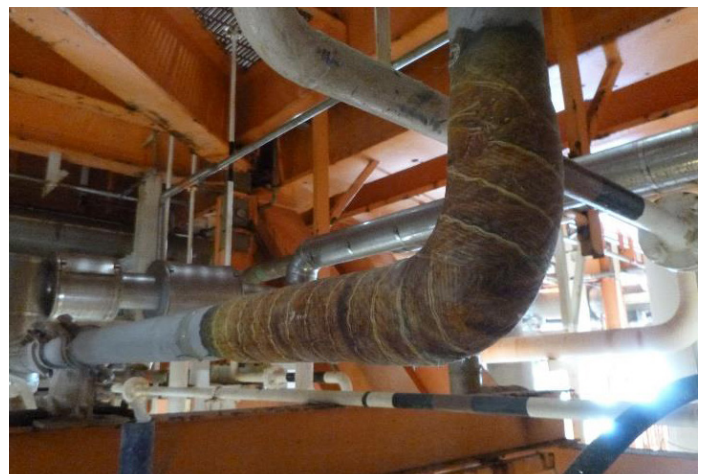
Temperature-controlled heat tape was used for careful control of the resin curing process

SOLUTION

- Technowrap™ 2K glass fibre with hightemperature resin was used to provide structural capability at up to 220°C
- The use of composites over other methods (i.e. welding) allowed for a combined structural repair & corrosion protection solution with a design life of 20 years

RESULTS/BENEFITS

- Exceptional material durability at high temperature
- Safety – No sparks or naked flames
- Cost – Comparable to a low-temperature composite repair



Technowrap™ SRS glass fibre with HT high temperature resin will maintain strength at operating temperatures