HIGH TEMPERATURE PIPELINE REPAIR

Belzona Repairs Through-Wall Pipeline Defect

Industry:	Oil & Gas
Application:	High Temperature Pipe Repair
Products:	Belzona 1511, Belzona 1983 Belzona 9381, Belzona 9382
Customer Location:	VIC, Australia
Application Date:	Dec 2020

Pipe with through-wall defect

PROBLEM

A high temperature, fuel oil pipeline developed a critical (Class 3) through wall defect.

The defect was calculated at 40 × 40 mm, with damage extending 90 mm in the axial direction. Operating at 90°C and 17.6 bar, the pipeline required an engineered repair solution capable of restoring containment and structural integrity under demanding service conditions.

Defect pit filled with Belzona 1511

Belzona SuperWrap II application in progress

Belzona SuperWrap II application completed

APPLICATION

A repair solution comprising **Belzona 1511** and the **Belzona SuperWrap II** Composite Repair System was selected as the preferred method for restoring the integrity of the pipeline.

Following surface preparation by grit blasting to achieve SA 2.5 cleanliness with a 75-micron surface profile, **Belzona 1511** was applied directly to the critical defect area. This was used to fill, seal, and smooth the damaged section, creating a suitable profile for the composite wrap system.

The repair was then reinforced using **Belzona SuperWrap II,** applied in accordance with the engineered design. The system consisted of an 11-wrap composite repair over a total repair length of 540 mm, using **Belzona 1983** resin. The completed repair was designed to restore containment and provide a further 10 years of service life under the pipeline's operating conditions.

OUTCOME

The **Belzona SuperWrap II** composite repair system was chosen as the preferred solution since it can be designed and applied in accordance with ISO 24817 and ASME PCC-2 standards. Belzona 1983 resin was chosen for its high heat resistance of up to 150°C, making it suitable for the pipeline's elevated operating temperature. The repair was designed in-house by our **Belzona SuperWrap II** designer and applied by trained, validated **Belzona SuperWrap II** applicators, ensuring a compliant installation and a reliable long-term repair.

REZITECH SERVICES PTY LTD

Head Office & Hallam Workshop
109-111 Wedgewood Road
Hallam, Victoria 3803

p +61 3 8720 8600
e info@rezitech.com.au
www.rezitech.com.au

Townsville Office and Workshop
35 Innovation Ave
Bohle, QLD 4818

p +61 3 8720 8600
e townsville@rezitech.com.au
www.linkedin.com/company/rezitech-services-pty-ltd

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