

Contour Repairs Corrosion Under Insulation at a Gas Station

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Australia

Pipe Details

- 76-mm (3-inch) diameter
- API 5L Grade B steel
- 70 bar (1,015 psi) design pressure
- 60° C (140° F) design temperature.
- 5.5 mm (2.2 inch) original wall thickness
- 2 mm (0.08 inch) remaining wall thickness
- Corrosion under insulation
- Natural gas distribution station

Summary

- A natural gas line at a distribution station had corroded from an original wall thickness of 5.5 mm (2.2 inch) to only 2 mm (0.08 inch).
- Trained local technicians carried out repairs, installing Clock Spring Contour, without taking the line out of service
- Clock Spring Contour repairs were performed in 1 day
- The company safely resumed normal operations within 2 working days.

Nondestructive testing on a line at a natural gas distribution station uncovered corrosion under insulation on a 76-mm (3-inch) API 5L Grade B steel pipeline designed for 70 bar (1,015 psi) pressure and an operating temperature of 60° C (140° F). The original wall thickness of 5.5 mm (2.2 inch) had eroded, leaving only 2 mm (0.08 inch) remaining.

Because it was important for the section of pipe to remain operational while the corrosion was addressed, the owner selected a Clock Spring Contour repair.

Using the specific characteristics of the pipe, Clock Spring designed a repair to ISO 24817 2015 guidelines, which provide requirements and recommendations for qualifying, designing, installing, testing and inspecting the external application of composite repair systems to corroded or damaged pipework, pipelines, tanks, and vessels used in the petroleum and natural gas industries.



Defect after removal of insulation



Surface preparation by bristle blaster



Completed repair

Local trained and certified technicians cleaned the pipeline with a bristle blaster to a finish equivalent to SA2.5 and then washed it with solvent and installed four layers of Clock Spring Contour. Once the installation was complete, the pipe was re-insulated.

The repair was completed with the pipe online and without any disruption to the local gas supply.

There are nearly 3,000 trained Clock Spring installers around the world who are qualified to provide repairs with Clock Spring products. Clock Spring regularly offers training classes for installers and can custom design training for individual company needs.