

Composite Solution Restores Mitre Bend Integrity

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Western Europe

Pipe Details

- 356 mm (14-inch) pipe diameter bend
- 2 bar (29 psi) operating pressure
- 30° C (86° F) operating temperature
- 9.53 mm (0.38 inch) original wall thickness

Summary

- External Corrosion on a 356-mm (14-inch) mitre joint in a chemical facility required repair.
- The 9.53 mm (0.38 inch) original wall thickness had been reduced to 3.2 mm (0.13 inch).
- Trained local technicians carried out repairs, installing 15 layers of Clock Spring Contour.
- The company safely resumed normal operations within 3 days.

In the course of carrying out its inspection program in a chemical plant in Western Europe, the owner identified an issue at a mitre bend in its piping. This type of bend is made when two pipe ends are cut at an angle and joined. The 356 mm (14-inch) pipe, which was operating under 2 bar (29 psi) of pressure at 30° C (86° F) had experienced significant degradation. The original wall thickness of 9.53 mm (0.38 inch) had been reduced to 3.2 mm (0.13 inch) at the mitre bend.

A repair was designed at the Clock Spring Technical Centre in Godmanchester, Cambridgeshire, UK, in accordance with ISO 24817, which provides 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, petrochemical, and natural gas industries.

After the pipe was cleaned using water and sand blasting, it was ready for the repair. The expert team applied 15 layers of Clock Spring Contour to the pipe.

From assessment to final testing, the trained technicians spent only 3 days on site.



Area to be repaired after sand blasting



First 4 layers installed and left to cure



Completed repair

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.