

Contour Repairs Pinhole Leaks in Refinery Pipeline

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Benelux

Pipe Details

- 610-mm (24-inch diameter)
- 16 Bar (87 psi) design pressure
- 79° C (174° F) design temperature
- 6.35 mm (0.25 inch) original wall thickness
- Two 2-mm by 2 mm (0.08 inch by 0.08 inch) pin holes at support locations
- Crude oil from jetty to refinery storage

Summary

- Corrosion on a 6.35-mm (0.25-inch) crude oil pipeline resulted in 2 pinhole leaks at the pipe support locations
- Trained local technicians carried out repairs, installing 6 layers of Clock Spring Contour BIAx Glass impregnated with CS800 resin.
- Repairs were completed within 1 day

Inspections at a European refinery identified pinhole leaks in a 610-mm (24-inch) pipeline transporting crude oil. The pipeline, designed for 16 Bar (87 psi) and 79° C (174° F) had an original wall thickness of 6.35 mm (0.25 inch). Corrosion had resulted in two 2-mm by 2 mm (0.08 inch by 0.08 inch) leaks at the pipe support locations. Immediate repair was required so the line could remain in service until the next scheduled shutdown.

With the operator's agreement the line was emptied so only residues of crude oil remained. Then Clock Spring trained and certified technicians began readying the pipe for application of the Clock Spring LK-101 leak stop system.

The first step was to prepare the surface with a bristle blaster. When this was completed, technicians washed the pipe with an acetone solvent and applied 6 layers of Clock Spring Contour BIAx Glass impregnated with CS800 resin. The repair was cured for 24 hours before the line was returned to normal service.



Leak locations



Completed Repair



Repair in context



Lower Side of Repair

The Clock Spring repair restored the line to its original functionality and allowed the refinery to resume safe operations.

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.