

Clock Spring Repairs Seam Weld

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Australia

Pipe Details

- 152-mm (6-inch) diameter
- API 5L Grade B steel
- 100 bar (1,450 psi) design pressure
- 60° C (140° F) design temperature
- 6.35 mm (0.25 inch) original wall thickness
- Seam weld defect
- Kerosene pipeline

Summary

- A Clock Spring sleeve was installed on an in-service 6-inch (152-mm) pipeline transporting kerosene.
- The repair did not require the pipe to be evacuated and did not interrupt the flow of material.
- A team of Clock Spring trained technicians effectively installed the sleeve in 2 hours.

When an in-line inspection revealed a seam weld defect on a pipeline transporting kerosene, the facility owner contracted Clock Spring to carry out the repair. The defect was on a 152-mm (6-inch) diameter API 5L Grade B steel pipeline with a 6.35-mm (0.25-inch) wall thickness that was designed for 100 bar (1,450 psi) pressure and 60° C (140° F) temperature. A team of trained installers prepared the pipe for the installation, grit blasting it to a finish of SA2.5 and washing it with solvent to allow further inspection of the defect.

A single 6-inch (152-mm) Clock Spring composite sleeve was installed in accordance with the ASME B31.4 2016 guidelines, which provide requirements for the design, materials, construction, assembly, inspection, testing, operation, and maintenance of liquid pipeline systems. The sleeve was installed and cured and the line made safe for normal operation within two hours. With the installation complete, the operator-approved corrosion coating was applied over the entire repair area prior to backfilling over the pipeline.

Because this repair did not require hot work, the pipeline remained in service throughout the repair process.



Defect within seam weld.



Completed Repair



Completed repair.



Edge of 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.