

EXTENDING THE LIFETIME OF A PIPELINE WITH TEN YEARS IN 48 HOURS



The Mažeikiai refinery, part of oil processing company Orlen Lietuva, operates in Mažeikiai, a town in northern Lithuania, and realizes over 75% of the petrol and diesel sold in the country's petrol stations. Hence, an important company for the national infrastructure. Over time however, several sections of the main flare pipeline showed damage of up to 80% internal corrosion wall loss. CTE BV provided the engineered repair solution, not only to prevent further damage, but also to increase the lifetime of the pipelines.

CHALLENGE

The main flare line has several sections with different diameters and irregular shapes like tees and elbows, making the repair particularly difficult. The affected parts of the pipe measured a diameter of 530 mm / 20 inches over a length of 14 meters and 810 mm / 32 inches over 4 meters.

The working temperature is 100 degrees Celsius, with a working pressure of 1 bar, though it is designed for 150 degrees Celsius with a pressure of 4 bar. Thanks to a planned partial shutdown of the refinery the repair could be scheduled; however, the time window was limited to only two working days.



REPAIR

There was no possibility to sandblast the pipeline due to safety reasons; the level of internal corrosion was too high. Therefore it was cleaned with steel brushes only. This meant however two extra layers of the fiberglass epoxy composite were necessary to guarantee a sufficient repair. In total, eight layers of the engineered composite **Diamapro™HTA™ fiberglass epoxy** were applied over 18 meters of different sections of the main flare line.

The repair demanded **ISO 24817** compliant engineered calculations for the right approach. These were done by the CTE BV team. A supervisor from CTE BV was present on site in order to check the quality of the wrapping and to manage administration for the maintenance team. Thanks to good planning and training on site, the materials were delivered within 48 hours of the order, and the repair was done within the requested timeframe of two working days.

The engineered composite repair extends the lifetime of the pipeline by ten years, even should the internal corrosion cause a 100% wall loss.

REASONS TO CHOOSE CTE BV:

- Cost effective repair method/technology
- Full project support from engineering calcs to regulatory paperwork after repair
- Provision of complete kits with all necessary materials in only 48 hours

SOLUTIONS USED

- **Diamapro™HTA™**
engineered fiberglass composite wrap system

WANT TO KNOW MORE ABOUT OUR SOLUTIONS? PLEASE FEEL FREE TO CONTACT US.

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