

REINFORCING A CARBON STEEL PIPELINE WITH CARBON-FIBER WRAPPING

The Unipetrol refinery from the Czech city of Litvinov constitutes an important part of the Czech industry. It is the only crude oil processor in the Czech Republic, one of the most important producers of plastics and the owner of the largest network of filling stations, Benzina. The refinery in Litvinov has been part of ORLEN Group refinery and petrochemical group since 2005, a major player in Central and Eastern Europe (Poland, Czech Republic, Lithuania). Due to internal corrosion at several tee joints in the pipeline, repair and reinforcement was necessary, and CTE BV offered a fast, long-term solution.

CHALLENGE

Unipetrol technicians found the corrosion at three tee joints connecting the 6-inch main pipeline with 4-inch branch carbon-steel pipes. It has a working pressure of 9 bar and they were located 2 meters above the floor. The severe internal corrosion was close to 100% at certain points. The damage was connected to the branch pipe weld. In one of the tee joints there was already a hole, so immediate repair was a must.

The repair needed to be done quickly to stop further damage, and prevent the need for a temporarily, unplanned shutdown of the transport pipelines. This would cost millions of dollars. Hence, a quick delivery of materials and a solid, long-term solution was of crucial importance.

REASONS TO CHOOSE CTE BV:

- Fast solution
- Overall costs
- Long term improvement
- Valued relationship
- Safety (no hot work)

SOLUTIONS USED

- **DiamondWrap®**
engineered carbon-fiber epoxy based system

REPAIR

After connecting with CTE BV, everything was put to work to get the job done in the shortest amount of time possible. First, the pipelines needed to be sandblasted to clean and prepare for the repair with **DiamondWrap®** carbon fiber. The tee repair kits that were put together were sent over and applied after the sandblasting. After curing, the pipeline was completely repaired and reinforced. The job was done within one working day, without any disruptions to the transporting process. The whole process from discovering the issue, making the first inquiry to ordering the solution and finalizing the repair took under four days in total.

On site there were two trained technicians from a local CTE BV approved installer that carried out the repair and oversaw the whole process. Not only did this engineered solution save Unipetrol a lot of money, it also increased the level of infrastructure safety.

Thanks to this successful project, it led to further inquiries for other projects.

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

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