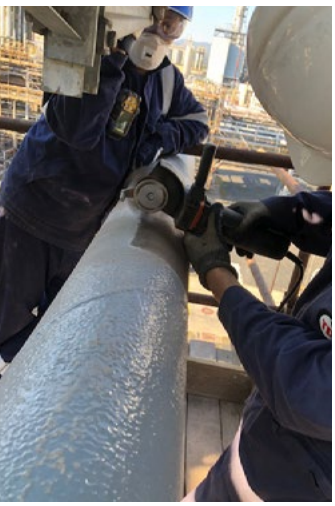
CTE BV

REPAIRING A CARBON-STEEL PIPELINE 11 METERS ABOVE THE GROUND



The ORLEN Group is a major petrochemical player in Central and Eastern Europe, with refinery and petrochemical production sites in Poland, Lithuania and the Czech Republic. The Unipetrol refinery in Litvinov, Czech Republic, has been part of the Polish PKN Orlen group since 2005. The Unipetrol refinery 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. Due to girth weld degradation crucial parts of the pipeline needed fast repairing. CTE BV offered a reliable, low-cost and lasting solution with quick delivery time.

CHALLENGE

During regular quality checks, Unipetrol technicians discovered degradation of the girth weld at a 250 mm tee junction. This part is crucial to the process, with a working temperature of 120 degrees Celsius and a pressure of 3 bar. There was no possibility to shut down the installation, and to make it even more challenging, this particular part of the pipe is located at 11 meters above ground level. Due to this elevation, there was a very limited possibility of bringing large equipment up to the working location, and a scaffold was needed to get up there, to be able to safely repair the pipeline. A fast solution, with the right fit for this situation was needed.

REASONS TO CHOOSE CTE BV:

- **Overall costs**
- **Long term improvement**
- **Safety**
- **Fast solution**

SOLUTIONS USED

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

REPAIR

The answer for the inquiry by the refinery was found at CTE BV. They could arrange a quick delivery of materials and offered a solid, long term solution, extending the lifetime of the tee by 10 years. The engineered solution consisted of four layers of the carbon-fiber epoxy based system **DiamondWrap®**. This wrapping was performed by the local contractor in the Czech Republic. Due to the height of the working area, sandblasting was not an option. Therefore, a trained specialist prepared the surface with a Monti Bristle Blaster. After this, it took the team 2 hours to wrap the pipeline. The installers wore special PPE (protective clothing) to keep them safe during the repair process.

The result was a very low cost solution compared to a cut and replace alternative. The installation went fast, and the reliability of the carbon-fiber system improves the pipeline as a whole. On the same day, 12 different sections of the pipe were repaired by a team of 4 people at Unipetrol.

The certified installers carrying out engineered composite repair maintenance works turned out to be a cost effective way to extend the lifetime and overall quality of the pipeline.

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

+31 (0) 6 2347 6562 • contact@ctebv.eu • carbontech-composites.eu
Industrieweg 21c-d, 4214 KZ Vuren, The Netherlands