GC WRAP

CASE STUDY

Documentation of the repair of the transmission pipeline, made with composite materials
STRENGTHENING OF DN300 PN160 PIPELINE, OKD (Ostrava-Karvina) MINE

REPAIR TECHNOLOGY DEVELOPED BY AN INTERNATIONAL TEAM OF ENGINEERS

EFFICIENCY

GC Wrap is the highest quality fiberglass and carbon fiber systems used to rehabilitate and restore the original working strength of damaged or corroded transmission pipelines and pressure vessels. With full compliance to ASME PCC-2 and ISO TS 24817 technical standards, service life extensions are possible up to 50 years.

PIPING PROTECTION

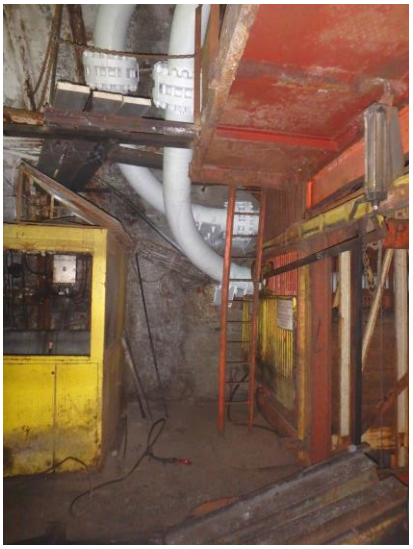
GC WRAP can be applied on tees, elbows, and, of course, straight runs of pipe, in confined spaces and on irregular surfaces – wherever structural reinforcement or leak containment is required. The adhesive properties of the urethane and the use of an epoxy primer allow it to be applied to most substrates.

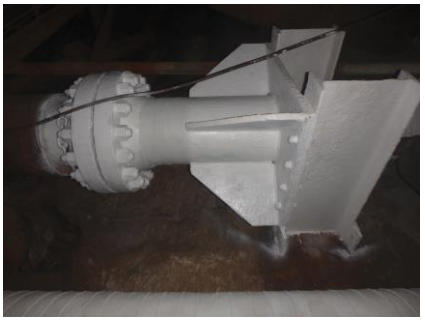
COMPLIANT TECHNOLOGY

GC Wrap is compliant to the ISO TS 24817 technical standard, ASME B31, .8, .4, .G and PCC-2 Art. 4.1, 4.2. as well as API 570. Please refer to: API 570, Section 8.1.4 – Non-welding repairs (on stream). The repair technology with composite materials is approved by the UDT.

PROBLEM

Composite repair material technologies are proving indispensable wherever it is not possible to take a pipeline out of service, or disconnecting it involves significant costs. Repairs with composite materials can be performed on an operating pipeline, regardless of the pressure and what kind of liquid/gas is transmitted through the pipeline. When performing the repair, only the necessary safety measures (personal protective equipment) should be taken care of for those performing the repair. In the presented case, the pipes located in one of the coal mines of the Ostrava-Karviná coalfield transporting cooling water at a working pressure of 110 bar, located at a depth of about 1,000 meters underground, required reinforcement.





APPLIED SOLUTION

The mine engineer in charge of maintenance sent an inquiry about the possibility of repair on the Technical Assessment Form to Gascontrol Polska. Thanks to a quick assessment of the situation by experienced engineers, a positive decision was made on the possibility of repair. Urethane-impregnated and water-activated fiberglass was selected as the material for the repair.

RESULT

A team of experienced installers, who had experience working at the mine site and had been previously trained in working with composite materials, first performed the surface preparation work and then the primer was applied and the fiberglass material was wound. The efficiently carried out work avoided taking the pipeline out of service and extended its useful life by 20 years.

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