

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

Gascontrol Polska sp. z o.o. not only carries out pipeline repairs with composite materials on its own, but also provides services: training for other companies in the installation of composites and supervision of such work (supervising). In the case in issue, the repair concerned the degradation of the welded joint of two sections of the 325 mm diameter Kiev-Kursk (Ukrainian territory) gas pipeline, operating at an operational pressure of 35 bar. The defect was revealed during the inspection of the pipeline with an MFL piston.

APPLIED SOLUTION

After consulting with the engineering department of Gascontrol Polska sp. z o.o. regarding the proper protection of the defect in the issue, the length of the repair was estimated at 900 mm and the number of layers of composite material at 16 layers. Urethane-soaked fiberglass was used as the material. The repair work began with the removal of isolation, then the surface was cleaned with spark-free brushes. The entire weld surface was protected with an epoxy compound - a filler, then an adhesion-enhancing primer was used, and the entire length of the repair was wrapped with 16 layers of composite material.

RESULT

Thanks to the presence on site of a supervisor from Gascontrol Polska sp. z o.o., who trained installers from a local pipeline maintenance company and supervised the repair work, the repair was completed in just four hours (including the time required for removing the isolation and preparing the surface). The repair was carried out without taking the pipeline out of service. The life of the pipeline could be extended by 20 years in accordance with the ISO TS 24817 technical standard.

