

### 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

Weld degradation is a serious problem encountered in the daily operation of natural gas transmission pipelines. It is a problem that is difficult to repair, while in most cases repairs using welding are prevented due to the fact that the pipeline is operating under pressure, on the other hand, in most cases it is not possible to take the pipeline out of service. In repairs of such cases, composite materials come to the rescue. Gascontrol Polska sp. z o.o., thanks to the TUV certificate for the GC Wrap reinforcement system used and the approval of the repair technology by the UDT, can perform such repairs (supported by engineering calculations) on transmission pipelines operating at working pressures up to 10 MPa.



### APPLIED SOLUTION

In the described case of the repair, the welds on a tee assembled on a pipeline with a diameter of DN150, operating at a working pressure of 3.5 MPa, had to be strengthened without taking the installation out of service. The repaired section of the pipeline was located on the territory of a reduction and measurement station in the Silesian province. Based on the pipeline inspection data, the degree of weld degradation was determined and the length of the repair was designed along with the number of layers. After surface preparation, an epoxy filler was applied for leveling and then the entire tee was wrapped with XX layers of urethane-saturated fiberglass material.

### RESULT

The use of composite repair materials made it possible to carry out the repair without taking the pipeline out of service. The repair performed in accordance with the ISO TS 24817 technical standard guarantees the extension of the pipeline's service life for up to 20 years. Gascontrol Polska sp. z o.o. has a team of qualified specialists and more than 50 completed applications for repairs with composite materials.