

### 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.

#### ZGODNOŚĆ Z NORMAMI

GC Wrap to technologia zgodna ze standardem technicznym ISO TS 24817, normami ASME B31, .8, .4, .G i PCC-2 art. 4.1, 4.2. i API 570. Patrz: API 570, rozdział 8.1.4 – Naprawa bez spawania (w trakcie eksploatacji). Technologia napraw materiałami kompozytowymi posiada aprobatę UDT.

### PROBLEM

Welded joints of pipelines are the places that are most susceptible to degradation and damage caused by stresses in the pipe sections being joined. Particularly vulnerable sections are those of small diameter operating under high pressure. In the case in issue, the renovation concerned the strengthening of welded joints on a pipeline with a diameter of DN150 operating at an operational pressure of 55 bar. The repaired pipeline is located on the territory of a reduction and measurement station in the Lower Silesia province.

### APPLIED SOLUTION

Gascontrol Polska sp. z o.o., thanks to its many years of experience in the use of composite materials, has a large number of weld reinforcement repairs carried out on all types of transmission pipelines in the country and abroad. In order to be able to repair pipelines built before 1990 as well as those newly built, Gascontrol Polska sp. z o.o. has obtained the approval of the Office of Technical Inspection for the repair technology. A fiberglass bandage soaked in urethane was used to make the repair in the case described. The length of the repair and the number of layers were determined based on calculations made by Gascontrol Polska sp. z o.o. engineers. After cleaning the surface, primer was applied to the surface of the tee and then the entire length of the repair was wrapped with composite material.

### RESULT

Thanks to the efficient organization of the work and favorable weather conditions, 12 welded joints were secured in one day. It is worth noting that thanks to its flexibility - composite materials can be used to repair pipeline sections of any geometry.

