

ELGEF Plus – Big Dimensions

Peace of mind for water transport lines

FARYS Water Utility Gent – Belgium

Minimize water utility risks with
the ELGEF Plus electrofusion system and
Ultrasonic NDT (Non-Destructive Testing).

Ultrasonic NDT: Extended weld warranty when passing the “Fit for Service” report.



Due to growing population figures in cities, the demand for water in cities is constantly on the rise. To meet this higher demand, water utility companies must retrofit large diameter transport lines in densely populated inner-city areas, which often poses major challenges. Trenchless installation techniques combined with Ultrasonic NDT offers minimized risks at reduced construction costs.

Project background

To meet increasing water demand in the coming years, FARYS, the water utility company of Flanders/Belgium, decided to install a 1.5 km d500 mm water transport line in the dense inner city. To minimize disturbance to the residents, keep the infrastructure intact, and ease the installation of the d500 mm pipe, a 750 m passage had to be dug 23 m deep underneath a high-rise building, a parking lot and a shopping mall. Considering the high pulling forces required for the horizontal directional drilling (HDD) trenchless technique, FARYS technicians had some concerns about the performance of the butt fusion joints. Polyethylene (PE) joints are completely reliable and tested for HDD, but how could they minimize the potential risk of any subsequent damage? Ultrasonic NDT was the perfect solution.

Selected technical solution

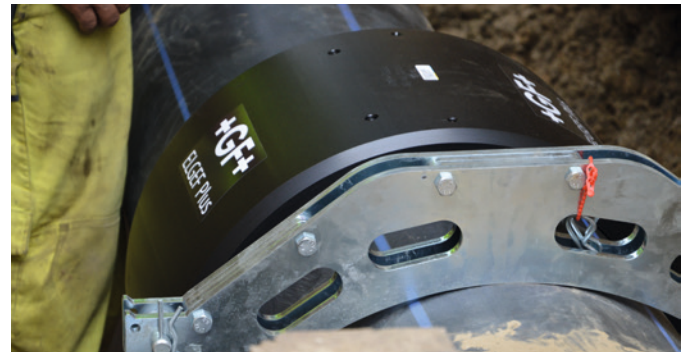
For large diameters FARYS formerly relied on steel or ductile cast iron (DCI) pipes, but the rigidity and missing end-load resistance of metal pipes made them not a valid option for the project. In comparison, the flexible, fully restrained, homogeneously welded PE pipes with a corrosion-free service life span of more than 100 years convinced the decision makers of FARYS. Only high quality suppliers were selected for this project to ensure the best possible performance and reduce the risk. With its high quality products and great technical reputation GF Piping Systems was chosen as the provider of the fittings and jointing technology. To minimize possible risks and assure the quality and reliability of the welds, all HDD joints were scanned and assessed by GF Piping Systems with Ultrasonic NDT. A pass or fail “Fit for Service” weld report is provided after using Ultrasonic NDT. If passed, GF Piping Systems provides an extended weld warranty.

Accomplished improvement

The well harmonized machines and tools for electrofusion and the ease of installation of the ELGEF Plus couplers with active reinforcement saved the contractor a great amount of valuable installation time. Moreover, the positive outcome of the Ultrasonic NDT tests reassured FARYS that the installation was reliable and leak-proof.

Your contact

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Trouble-free installation of d500 mm ELGEF Plus couplers with active reinforcement.



100% Ultrasonic NDT testing of the d500 mm butt fusion joints in the HDD passage.

Customer benefits

- **Hassle-free and fast installation of ELGEF Plus couplers thanks to patented active reinforcement principle.**
- **Strong and reliable connections with CNC butt fusion machines.**
- **100% Ultrasonic NDT testing of the joints in the HDD passage as evidence of the weld quality extends GF Piping Systems weld warranty.**
- **Excellent local support including fittings, machines, tools, trainings, documentation, and technical services.**

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