

GRP Protective Pipes for Heating Networks in Poland

A Pinch of Polish HOBAS® History

Protective pipes from steel have long been the first choice in pre-insulated pipeline engineering. They are however vulnerable to corrosion, particularly stray current corrosion (SCC). HOBAS GRP Pipes present a remedy for this problem – the Polish heating company SPEC, for instance, has realized this and has been using GRP for over a decade.

In 1998, for the construction of a pre-insulated heating distribution pipe under Wolowska Street in Warsaw, the Warsaw Heating Company SPEC S.A. decided to search for an alternative that would withstand high static loads, that can be installed via trenchless methods and is also insensitive to stray currents. The choice fell on HOBAS GRP Pipes; the glassfiber reinforced polyester pipes are dielectric and not only meet the requirements set by SPEC but offer numerous additional convincing benefits.

Centrifugally cast HOBAS GRP Jacking Pipes 324 mm in outside diameter were installed to accommodate the DN 150 heating line. To facilitate the jacking procedure HOBAS Poland delivered the standard 6-m-long pipes readily cut into 1-m-sections. The admissible jacking force determined by HOBAS equaled 30 tons. Not least thanks to the pipes' benefits such as their smooth outer surface, however, the highest force recorded during implementation did not exceed 20 tons. Due to the non-disruptive trenchless installation method the works could be conducted during normal traffic conditions.

Since 1998 HOBAS Pipe Systems have been employed in about 90 heating pipe projects in Poland – aligning all delivered GRP pipes this would result in an 11-km-long line. Most of the projects have been realized in Warsaw and its surroundings. The pipes, mainly DN 300 to DN 1800 mm in diameter, are often installed in open trench and are therefore designed with a stiffness SN 10000; in many other cases they were realized with a higher stiffness suitable for trenchless installation.

Currently, HOBAS Protective Pipes are installed beneath Kasprowicza Street in Warsaw for the client SPEC DALKIA Warszawa. This job was initiated along with the construction of Marie Skłodowskiej-Curie Bridge as the existing district heating network in the dense underground infrastructure needed to be restructured. HOBAS GRP Products were a natural choice due to their outstanding parameters which facilitate the installation despite the heavy traffic in the city and allow a relatively thin pipe cover. The tight project schedule was a further key factor which let the client opt for HOBAS. Construction works at Kasprowicza Street commenced April 10 and are planned to be finalized in June 2012.

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Fmd: hobas.poland@hobas.com



Project - Wolowska Street	Project - Kasprowicza Street
Year of construction 1998	Year of construction 2012
Total length of pipes 110 m	Total length of pipes 642 m
Specifications DN 300 (D_e 324), PN 1, SN 32000	Specifications D_e 168 – 1229, PN 1, SN 20000
Installation method Jacking	Installation method Open trench
Client SPEC Warszawa	Client SPEC DALKIA Warszawa
Advantages Possibility to install pipelines by jacking, corrosion resistant	Advantages High durability allows relatively thin pipe cover, corrosion resistant