Relining with HOBAS® Pipes in Hungary

Rehabilitation of a double, gravity potable water line in Budapest

Hungary's capital Budapest is located on the Danube and has almost 2 million inhabitants. To secure the supply of clean and healthy potable water, some of the more than one hundred years old pipelines were relined and renewed with circular HOBAS CC-GRP Pipes.

The old non-circular 1500/1500 mm concrete pipeline was built at the end of the 19th century. It showed typical damages such as corrosion, encrustations, and small cracks, which had developed over its longterm use and made a renewal of the pipeline necessary.

The client looked for a pipe material with a smooth inner surface, good hydraulic properties, and abrasion resistance. A long lifetime and therefore good quality were further criteria. Another requirement was chemical resistance, since the city of Budapest uses chlorine to clean its potable water lines. Static calculations showed that pipes with a low wall thickness (SN 2500) could be used in this area, as there is no traffic load and the pipeline is covered with an average of 1.5 m of soil.

The installation was split into three periods. In summer, when the water consumption is high, it was impossible to work on the pipeline. Installation could only take place in spring, late autumn, and winter. As HOBAS Pipes can be installed in all weather conditions, this was another reason for the constructor to choose HOBAS CC-GRP Pipes.

The old line was opened every 300 m and the pipes were installed from there. Also the manholes were relined with HOBAS Pipes DN 900. The gap between the old and new pipe was grouted with a special cement. Because of the low weight and easy installation of HOBAS CC-GRP Pipes, only 3 to 4 workers had to work on the construction site. Two of them relined the pipe by pushing the HOBAS Pipe into the old channel using special equipment with wheels. One person navigated the excavator, lifted and put the pipes into the right place, and another person assisted where necessary. Thanks to this small number of workmen the construction costs could be kept at a minimum.

Year of Construction
2004 - 2006
Construction Time
9 months
Length of Pipes Laid
6000 m
Pressure Class
PN 1
Diameter
DN 900, 1300
Stiffness Class
SN 2500
Application
Potable water line
Client
Fővárosi Vízművek Zrt.
Constructor
Bonex Építőipari Kft.
Advantages
Easy transport and installation, light weight, accurate outer diameter

Continuation of the Rehabilitation of Potable Water Pipelines in Budapest

Another section of Budapest's potable water network was rehabilitated in 2011. Although over 100 years old, the concrete channel DN 1700 still had good structural properties. Nevertheless, it showed typical damages on the inside surface. As the customer was very satisfied with the already installed HOBAS Products, he opted for HOBAS again.

The pipeline was opened every 150 to 200 m and relined from both sides. The contractor used hydraulic equipment to facilitate the coupling of the pipes. And again, thanks to the excellent features of HOBAS Pipes, only a small number of workers was employed in the installation: One person moved and lifted the pipes, two inserted them into the old pipeline and joined the pipes, and one more person assisted wherever help was needed. Thanks to the light weight and easy handling of the 6-m-long HOBAS Pipes DN 1000 to 1500, the installation progressed quickly and the entire length of 1.1 kilometers was finished within 1.5 months only. HOBAS also delivered shafts to complete the system; perfectly organized deliveries according to the customer's needs rounded off this successful project.

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Year of Construction
2011
Construction time
1.5 months
Length of Pipes Laid
1,100 m
Pressure Class
PN 1
Diameter
DN 1000, 1500
Stiffness Class
SN 2500
Application
Potable water line
Client
Fővárosi Vízművek Zrt.
Advantages
Easy transport and installation, perfectly timed deliveries