Highway Bridge Drainage Around Budapest, HU

Two bridges over River Danube equipped with **HOBAS®** GRP Pipes

In the vicinity of the Hungarian capital Budapest, almost 1500 m of HOBAS Bridge Drainage Pipes were installed in 25 m height above the water surface of the river Danube.

The car and truck traffic in Hungary has multiplied in recent years. In order to facilitate transports around the capital city Budapest and to protect the city residents against heavy traffic, it was decided to build a ring road around the city – the highway M0, which is part of a Pan-European corridor. The first half of it was built in 1992 with a two-lane structure. In 2010, the construction of the second section started. The "M0 highway, South Section" features a modern highway structure which corresponds to the increased traffic.

The M0 highway is the second busiest highway section after the ring road around Vienna. The South Section is about 24 kilometres long and crosses Csepel Island, which is why it includes two big bridges named Hárosi and Soroksári. The bridges had to be provided with a drainage system and it was decided to use HOBAS CC-GRP Drainage Pipes for this purpose. The reasons for this choice were manifold; especially the long lifetime convinced the investor. A further key factor was the comparably low weight of the products, which remarkably facilitated the installation works that had to be conducted in approximately 25 m height above the water surface of the river Danube. Over the past years, quite a few bridge drainage projects have been successfully realized with HOBAS Pipe Systems and the good references also supported the decision. Another request from the investor was that the whole system – pipes and bridge structure – should have the same color. So all fittings and laminates were colored accordingly in order to achieve a uniform design. HOBAS also obtained an official certification that confirms the use of HOBAS Products for bridge applications, which was requested by the client.

The HOBAS CC-GRP Drainage Pipes were fixed on hangers and run partly under, partly next to the bridges. The pipelines were perfectly routed alongside the bridges by means of angular deflections in the couplings. As usual in bridge drainage projects, HOBAS supplied complete system solutions

including pipes and fittings such as bends, T- and Y-pieces, saddles, and reducers. The drainage line under the Soroksári Danube Bridge is 498 m long and contains pipes and fittings DN 200, 300, 400, and 500. The drainage pipeline under the Hárosi Danube Bridge is 920 m long and consists of pipes with different diameters from DN 150 to 600. The drained water is led through pipes and fittings DN 150 beneath the roadway as well as through horizontally suspended pipes and fittings DN 200, 350 and 450. At the end of the bridge, the system collects the water in GRP pipes DN 600 which lead to the shaft. Thanks to the low expansion coefficient of the compound GRP material, the differences between the thermal expansion of the bridge material and of the HOBAS CC-GRP Pipe Systems can be compensated by the HOBAS Couplings and the bridges are ideally equipped for all seasons to come.

HOBAS delivered all products on time, in accordance with the client's request and directly to the bridges under construction. A close and well-functioning cooperation between the HOBAS Experts, the designer, and the contractor ensured smooth logistics. Each party was convinced to have made the right choice with HOBAS Drainage Pipe Systems and the inhabitants of Budapest are pleased with the new highway section, which considerably upgraded the region's infrastructure.

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Year of installation
2012-2013
Installation time
10 months
Product range
Pipes, bends, T-pieces, Y-pieces, saddles, compensators
Total length of pipe
1,415 m
Pressure class
PN 1
Diameter
DN 150-600
Stiffness class
SN 5000 and 10000
Application
Bridge drainage
Installation method
On suspensions below and next to the bridge, assembly on special metal platform
Client
M0 South Section Consortium
Contractor
Hajdú és Társai Kft, A-Híd Zrt, Fakon Kft, Strabag Kft
Advantages
Easy installation at a height of 25 m thanks to light weight, corrosion and UV resistance, long lifetime, minimal thermal expansion