

Pipe lining in the Netherlands

Rapid refurbishment with big liners

In Vlissingen in the Netherlands, the company Kumpen recently refurbished a 60-year-old wastewater collection drain. Decisive factors in winning the contract were the short construction times and the integrated refurbishment concept.

Vlissingen is one of the most exciting cities in the Dutch province of Zeeland. The popular seaside resort is regarded as a modern city with an old heart. The town's 60 year old wastewater collection drain had to be refurbished.

All the wastewater generated by the municipality Vlissingen is carried away by this almost 1,300 m long main collection drain. Due to the large volumes of wastewater, an efficient and rapid refurbishment method was required. Emphasis was also placed on minimizing the impact of noise and pollution on residents.

On the basis of a "lean" planning approach by the contractor, Kumpen, the work was prepared precisely and efficiently with a planned duration of exactly one month. The comprehensive refurbishment concept with sustainable waste management and the use of energy- and resource-saving technologies were the keys to Kumpen's success in this call for tenders (best value procurement).

First, a high capacity dewatering drain to cope with a flow rate of 4,800 m³/h and a length of 1,400 m was created. The Brandenburger pipe liners were installed in the period from 30 October to 12 November. Work was performed in two shifts to ensure that the seven installations with a total weight of 65 tonnes in the DN 1000 – DN 1200 range could be completed within these two weeks. The largest installed liner had a weight of 16.7 tonnes and a length of 270 metres. This meant for Kumpen the establishment of two new records. Thanks to the curing rate of just under 1.0 m/min (total curing time of 4.5 hrs), the maximum time allotted for installation was not exceeded. This increased the concentration of the personnel on site and hence their safety.



Brandenburger Liner BB^{2.5}

The installed liner is from the new generation of the Brandenburger Liner BB^{2.5} liners, which incorporates significant modifications. The specifications of the pipe liner are higher than before. In accordance with the modified DIBt certification Z-42.3-490, liners with a DN > 875 have a short-term circumferential elasticity modulus of 16.875 N/mm².

This has been made possible by the redesign of the winding technology on the fourth production line at our factory in Landau, Germany. The new ultramodern plant still uses the winding process developed by Brandenburger in 1996, for which we still hold a patent, however this process has been refined yet further. This technical progress is also reflected in every further production step; for example, when transporting the film as well as packing away the liners into the transport crates that have been especially designed in-house.



Brandenburger Liner BB^{1.0}

Parallel to this change in the DIBt certification, a new product has been introduced. The Brandenburger Liner BB^{1.0} is largely based on a glass / synthetic fibre complex. The pipe liner, which was specially developed for the smaller nominal widths, combines the best of both worlds: On the one hand, the rapid handling on site of the UV-cured liners and, on the other, the cost-effective materials of the hot-water-cured liners.

For the user, there are no changes in the installation process. As previously, the liner is drawn into the sewer by means of a winch. The quality of the liner can be inspected before curing with the camera on the light chain. The retraction speed during curing is determined by the irradiation tables and according to the respective installation type. On average this rate is 1.50 m/min.

"According to our market assessment, we expect to cover up to 70% of our small-diameter pipe liners with this innovative product in 2018," says Brandenburger Liner CEO, Michael Schloder.



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