

Technology & Innovation



The Brandenburger Liner BB^{2.5}

The Brandenburger liner BB^{2.5} is a UV light-curing pipe liner for trenchless sewer rehabilitation. It impresses with its unique glass mat construction which makes the surface quality extremely high.

Not only the surface quality but also the mechanical properties were brought to a higher level by the optimization of the glass complex. The additional external protection which protects the liner against all adversities with its two-layered, fibre reinforced construction before, during and after the installation makes the package complete.

The most important advantages of BB^{2.5}:

- High mechanical strength with long-term modulus of 1.600.00 psi
- Glass fibre mat bonded wear protection layer
- Additional external protection provides double protection for the liner

The improved properties have a positive effect on the necessary wall thickness, particularly for large nominal widths and egg-shaped profiles. Due to the excellent structural properties of the liner, starting from a wall thickness of about 3/16", you save one wall thickness step.

With the new glass fibre composite with integrated glass fibre mat layer, a homogenous glass fibre mat bonded wear protection layer of pure resin is formed on the surface of the BB^{2.5}, which was worn down less than 3/64" in a simulated use phase of 50 years in the Darmstadt abrasion resistance test. In addition, the low level wear has a positive effect on the wall thickness, improving the economic side of the construction project.

The high-pressure jetting resistance of the BB^{2.5} was significantly improved, providing an even higher level of security for your rehabilitation projects. The liner even handles the maximum jetting tests of 30 cycles (10 times more than standard) completely unscathed.



New glass fibre complex with glass fibre surface



Impregnation of glass fibre with UP resin



Liner winding

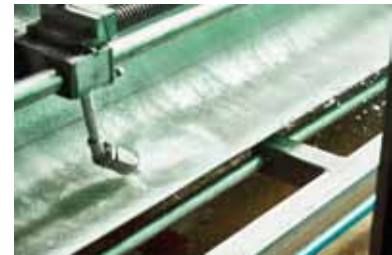
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Beside the far highest curing speed on the market especially the additional outside protection is an absolute success and will also be provided for the BB^{2.5} from 24 inches free of charge. This protects straight liners with largenominal widths and high weight additionally against mechanical damages during liner installation.

Technical Data

Diameter	Circular profiles 6" - 64" Egg profile 200/300 - 1200/1800	
Wall thickness	from 9/64", 1/32" steps	
Liner characteristics	Standard	BB^{2.5}
Modulus of elasticity short-term	EN 1228	2.000.000 psi
Modulus of elasticity long-term	EN 1228	1.600.000 psi
Long-term reduction factor	EN 761	1,27
Material characteristic group	DWA M-144-3	22
Short-term bending stress	ISO 178 I ISO 11296-4	29.000 psi
Long-term bending stress	ISO 178 I ISO 11296-4	22.800 psi
Wear layer	DIN EN 295-3	3/64"
Density	ISO 1183	12,85 lb/gal



High-pressure jetting resistance
BB^{2.5} material testing



Liner packaging



Liner curing

The existing certification Z-42.3-490 of the "Deutsche Institut für Bautechnik (DIBt)" in Berlin was extended in June, 2014 by the BB^{2.5}. Last amendment has been effected on August 16th 2016.