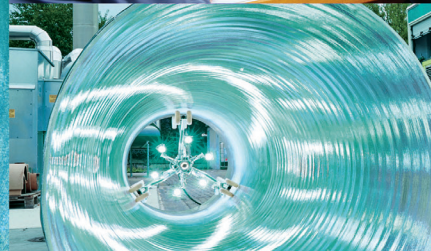
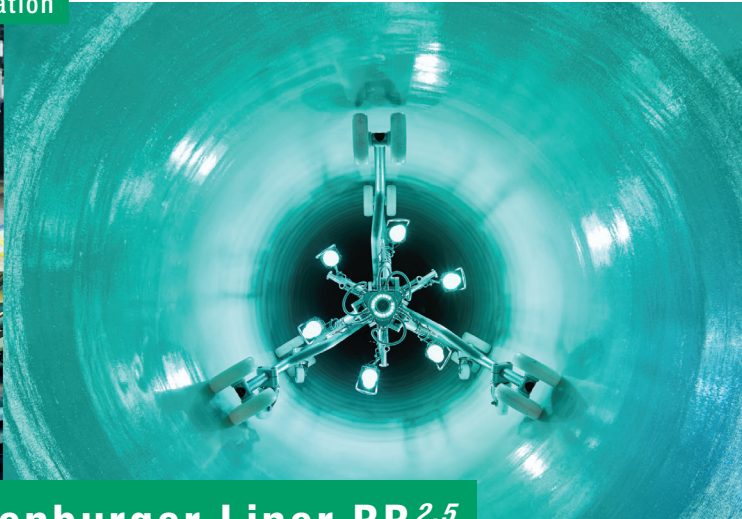




## Technology & Innovation



## The Brandenburger Liner BB<sup>2.5</sup>

The Brandenburger liner BB<sup>2.5</sup> 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<sup>2.5</sup>:

- High mechanical strength
- 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 5 mm, you save one wall thickness step.

With the new glass fibre composite with integrated glass fibre mat layer, a homogeneous glass fibre mat bonded wear protection layer of pure resin is formed on the surface of the BB<sup>2.5</sup>, which was worn down less than 0.1 mm 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<sup>2.5</sup> 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 at 550 W/m<sup>2</sup> (standard: 3 cycles, 450 W/m<sup>2</sup>) completely unscathed.



Glass fibre complex with glass fibre surface



Impregnation of glass fibre with UP resin



Production line



## Technology & Innovation | New Generation BB<sup>2.5</sup>



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<sup>2.5</sup> from DN 600 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 DN 150 - DN 1600  
                                    Oval profiles 200/300 - 1200/1800

Wall thickness              from 3,5 mm, 0,7 mm steps

Liner characteristics	Norm	DN 150 - DN 875	DN 875 - DN 1600
Modulus of elasticity short-term	EN 1228	14.200 N/mm <sup>2</sup>	16.875 N/mm <sup>2</sup>
Modulus of elasticity long-term	EN 1228	11.180 N/mm <sup>2</sup>	13.288 N/mm <sup>2</sup>
Long-term reduction factor	EN 761	1,27	1,27
Material characteristic group	DWA M-144-3	22	./.
Short-term bending stress	ISO 178 I	200 N/mm <sup>2</sup>	200 N/mm <sup>2</sup>
Long-term bending stress	ISO 178 I	157 N/mm <sup>2</sup>	157 N/mm <sup>2</sup>
Wear layer	DIN EN 295-3	0,1 mm	0,1 mm

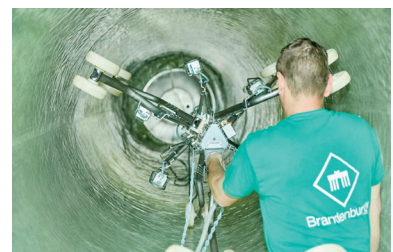
The existing certification Z-42.3-490 was extended On Sept. 14<sup>th</sup> , 2017



High-pressure jetting resistance  
BB<sup>2.5</sup> material testing



Liner packaging



Liner curing