

PIPE REHABILITATION PIPE PROTECTION

BKP Berolina – We Protect Pipes



THE BEGINNINGS of BKP Berolina



*Household goods from the Plastics
Processing Factory in Staaken*

How it all began...

BKP Berolina has its origins in a plastic processing factory in Staaken (called „Plastverarbeitungswerk Staaken“), which started production in 1959. The production of household and industrial goods using polyester resins during manufacture was of great significance, as they replaced raw materials such as metals and wood. BKP Berolina is still benefiting from this long-standing experience to this day.

BEROLINA-Group

The company, renamed PLAWESTA Kunststoff GmbH, had more than 1000 employees in 1989. It was taken over by the BEROLINA Group two years later, in 1991.



Production of a technical tank

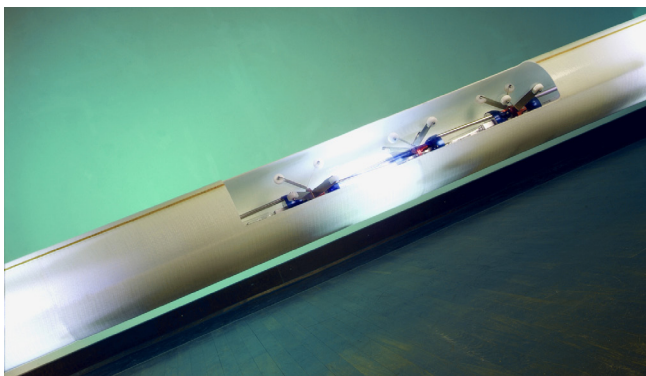
BKP Berolina GmbH & Co. KG

Development of the Berolina Liner System began in 1995, with the first liner being shipped two years later. Thanks to the new system it was possible to find an investor, thus securing further production and continuous growth of the firm. In 1998, BKP Berolina Polyester GmbH & Co. KG emerged from the BEROLINA Group.

Due to the company's rapid expansion the space in the old production facilities in Berlin-Staaken was no longer sufficient. The owners therefore decided to invest in a completely new, larger location.

The Berolina-Liner

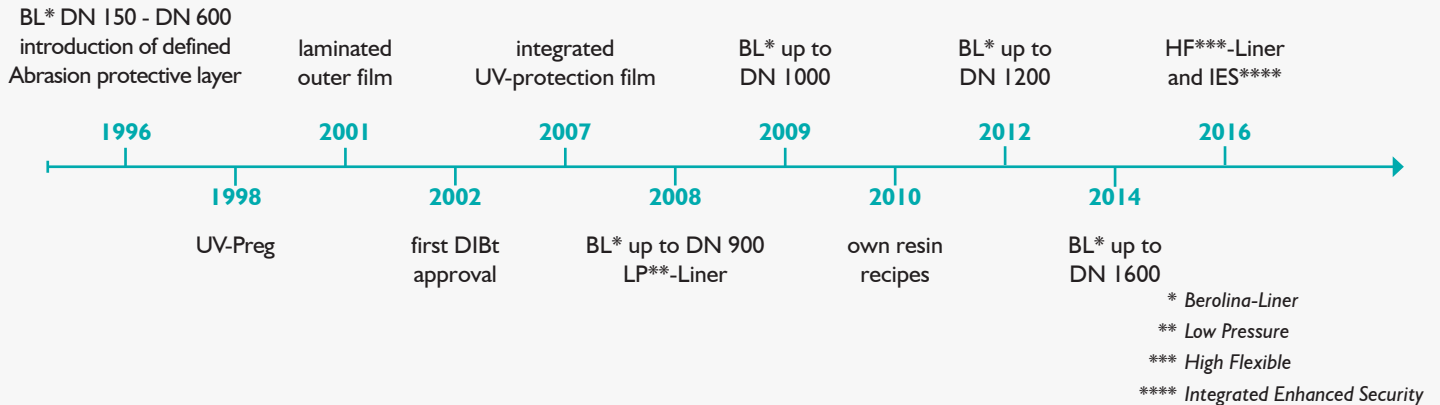
The Berolina-Liner consists of a corrosion-resistant glass fibre complex impregnated with high-quality polyester or vinyl ester resin and/or polyester sheets, which are arranged overlapping and offset from each other. Due to its variable stretching behaviour, the seamless Berolina-Liner optimally adapts to any profiles, and especially to circular and oval cross-sections. Cross-section or profile changeovers generally do not pose any problems for the Berolina-Liner.



The Berolina-Liner-System

HISTORY of BKP Berolina

Development of the Berolina Liner-System

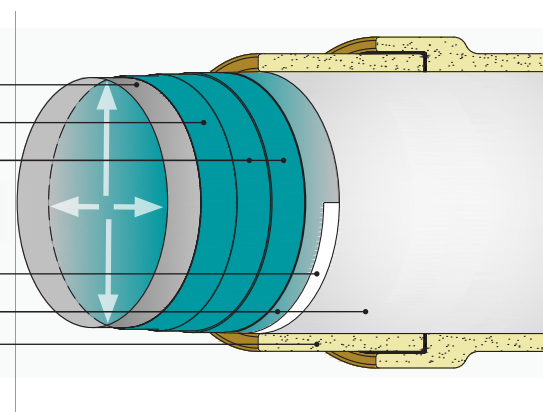


Factory Velten

Relocation to the Berlin suburb of Velten

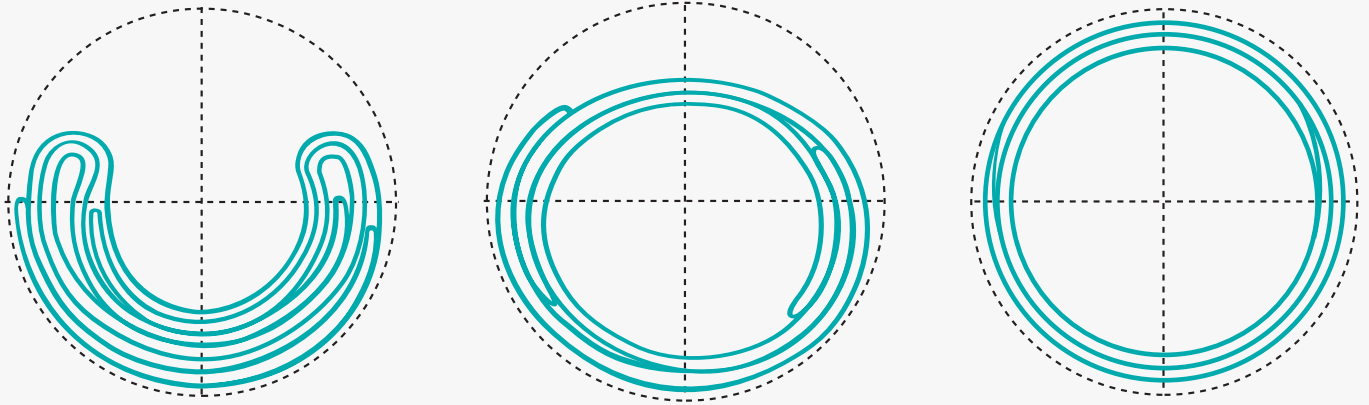
BKP Berolina decided, due to the prevailing circumstances, to purchase a generously-sized site on the northern outskirts of Berlin. The location at Velten industrial park provided the company with ample space to expand. Very favourable transport connections and the option of operating with a shift system seven days a week, tipped the scales in favour of Velten, a suburb of Berlin. After the initial ground-breaking ceremony in September 2009, the company moved in to its new premises just a few months later. In 2012, the site was extended by an additional 4800 square metres to enable BKP to expand.

1. Inner foil
2. Defined Abrasion protective layer
3. Different glass layers
- Calibration with compressed air
4. Integrated Enhanced Security (IES)
5. Outer film with UV protective film
6. Host pipe



PRODUCTS

Pipe rehabilitation



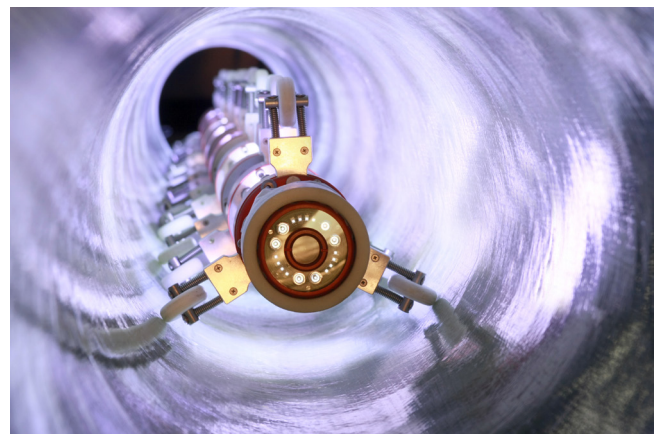
Unique worldwide

Thanks to its distinctive design principle, the Cured In Place Pipe (CIPP) technology has established itself as a reliable and now leading method for trenchless pipe rehabilitation. The liner production process developed by BKP on the basis of glass-fibre reinforced plastics

(GRP) is unique world-wide. Due to the defined wear protection coating, our high-quality composite materials combine high chemical resistance, strength and durability.

Sustained growth

The development of products for trenchless sewer pipe rehabilitation started in 1995. After the initial development phase, the Berolina Liner was available in nominal sizes DN 150 mm to DN 600 mm. An increasing number of circular, ovalar and tapering cross-section sizes were gradually added. The Berolina-LP-Liner ("low pressure") was able to demonstrate its qualities in the summer of 2008, as it was one of the first light-cured GRP tube liners to be installed in the HKW Reuter West combined heating and power plant in Berlin. Since 2013, the development of the Berolina-HF-Liner, a liner with excellent mechanical characteristics, enables liners with particularly large diameters yet thin walls to be produced for high mechanical loads.



UV light source in the Berolina-Liner (DN 300)

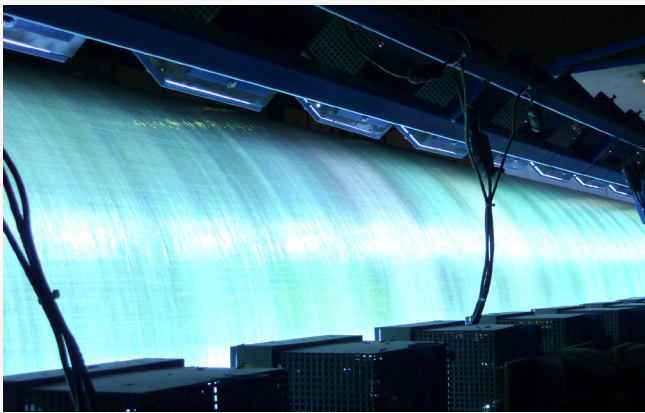
PRODUCTS

Pipe protection

GRP surface protection

Due to the high wear-resistance of the GRP surface protection for steel pipes, which the conventional PE/PP casing method does not provide, damage is avoided during trenchless pipe pulling. The hard coating of glass fibres and environmentally friendly synthetic resin wraps itself around the pipe like an additional protective

shield. The GRP protection layer is cured by UV light, which means a fast and complete curing of the plastic is possible. The robust protective casing thus provides the greatest possible safety against external damage during installation.



Curing by using UV light



DN 1,400 GRP surface protection + GRP spacers

Joint development for a powerful product

The GRP surface protection was developed in 1995/1996 in cooperation with customers. After peroxide curing being the initial method of choice, the system was switched to environmentally friendly UV light curing in 1999. Since 2011, BKP Berolina has also offered pre-attached GRP spacers, which were also developed with the help of an end user. Switching production to environmentally

compatible polystyrene-free resin represents a further milestone for the company. The GRP surface protection enables long pipe run sections to be laid by means of the trenchless method (HDD or pipe ramming).



A tried-and-tested system: additional GRP spacers 2015



New UV technology for GRP weld protection, 2019

QUALITY

The basis of our joint success

Quality management

The quality of the selected raw materials is checked before the actual production of the Berolina Liner. The entire production process is digitally recorded and is permanently monitored. The wall thickness of the liner is determined in real time by a specially developed laser measurement method, which also records these values. Following extensive testing, the liner only leaves the factory after quality assurance employees have given their approval.



Berolina-Liner in Australia

In-house tests

The company's own laboratory has state-of-the-art equipment for performing the following tests on the Berolina-Liner:

- Curing of test samples
- Leak test (EN 1610)
- Determination of the mechanical characteristics (e.g. 3-point bending test and ring modulus of elasticity)
- Determination of the glass content (EN ISO 1172)
- Barcol hardness (EN 59)
- Determination of wall thickness
- Measurement of the resin and residual polystyrene content

External tests

In addition to the in-house tests, BKP Berolina is also monitored and checked regularly by renowned independent external institutes within the scope of numerous national and international approvals. During installation of the Berolina-Liner, the necessary parameters such as pressure, temperature and illumination period of the lamps are recorded via the UV system and can be sent to BKP.



Testing of external samples

In addition, samples of the GRP surface protection can also be examined and tested in the company's own laboratory. This includes measuring the Barcol hardness, glass content analyses and the required shear strength based on DVGW standard GW 340.

SERVICE is our Number One Priority!



Compact mobile UV system with conveyor belt

Service does not begin on the job site!

We help our customers in advance with the planning and best-possible preparation for successful completion of the construction project. Using structural analyses and calculations of required wall thicknesses we can help you select the appropriate liner. On the construction site, our application technicians not only answer your questions, they also assist your team, provide technical training and explain the particular technical features of the equipment and products.



Mobile conveyor belt



Mobile UV system



Going for success together

Best insertion technology and trained, skilled staff

As a systems supplier, we have mobile UV systems for worldwide use under the most challenging circumstances. Particular installation site conditions can be pointed out and advice provided through training courses for the installation companies and skilled persons on site. The work is focused on optimising processes, quality and occupational safety. SERVICE is a priority for BKP.

GLOBAL

BKP Berolina - Working for You, Worldwide



BKP Berolina Polyester GmbH & Co. KG

Heidering 28 · 16727 Velten · Germany

Phone: +49 (0)3304 20 88-100

Fax: +49 (0)3304 20 88-110

Email: info@bkp-berolina.de

Website: www.bkp-berolina.de

