Berolina-Liner





Area of application

Gravity sewers

- Oircular profiles: ID 150 (16") ID 1,600 (63")
- Ovoid cross-sections: 350/525 mm (14"/21") - 1,200/1,800 mm (48"/71")



Advantages

- Seamless design, particular expandability
- Ready for installations up to 500 metres
- Oan be stored for at least 5 months
- Fast curing (esp. compared to felt liners)
- Smooth surface
- Suitable for all standard pipe profiles
- Quality management in accordance with EN ISO 9001:2015
- Bridging small profile and cross-section changes
- Resin types depending on requirement (polyester, vinyl ester, polystyrene-free)
- Abrasion protection layer

Additional advantage: IES

Integrated Enhanced Security

- Can be a substitute for smooth slip film, reducing installation time
- Available up to DN 600

Berolina-Liner



BKP Berolina - We Protect Pipes



Approvals

- DIBt Z-42.3-336 (UP and VE resins)
- WRc PT405/0417 (UP and VE resin)
- CSTB 17.2/15-303 (UP resins)
- City of Los Angeles, USA (UP and VE resins)

Reinforcement material

Woven glass complex E-CR according to

- EN 14020-1
- EN 14020-2
- EN 14020-3

Resins

Unsaturated polyester resins (UP resins)

- Type 1140 according to DIN 16946-2
- Group 3 according to DIN 18820-1
- Group 4 according to EN 13121-1

Vinyl ester resins (VE resins)

- Type 1310 according to DIN 16946-2
- Group 5 according to DIN 18820-1
- Group 7 B according to EN 13121-1

Polystyrene-free resins

Technical data

Approved for UP and VE resins

Density after curing (EN ISO 1183-2):

Glass fibre content (EN ISO 1172 / by mass):

Glass weight per unit area (per mm load-bearing wall thickness)*: 650 g/m² (+150/-100g/m²)

Short-term ring stiffness (EN 1228)*:

Short-term modulus of elasticity in flexure (EN ISO 178)*:

Short-term flexural strength (EN ISO 178)*:

Reduction factor for long-term values (EN 761):

Long-term ring stiffness (EN 1228)*:

Long-term flexural strength (EN ISO 178)*:

Laminate design:

Linear expansion during calibration:

Allowable diameter tolerances of the host pipes:

1.5g/cm³ (± 0.5 g/cm³)

46% (± 8%)

≥ 10,000 N/mm²

≥ 8,700 N/mm²

≥ 150 N/mm²

A = 1.45

≥ 6,800 N/mm²

≥ 105 N/mm²

Multi-layer, seamless and overlapping in longitudinal direction; overlaps are offset

DN ≤ 800: ± 5%; DN > 800: ± 2%

* Carrier laminate thickness to EN ISO 11296-4 (07/2011)