INPIPE LINER™

BASIC INFORMATION.

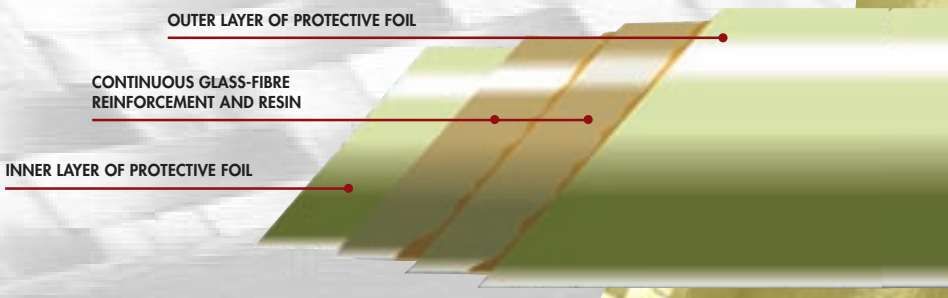
Inpipe's No-Dig system is used for gravity-flow and pressurised supply pipes. The pliable, seamless, glass-fibre reinforced liner is pressed right against the walls of the old pipe using compressed air. Once in place, a unique train of ultraviolet lights hardens the liner.

MODERN PIPE RENOVATION REQUIRES FLEXIBILITY

- Dimension range 150-800 mm.
- Laminate thickness between 3-10 mm.
- Compact, flexible equipment means that installation can be carried out in restricted spaces.
- Installation time is kept to a minimum with the ultraviolet curing light method for hardening the liner. Activities around the installation site proceed without disturbances, and the pipe system can resume normal operation the very same day.
- Complete process monitoring and documentation is possible using the ultraviolet curing light technique.

TECHNIQUE AND MATERIALS FOR OPTIMUM RESULTS AND A BETTER ENVIRONMENT

- The excellent flexibility and strength of the liner allows thin liner walls, which in turn allows a maximum diameter of the renovated pipe.
- The glass-fibre reinforcement provides a structural liner strength which complies with all stringent requirements.
- Perfectly sealed lateral connections to the mains.
- The ultraviolet method makes the process of installing more economical and cleaner than conventional methods.
- Throughput qualities are improved considerably thanks to the smooth inner wall of the liner.
- The inner and outer layers of protective foil guarantee environmentally-friendly handling.
- Pliable, glass-fibre braid ensures a corrosion-resistant end product with a long service life.
- Custom-made according to ring stiffness, length and diameter thereby giving optimal operational performance for each application.



The Inpipe System
A global solution
ISO 9001

INPIPE

MADE OUT OF WELL-REPUTED, RELIABLE MATERIALS

A CLEAN AND RELIABLE END PRODUCT

All Inpipe liner materials have a very high level of strength and durability to their surroundings. The product complies with all known environmental and strength requirements currently in force.

MATRIX SYSTEM		
MATRIX	POLYESTER, ISO-NPG	VINYLESTER BISPHNOL A
TYPE	LIGHT CURABLE	LIGHT CURABLE
FILLER	NONE	NONE
THICKENING AGENT	MgO	MgO
TYPE	LUVATOL	LUVATOL

PROPERTIES - CURED MATRIX	POLYESTER	VINYLESTER	TEST METHOD
MASS DENSITY	1.15g/cm³	1.15g/cm³	DIN 53 217
REFRACTIVE INDEX AT RT	1.5370 – 1.5410	1.510 – 1.540	DIN 51 423
TENSILE STRENGTH AT BREAK	70 N/mm²	70 N/mm²	DIN 53 455
ULTIMATE ELONGATION	2.3 – 4%	2.3 – 4%	DIN 53 455
MODULUS OF ELASTICITY IN TENSION	3,400 N/mm²	3,400 N/mm²	DIN 53 457
MODULUS OF ELASTICITY IN FLEXURAL	3,300 N/mm²	3,300 N/mm²	DIN 53 457
FLEXURAL STRENGTH	130 N/mm²	130 N/mm²	DIN 53 452
IMPACT STRENGTH	23 kJ/m²	23 kJ/m²	DIN 53 453
MAX. USING TEMPERATURE AT PH 6	60°C	80°C	

PROPERTIES OF REINFORCEMENT	ADVANTEX	TEST METHOD
TENSILE STRENGTH	3,100 – 3,800 MPa	ASTM D2101
ELASTIC MODULUS	80 – 81 GPa	ASTM D2101
ELONGATION AT THE BREAKING LOAD	44.5 – 4.9%	ASTM D2101
REFRACTIVE INDEX AT RT	1.560 – 1.562	OIL IMMERSION - FIBER
DENSITY	2.62	ASTM D1505

PROPERTIES OF INPIPE LINER	VALUE	TEST METHOD
E-MODULUS	10,000 MPa (3 min)	DIN EN63 / DIN 16868
TENSILE STRENGTH	130 MPa	DIN EN63 / DIN 16868
ELONGATION AT THE BREAKING LOAD	3.8% (3 min)	D 638
SURFACE ROUGHNESS	0.01 mm	AP-STANDARD

INPIPE®

BREATHES NEW LIFE INTO OLD PIPES

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