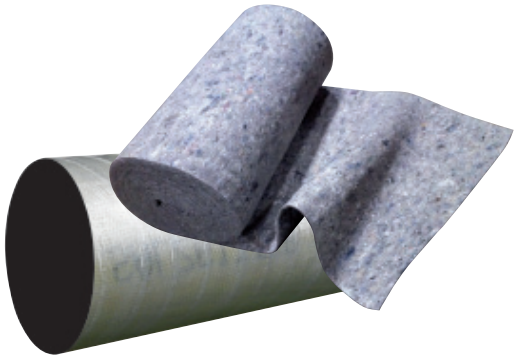
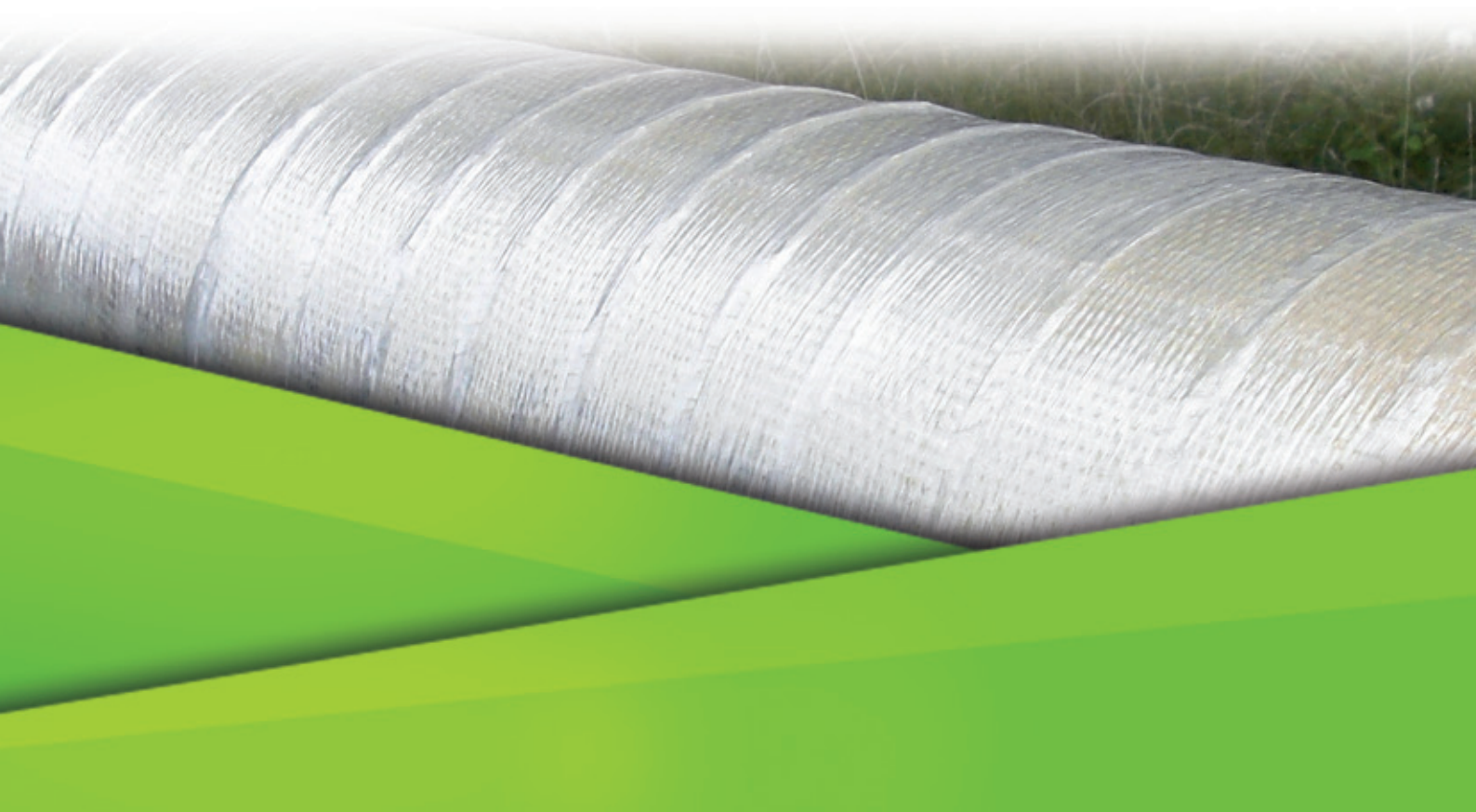
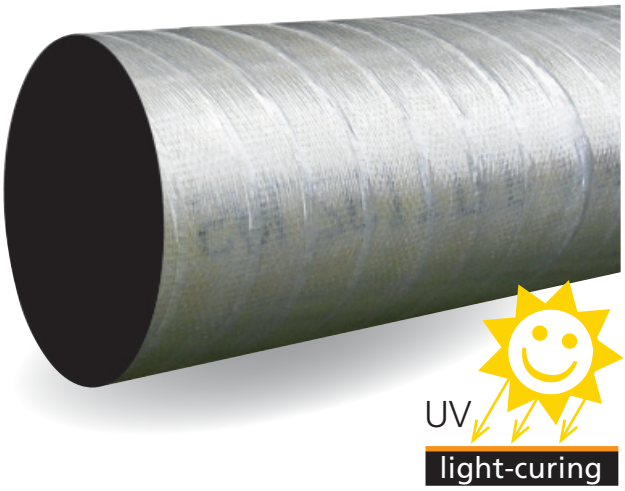
Pipeline Accessories

Mechanical Pipeline Protection 4 pipes





Fibercoat Ultra 4 pipes



Product information

Fibercoat Ultra is a glass-fibre-reinforced composite material in third generation.
The roll material is delivered ready to apply and **pre-impregnated** with resin and cured by UV light. Mixing and laminating on site is not necessary.
A handy roll size of 150 or 300mm width provides a simple and secure application.
A special GRP system, which was developed to fulfil the most stringent requirements for trenchless traverses, is characterised by the following attributes:

- Glass-fibre woven texture bandage, no short fibre pieces, which have highest stability
- Thickness per layer is only 0.9 mm ± 0.1 mm. Therefore the system is extremely flexible.
- The bandage is very translucent and allows the hardening up to 8 layers coating thickness in one process
- Extreme impact strength and shearing resistance
- Capable of protecting the complete pipeline

Pipeline Application

Typical application areas for pipeline construction are mechanical protection with regard to

- Trenchless pipeline laying, especially HDD
- ground-air changeovers
- pipe bearings, brackets and hangings

Advantages

Because of the pre-impregnation of the system from factory side, an optimized protection of the environment is ensured.
A common dripping of the resin does not occur as with classical laminations.
The system comes with all necessary accessory material which includes special gloves, clear foil for pressing on the pipe surface, on request also UV-lamps etc.

Technical data		
Thickness		approx. 0.9 mm layer
Density	DIN EN ISO 1183-1	1.54 g/cm³
Tensile strength	EN ISO 527-4	240 N/mm²
Bending strength	DIN EN ISO 178	200 N/mm²
E-module	DIN EN ISO 178	11800 N/mm²
Fracture elongation	DIN EN ISO 178	1.5 %
Compressive strength	DIN EN ISO 604	> 200 N/mm²
Notched impact strength	DIN EN ISO 179	70 KJ/m²
glass-fibre content	DIN EN ISO 1172	50 % ±2
Resin content	-	50 % ±2
Volume shrinkage	ISO 2577	1 %
Water absorption	DIN EN ISO 62	0.17 mg/100h
Styrene emission		< 20 ppm

Material data using a 2 mm thick test plate.
Tolerances possible.

Excellent resistance against chemicals (resistance table on request)

Ground to air protection

Under pipe clamps

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Fibercoat Ultra 4 pipes

Application instructions

- **Do not apply inside closed rooms**
- **Clean, dry, degrease** pipe surface, roughen with sand paper (corn 40-50)
- **Apply in a shaded area!**
- **Spiral wrapping** (2 to 8 layers)
- **Wrap tightly** and after that **overwrap with clear foil**
- During work interruptions, **secure transition zone from light** (e.g. with adhesive tape or the black packaging foil) to continue on non-hardened material, wet-in-wet
- **Working time max. 5 minutes**, max. 10 minutes when cloudy
- **Protection against direct UV-light is mandatory,** e.g. with a tent during application
- **Protect skin and eyes (with sunglasses) against UV-light! Do not work near active UV-spots!**
- Wrapping and hardening **up to 8 layers in one single process** is possible
- The **shady side of the pipe should be hardened with a UV-lamp** (2 UV-lamps minimum)
  - Distance lamp to pipe approx. 500 mm
  - Number of lamps should be higher on larger pipe diameters
  - The complete pipe surface must be covered by UV-light
  - Hardening time 5 minutes / layer at 20°C (e.g. 20 minutes for four layers)
  - Proceed in 500 mm steps along the pipeline

  Intense UV sunlight can help to shorten the curing time.
- For coating of pipes and coating systems for trenchless applications **consider** valid **DVGW-regulations**
- Optimum **application temperature +5°C up to 25°C**
- **Prevent pollution of the material**, otherwise this would lead to hardening failures
- Application always accord. to **regional standard health and safety regulations**
- Material must be **hardened fully** before machanical load is applied **(shore D 80 ±)**

To coat pipeline parts e.g. welded joints, wrap on the mill coating should overlap **at least 200 mm on both sides**. The wrapping has to be applied as flat to the surface as possible to avoid any harsh edges. For a final quality check, apply a test piece to the most-tricky area. Remove this piece before deployment and carry out a hardness measurement.
A warranty for Fibercoat Ultra 4 pipes is limited to replacement of faulty material only.

The 4 pipes warranty only applies to faulty material. Checking the suitability of the product for the individual application is solely the responsibility of the user.

Description	Art.-No.
Roll 150 mm x 15 m	16708
Roll 300 mm x 15 m	16709
Adhesive tape transparent 50 mm x 66 m	16760
Stretch foil 0.5m x 300m, 20 µm thick	16765
Gloves for Fibercoat Ultra application	16770
UV-Spot 400 Watt	16750
Shore D measuring tool with drag indicator for hardness test of Fibercoat Ultra	20304

Application video

Shore D Measuring Tool

UV-Spot

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Pipecoat Plus 4 pipes - GRP water-curing

GRP water-curing on sites
Premium mechanical protection

Product information

Pipecoat Plus is a **glass-reinforced composite material.** The material is pre-laminated with resin on a roll and cures with water. A **mixing or laminating on the site is not necessary**. The roll which comes in an airtight bag has to be dipped into **water for about 10 seconds**, then it is ready to apply. **Application is easy** because of the **manageable size of the roll with 100 or 150 mm** width.

The specially-developed GRB-System for pipelines fulfills the highest standards and has following features:

- **Woven** glass fibre-bandage (no short fibre pieces) is guaranteed **highest stability**
- Thickness per layer is only 0.75mm **Therefore the system is extremely flexible**
- The bandage allows the **curing of up to 20 mm layer thickness** in one process.
- **Extreme shock and shear resistance**
- Especially suitable for **protection of welded joints**
- **Fast curing** and full capacity after about 25 min.
- Application is **also possible under water**

Usage

Typical **applications at pipeline constructions are the mechanical protection** on

- **trenchless technologies**, especially HDD, on welded joints (for complete pipe coatings please use FibercoatUVcure)
- **soil-to-air interface area**
- **under pipe bracket clamp and hangers**
- use as **casing spacer at smaller annular spaces**

Advantages

An optimum protection of the environment is guaranteed because of the factory **pre-laminated roll.** Dripping like with other classical resin **laminations does not occur**.
The system comes with all necessary accessories like eg. gloves. Safety glasses should be worn during processing. Skin contact has to be avoided.

Consumption table per joint – Experience values without tolerances
DN 80 (88.9 mm) approx. 15 m
DN 100 (114.3 mm) approx. 17 m
DN 150 (168.3 mm) approx. 28 m
DN 200 (219.1 mm) approx. 32 m
DN 250 (273.0 mm) approx. 40 m
DN 300 (323.9 mm) approx. 50 m
DN 400 (406.4 mm) approx. 60 m

Example with 100 mm roll width

Application instructions

- **Clean pipe surface, dry, degrease**, roughen with emery (corn 40-50)
- Dip **into water for approx. 10 sec.** Spray with water during the wrapping process
- Wrap the Pipecoat Plus tape with **minimum 1 x 75 % overlap (4 layers)**
- Wrapping **up to 20 layers is possible**
- Curing time approx. 20-30 min. at 23°C, **fully resilient after 60 min.**
- Wrap tightly and overwrap with clear foil or **adhesive tape**
- **Time of processing max. 2-3 min.**, depending on temperature!
- For coating of pipes and corrosion-protection systems for trenchless applications **the valid DVGW-rules have to be considered**
- A **processing temperature +5°C up to 25°C** is ideal
- Always adhere to all applicable health and safety regulations
- The material **must be fully cured for an extreme load**

For a partial coating, e.g. welded joints the wrapping should overlap the protecting area **in front and back with minimum 200 mm and the wrapping has to be applied as flat to the surface as possible to avoid any harsh edges.**

A warranty for Pipecoat Plus 4 pipes is only limited to the substitute of faulty material

The 4 pipes warranty only applies to faulty material. Checking the suitability of the product for the individual application is solely the responsibility of the user.

Description	Art.-No.
100 mm x 10 metre	16711
150 mm x 10 metre	16712

Application video

ATTENTION:
Always adhere to all applicable health and safety regulations.

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Rock Shield Fleece 4 pipes

Application

- High quality mechanical pipe protection
- Alternative for sand bedding e.g. on a slope
- On top of corrosion protection coatings e.g. petrolatum tapes
- Separation between pipe and ground when pipes are moving
- Separation of gravel and ground at site entry areas
- Base e.g. for tanks with foil coverage

Technical data	
Tolerance	± 10 %
Colour	colourful
Material	polypropylene/PES Thread reinforced
Weight per m²	1000g/m²
Thickness	8.5 mm ±
Impact strength	5000N ±
Chemical resistance	well
Permeable to water	suitable for cathodic protection
Size standard	1 x 25 m
Special Size	0.5 up to 4.0 m

Installation

With adhesive tape or welding with soft propane gas flame.

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