

**BB^{protect}**

Brandenburger Pipe Wrapping

BB^{protect} is a highly resistant, ready-to-install, prelaminated plastic compound reinforced with glass-fibre weave. It provides the optimum mechanical protection for pipe wrapping and is completely waterproof. The slight shrinkage of the material during the curing process means that BB^{protect} will adhere to almost every pipe surface.

Brandenburger has been in business now for more than 75 years. For the past 25 years, Brandenburger has been active in the field of glass-fibre reinforced plastics. In the early nineties, an innovative new method of pipe lining was developed for the trenchless rehabilitation of sewers. Today, this business sector has expanded to include the application field of pipe wrapping.

BB^{protect} is a highly resistant UV-curable semi-finished product (prepreg) with a glass-fibre reinforced weave suitable for wrapping pipes. UP resin is used for the impregnation. The material, in thicknesses of up to eight millimetres, can be cured with UV lamps or exposure to sunlight. The cure time for a wall thickness of one millimetre is just one minute.

BB^{protect} has a variety of potential applications. In addition to the mechanical protection of welding seams and wrapping industrial steel and plastic pipes, pipe wrapping is also suitable for the following applications:

- Horizontal drilling
- Burst lining
- Auger boring technique
- Lining shafts
- Base layer for pipe clips
- Ground-to-air transition points

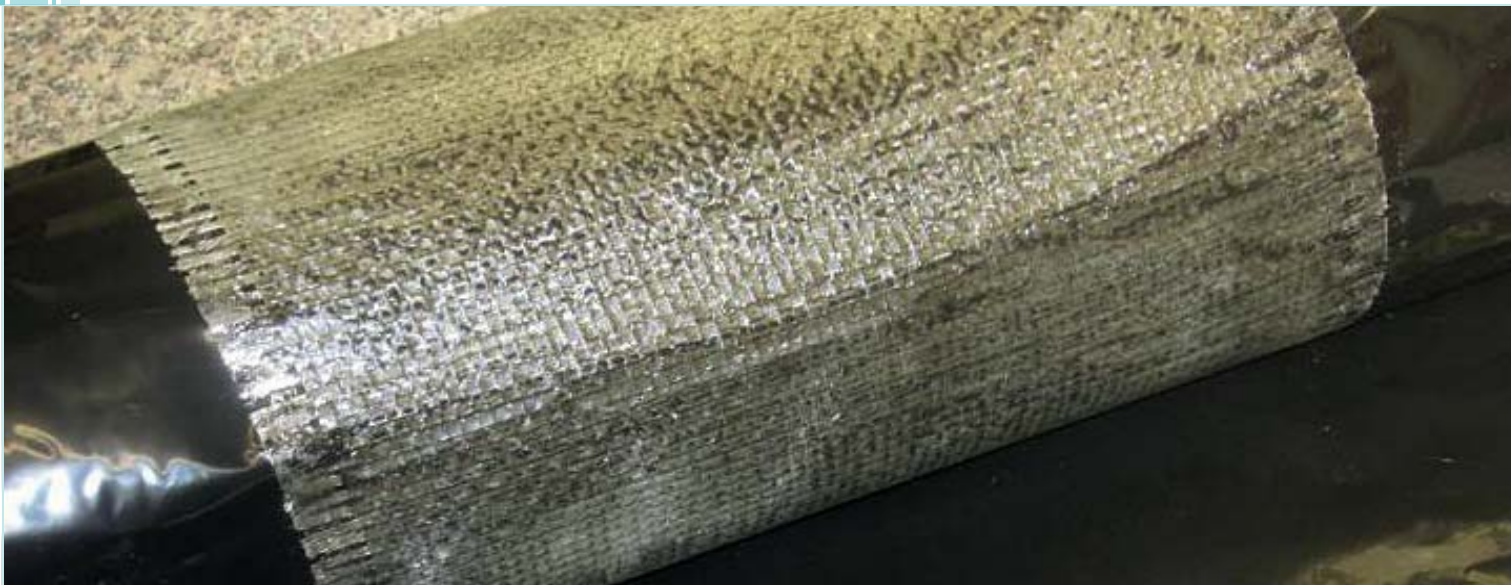
The pliability of BB^{protect} makes it very adaptable, ideal for evening out uneven surfaces. It can also be used to connect different materials, is resistant to chemicals, and is completely waterproof. In situations where high indentation, abrasion and impact resistance is a must, BB^{protect} provides the optimum protection.

BB^{protect} is available in widths of 100 to 800 millimetres and in lengths of up to 200 metres. Each layer of the material is 0.8 mm thick.

For more information about BB^{protect}, contact the Brandenburger R&D Team. Please request a technical specifications sheet.

Contact and additional information:

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At a glance:

The most important measured prepreg characteristics (averages)	Norm	BB ^{protect}
Density	ISO 1183	1,89 g/cm ³
Compressive strength	EN ISO 179	350 N/mm ²
Impact strength	ISO 178	110 KJ/m ²
Indentation hardness	ASTM D2583	> 45
Glass-fibre content	EN 60	65 %
Volume shrinkage	ISO 2577	2,50 %
Styrene emission	ISO 178	< 20 ppm

Transport and storage:

- The product is packaged in sturdy cardboard sleeves and UV-proof foil.
- Shipping is available by land, sea or air freight.
- The product should be stored and transported in a horizontal position.
- The product can be stored approx. 26 weeks if stored in lightproof packaging and at temperatures from +5 °C to +30 °C.

Available dimensions:

Prepreg width: 100 / 200 / 300 / 600 / 800 mm
 Material thickness: approx. 0,8 mm
 Roll length: to order, maximum 200 m

The advantages:

- The GFRP prepreg is manufactured ready-to-wrap.
- The fully assembled product facilitates easy handling at the construction site.
- The GFRP prepreg is highly adaptable.
- Excellent curing speeds.
- High durability makes it possible to use minimal wall thicknesses.
- Environmentally friendly processes, as chemical additives are unnecessary.
- No pipe casing necessary during curing.

The installer is responsible for evaluating whether BB^{protect} is suitable for the specific application and the anticipated load. The applicable DVGW regulations should be observed when coating pipes or applying wrapping systems for trenchless installation.

▲ BB^{protect} after delivery



▲ Applying the product to the pipe to be wrapped



▲ BB^{protect} after curing



▲ BB^{protect} after insertion into the ground

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