



DEPROTEC®-GFK

DEPROTEC®-GFK System

Product	Processing temperature Surface °C (°F)	Material °C (°F)	Relative air humidity (%)	Storage temperature °C (°F)	Compatible factory coatings
BUTYLEN-HT Primer BUTYLEN-N60	+10 to +50 (+50 to +122)			< +50 (+122)	
DEPROTEC®-GFK resin DEPROTEC®-GFK fibreglass DEPROTEC®-GFK fleece DEPROTEC®-GFK stretch film	and min. +3 (+5) above dew point	+5 to +40 (+41 to +104) and min. +3 (+5) above dew point	< 80	+5 to +25 (+41 to +86) and min. +3 (+5) above dew point	PE, PP, PA PU, FBE GRP reinforcement
Surface preparation	Remove loose factory coating, even out notches and indentations and chamfer corners to an angle of <30°. Blast-clean the uncoated steel surface to Sa 2½ standard (ISO 8501-1) and a medium level of roughness (ISO 8503-1). Roughening of coating in a circumferential direction. Use a hand-held angle grinder (grain size P60) to remove approx. 1 mm of the cover coating over a width of 100–150 mm.				
Safety & environmental protection	The installation must take place in accordance with customary and local environmental and safety standards. The safety and environmental notes on labels and safety data sheets must be heeded. Personal protective equipment such as safety glasses, safety gloves and fastened work garments must be worn. Maintain an appropriate clearance around the joint of approx. 0.8–1.0 m. Protect the lamination area, and environment against UV radiation. Prevent resin from contaminating the ground.				

Preparation

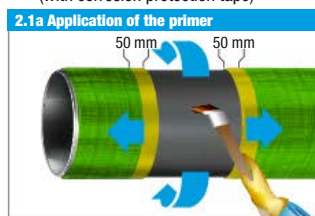
1. Material preparation



- Opened resin containers must be protected against moisture, rain and UV light.
- When commencing work and starting a new roll of fibreglass or polyester mat, always cut off and dispose of the first layer.

a) HDD process

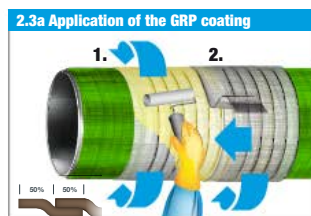
(with corrosion protection tape)



- Stir primer thoroughly before use (ensure that no residue is left at the bottom of the container).
- Apply a thin and even layer of the primer to the clean and dry pipe surface using a brush or roller.
- Overlap the primer on the adjacent factory coating by approx. 50 mm.
- Leave to air-dry until the primer is tack free.



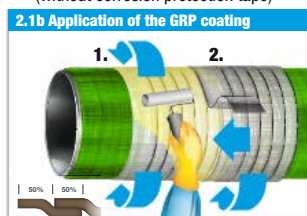
- Starting and finishing by wrapping **BUTYLEN-N60** in a straight circle and min. 50mm covering the factory coating. Spirally wrap the tape around the pipe with 50% overlap. During application, apply the tape with a tension that causes approx. 1% tape to taper.
- Please note: **BUTYLEN** tape and primer must be applied with the edges aligned.



- Apply a thick layer of resin to the area to be coated (incl. 200 mm cover coating).
- Wrap fibreglass around the steel section with a 50% overlap until the factory coating layer thickness is achieved.
- After each round of wrapping, apply a generous layer of resin to the surface and allow to thoroughly penetrate the fibreglass.
- Until the thickness of the cover coating is achieved, continue to wrap the fibreglass with a 50% overlap so that the half bevel of the cover coating is included. After every two layers of fibreglass, resaturate with resin.
- Continue to 3.

b) Ramming/driving process

(without corrosion protection tape)

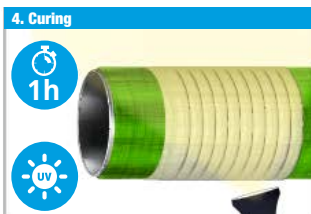


- Apply a thick layer of resin to the area to be coated (incl. 200 mm cover coating).
- Wrap the first two layers of fleece, with a small overlap, so that the half bevel of the factory coating is included.
- Wrap the following two layers of fleece with a 50% overlap (edges aligned).
- After each round of wrapping, apply a generous layer of resin to the surface and allow to thoroughly penetrate the fibreglass.
- Wrap fibreglass around the steel section with a 50% overlap until the coating layer thickness is achieved.
- Until the thickness of the cover coating is achieved, continue to wrap the fibreglass with a 50% overlap so that the half bevel of the cover coating is included. After every two layers of fibreglass, resaturate with resin.
- Continue to 3.

Finishing



- Wrap the final layer of fibreglass around the cover coating with a 50% overlap of approx. 10–15 cm each time and saturate with resin.
- Wrap the fleece around the pipe with a 50% overlap (edges aligned with fibreglass) without applying additional resin. Spread/remove superfluous resin.
- Wrap the stretch foil around the pipe to protect the coating.



- The resulting system can be cured using artificial radiation (e.g. UVA Spot from Dr. Honle) applied for at least 15 minutes in all directions.
- Distance of radiation source from pipe surface approx. 25–35 cm.
- Light warm-up time min. 5 minutes.
- Please note: After max. 10 wraps/20 layers (50% overlap) of fibreglass (approx. 10 mm GRP), the applied GRP must be allowed to cure ("intermediate curing").
- A sufficiently cured GRP protective coating (see "Testing") can be subjected to stress after a minimum of 1 hour cooling time.



- Once fully cured, test the hardness using a Shore-D tester (Shore-D value > 70).
- Visual check for air pockets, contamination and "milky" appearance (moisture) etc.
- High voltage test at 25 kV.

Repairs



- Defects must be sanded out using equipment such as a hand-held angle grinder and a grinding disc with grain size P60. Sand the area of GRP coating around the defect, working within a radius of approx. 10 cm.
- Defects are filled using alternate layers of resin and fibreglass until the coating thickness is achieved.
- The two final layers and two layers of glass mat must protrude beyond the edges of the defect and overlap the intact GRP by at least 5 cm.
- The entire defect area is then cured and tested as previously described.