

STOPAQ® VINYL ESTER

Product Information

Generic type: STOPAQ® Vinyl Ester is a glass-fibre reinforced plastic lining material delivered on rolls based upon an epoxy novolac vinyl ester resin system. STOPAQ® Vinyl Ester will cure under the influence of UV light to form a hard, chemical, high temperature resistant liner. The glass fibre provides flexural and tensile strength while the fibre glass gives long-term protection against weathering.

Product Description: The material is delivered in rolls with dimensions 600mm x 10m. The thickness is 2mm as standard. The material cures with UV light to form a hard but flexible water- and abrasion proof lining. Before curing, it is a tacky solid material held between two films, easily cut with a sharp knife or scissors. The bottom film is removed during the application process. STOPAQ® Vinyl Ester is a product recommended for under ground protection where operating pipeline temperatures may exceed +100°C (+212°F). STOPAQ® Vinyl Ester products demonstrate an excellent weathering and chemical resistance performance.

Features:

- Excellent impact & chemical resistance
- Wide temperature range during application and in service
- High performance in aggressive soils
- Curing with sunlight as well as with UV-A Lights

Benefits:

- Very high resistance to aging - even when exposed to max or min temperature for longer periods
- Resists common impacts and indentations which often occur during installation and backfilling
- Very high temperature resistance

Application examples

Field joints & underground pipe sections: STOPAQ® Vinyl Ester is especially used as protective layer on STOPAQ® CZHT corrosion protected pipeline sections in under ground and other situations where pipelines might be exposed to heavy mechanical-, chemical-, and hot temperature influences.


Product Properties_STOPAQ® Vinyl Ester

Colour	Opaque
Thickness	Min. 2,0mm
Density	1,8g/cm ³
Flexural strength	162 Mpa (ASTM D 790-03)
Curing time	20 - 60 min. depending of light source.
Barcol hardness	61 (ASTM D 2583)
Elongation at break	1% (ISO 527)
Impact resistance	60 kJ/m ²
IZOD	
Temperature range	Application temp: +5°C to +50°C Service temp: -50°C to ca. +150°C
Interlaminar strength	16,29 Mpa
Tensile strength	>70 Mpa (ASTM D 3039M)
Specific electrical resistance	17,2 Kv/mm (IEC 243-1 1998)
Water absorption	0,36% (ASTM D 570)
Styrene emission	4 PPM
Volume weight	1,805 kg/m ³

Product Properties_STOPAQ® Polyester on STOPAQ® Wrappingband CZHT

Total Thickness	Min. 4,0mm (ISO 9001)
General Order Information	
Product	STOPAQ® Vinyl Ester is available in rolls of 600mm width x 10m long.
Packaging	In cardboard box. Coiled on cardboard core, packed air - and light tight.
Handling	Handle with care, boxes always upright. Protect against bright light sources.
Storage	Indoor, dark, dry and clean. Storage temperature not lower than +5°C and not above +25°C. Shelf life more than 6 months when stored in undamaged, original packing.

Note: In case of HT temperature applications, it is recommended to use STOPAQ® Outerwrap HTPP before the application of the VINYL ESTER.

Application instruction_Preparation		Application Instruction_Curing	
Application equipment	Scissors, knife, measuring tape, latex gloves, application roller, UV-protection safety glasses, Transparent, 50 mm wide, self adhesive tape, Reflecting boards and UV-A light units.	Temporary fixation	Prior to curing, keep the applied Vinyl ester sheets in place and under tension by means of several wraps of 25 - or 50mm wide, transparent household foil.
Ambient conditions	Ambient temperatures should be above +5°C and humidity at maximum 95%.	Curing procedure	Cure the Vinyl Ester for by means of exposure to sunlight or UV-A light units. Make use of light reflectors in order to achieve equal curing and quality on all parts of the coated surface. Control, by knocking in several places on the Vinyl Ester, the degree of curing. After Removing the tape wraps and the outer release film, the cured surface is ready for application of an eventual final coating. (UV- or decorative).
Work area and substrate	The work area should be protected against UV-light. The application surfaces should be dry and clean with a temperature of minimum +5°C and always kept $\geq +3^{\circ}\text{C}$ above the dew point.	Application instruction_QA Control	
Wrap conditions	The STOPAQ® Vinyl Ester should be protected against UV- and sunlight during unpacking, cutting and application. The sheets should be dry with a temperature between +10°C and +20°C for the ease of handling and shaping.	Visual inspection	The applied Vinyl Ester Wrap must look smooth and tight and should be shaped around all details and into corners.
Application instruction_Wrapping		Post application routines	
Measuring and Cutting	For correct measurement, calculate with 50mm overlap, Vinyl Ester on itself and Vinyl Ester direct on-adjacent coating outside the STOPAQ® corrosion protective layer. ATTENTION: Secure proper protective measures against exposure to UV-light. Premature curing makes the Vinyl Ester useless.	Underground installation	Burial and Installation in a ditch is possible immediately after completion of the coating & curing. The STOPAQ® coated, Vinyl Ester protected areas should with care be exposed to impacts and loads from supports and lifting equipment.
Wrapping of STOPAQ® Vinyl Ester	Loosen and gradually remove - during the application - the protective film on the underside of the pre-cut Vinyl Ester sheet, attach the sheet to the underlying substrate and wrap with tension, the sheet around the object. In overlaps, loosen the outer protective film, apply the 50mm overlap and fold back the protective film. Make sure that there are no air enclosures under the applied Vinyl Ester and that it follows the contour of the underlying STOPAQ® protective layer.	Back-filling	Backfill and compact with clean sand and fill material without sharp stones or hard lumps of soil.
STOPAQ® Information			
Documentation		Extensive information is available on our web-site. Detailed application instructions, "STOPAQ® Technical Standard" can be acquired from our head office and/or local distributor; info@stopaq.com	
Certified staff		The application of STOPAQ® systems should always be carried out by STOPAQ® certified personnel.	
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