

STOPAQ® OUTERGLASS SHIELD XT GREY

Product Information

Product description: Stopaq® Outerglass Shield XT Grey is a solvent free pre-impregnated bi-axial woven glass-fibre reinforced outerwrap wrapping cloth, curing to a hard shield by means of a water activated polyurethane resin.

Stopaq® Outerglass Shield XT is used as a rigid mechanical and impact resistant layer on pipeline steel surfaces protected by a primary layer of Stopaq® corrosion preventing coatings such as Wrappingband and a flexible mechanical tape such as Stopaq Outerwrap. The material can be applied in various thicknesses depending on the mechanical impact stress class required according to the client specification.

Stopaq® Outerglass Shield XT is supplied in rolls and is packed in vacuum sealed pouches to prevent premature curing of the resin. Stopaq® Outerglass Shield XT will cure by reaction with water or moisture to form a hard shell with a smooth surface, which is resistant to mechanical impacts, chemicals and weather influences. In case it is exposed to sunlight e.g. in above ground applications, it is recommended to apply an UV reflective top coating to prevent discoloration.

Features:

- Excellent impact and indentation resistance
- Wide temperature range during application and in service
- High performance in cold, hot, wet and chemically aggressive environments
- Fast and complete cure
- Pre-impregnated, no field mixing required

Benefits:

- Fast and easy to apply
- Very high resistance to ageing - even when exposed to max. or min. temperature for longer periods
- Resists impacts and indentations which often occur during installation and backfilling of pipeline structures
- Applicable on wet and dry surfaces and under water

Application examples

Soil-to-air transitions of pipelines: Rigid mechanical protection of Stopaq® corrosion preventing coating systems on risers against soil shear, mechanical impacts and indentations.

Field joint coatings: Rigid mechanical protection of Stopaq® corrosion preventing coating systems on pipeline girth welds against soil shear, mechanical impacts and indentations.

Pipe saddles: Rigid mechanical protection of Stopaq® corrosion preventing coating systems on pipe saddles against indentations and abrasion by movements of the pipeline.

Pipelines and fittings: Rigid mechanical protection of Stopaq® corrosion preventing coating systems on pipeline sections, bends, tees, valves and flanges against soil shear, mechanical impacts and indentations.

Product properties of Stopaq® Outerglass Shield XT Grey		
Colour	Grey	
Thickness	0.30 mm per ply	
Working time	20 - 30 minutes after opening of pouch	
Property	Value	
Curing time	Dry to touch:	1 – 4 hours, (depending on temp.)
	Final hardness	24 hours at 25°C
Temperature ranges	Application:	Above +5°C
	Service:	Up to +121°C
Heat distortion temperature	204°C (ASTM D648)	
Tensile strength	241 MPa / 35,000 psi	
Tensile modulus	17 GPa / 2.5 x 10 ⁶ psi	
Chemical resistance	Acetone, MEK, Toluene, Gasoline, ethyl alcohol and many others. Contact us for exposure to other chemicals.	

Properties of a coating system comprising Stopaq® Outerglass Shield XT Grey	
Coating system construction	1) Stopaq Wrappingband CZHT: 1 layer 2) Stopaq Outerwrap HTPP: 2 layers (spiral wrapping with 50% overlap) 3) Stopaq Outerglass shield XT Grey: 4 layers (double spiral wrapping with 50% overlap) Total coating system thickness 4.0 – 4.2 mm
Impact resistance	Tested with 40 J impact (ISO 21809-3 Annex G): – At +23°C: no holidays

General order information	
Product	Stopaq® Outerglass Shield XT Grey is available in various widths and lengths: <u>Product dimensions and contents:</u>
Art. Nr.:	1471 4 inch x 30 ft. 1472 6 inch x 60 ft. 1473 8 inch x 60 ft.
Packaging	Individually packed in hermetically sealed vacuum foil pouch.
Handling	Handle with care. Keep away from moisture. Open pouches only just prior to application. See safety data sheet for precautionary safety and health measures.
Storage	Keep in cool, dry, ventilated place and in sealed non-punctured pouches. Store boxes upright. Storage temperature +15°C to +32°C.
Shelf life	1 year when stored according to indicated conditions. Do not use if product is hardened.
Top coating	Recommended in case of exposure to direct sunlight. Contact us for appropriate type of coating.

Application instruction: Job preparation	
Tools and equipment	Scissors, knife, measuring tape, spray bottle filled with water (when not applied submerged), compression foil, puncture roller.
OHSE measures	Consult Safety Data Sheet for appropriate personal safety measures, personal protective gear, application conditions, etc.
Ambient conditions	Ambient temperatures should be above +5°C.
Substrate	The substrate should be cleaned from foreign matter; a wet surface is allowed.
Product temperature	Temperature of Outerglass Shield XT should be above +5°C. With high temperatures, the rolls of Outerglass Shield XT may be cooled down to prolong working time. Put the unopened pouches containing the rolls in iced water for 15 minutes to achieve lowering of product temperature.
Opening pouches	The pouches of Outerglass Shield XT rolls should be opened one at a time just prior to application. Once a pouch is opened, the curing reaction with moisture present in air or water will start immediately. A roll of Outerglass Shield XT should be applied within the working time indicated, including wrapping of the compression foil and perforation.
Calculation of material consumption	It is recommended to apply a minimum of 2 plies of Outerglass Shield XT onto the object by spiral wrapping with an overlap of 50%. Furthermore it is recommended to start and end wrapping with two full circumferential wraps perpendicular to the tubular shaped object. Also, when wrapping direction along the object is reversed in application of multiple plies of material, two full circumferential wraps must be applied at the point of reverse.

Application of consecutive rolls	When more than one roll of Outerglass Shield XT is needed to cover the substrate area, first determine whether the whole application can be completed within the working time of the first roll applied. If not, application of the previous roll should be finished first by covering it with compression foil and puncturing it. Leave sufficient width of Outerglass Shield XT uncovered and start application of the next roll here with an overlap of at least 100 mm.
End of wrapping	Finish wrapping of Outerglass Shield XT with two circumferential wraps perpendicular to the object and at least 100 mm next to the boundary of Stopaq corrosion preventing coating.

Application instruction: Curing	
Compressing	Apply compression foil by wrapping it spirally over Outerglass Shield XT (same wrapping direction) and also next to the area covered. Use sufficient tension while applying it in order to shrink it to the surface. The boundaries of applied Outerglass Shield XT should be tapered towards the object by appropriate wrapping of compression foil in this area.
Perforating	The compression foil should be perforated immediately after application with the puncture roller. Use only slight pressure while perforating and avoid perforation of the Outerglass Shield XT. The soft resin may then partially pour out of the perforation.
Removal of foil	The resin sets to solid within a few hours, obtaining a fairly smooth and rigid structure. The compression foil can then be removed.
Final hardness	Final hardness is achieved after indicated full cure time.

Application instruction: Application	
See specific Stopaq coating instructions for e.g. field joints, pipe wrapping, coating of fittings, etc.	
General	Open the pouches only just prior to application. Moisture from air or water will react immediately with the resin. Do not cover large surfaces at once, since Outerglass Shield XT needs to be compressed immediately after application with compression foil; this must be done within the indicated working time. Outerglass Shield XT should be applied to the substrate with some tension by pulling the roll of material.
Wetting of substrate	Prior to application of Outerglass Shield XT the substrate should be wetted by water spraying.
Start of wrapping	Start wrapping of Outerglass Shield XT with two circumferential wraps perpendicular to the object and at least 100 mm next to the boundary of Stopaq® corrosion preventing coating.
Water spraying	After application of each ply of Outerglass Shield XT, water should be sprayed all over the ply just applied.
Spiral wrapping	Continue with spiral application of Outerglass Shield XT to create 50% overlap on the underneath ply of Outerglass Shield XT. Continue wrapping until at least 100 mm of Outerglass Shield XT has been applied next to the Stopaq® corrosion preventing coating.

Post application instructions	
Visual inspection	Outerglass Shield XT should look smooth, should be tightly jointed to the substrate and no voids or gaps should be visible.
Underground installation	Installation in a ditch and burying is possible after completion of curing. The areas coated with Outerglass Shield XT should be handled with care and should not be exposed to excessive impacts and heavy loads, e.g. from supports, lifting equipment, etc.
Back-filling	Backfill and compact with clean sand and fill material without sharp stones or hard lumps of soil.
Application of top coating	Application of top coating is possible after completion of curing. The surface of Outerglass Shield XT should be sanded prior to application.

Information	
Documentation	Extensive information is available on our web-site. Application instructions and other documentation can be obtained by contacting our head office, from our local distributor or by sending email to info@sealforlife.com
Certified staff	Application of the described coating system should be carried out by certified personnel.



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