STOPAQ® WRAPPINGBAND WSH

Product Information

Product description: Stopaq Wrappingband WSH is a corrosion preventing wrap material that is especially designed for application on wet and submerged tubular objects, and it can also be applied on dry substrates. It adheres very well to bare steel and existing coatings.

Stopaq® Wrappingband WSH is based on a compound containing non-crystalline, low-viscosity, non-crosslinked, (fully amorphous) pure homopolymer PolyIsoButene. It is viscous at the indicated operating temperatures and, due to its liquid nature, flows into all irregularities of the substrate. The compound does not cure and is unable to build up internal stress.

Stopaq® Wrappingband WSH is applied as an elementary part of Stopaq® Coating Systems that further require application of one of more mechanical protective layers like Stopaq® Outerwrap and Stopaq® Outerglass Shield, which become an integral part of the coating system. This improves impact and indentation resistance of the coating system and ensures adequate performance of the corrosion preventing properties.

Features:
- Adheres to many types of coating like: PE, Neoprene and Epoxies
- Controlled cold flow providing permanent inflow into the finest pores of the substrate
- Resistant to low temperatures without getting brittle
- Low surface tension; adheres on many types of dry and wet substrates at a molecular level
- Adhering well to the surface in an environment with fresh, sea or condensed water on the surface
- Constant film thickness
- Adhesion based on vanderWaals forces

Benefits:
- Safe to use
- Fast and easy to apply
- Easy to control application
- no blasting techniques required
- Conforms to irregular shapes
- Surface tolerant:, wire brushing or high pressure water jetting is sufficient

Application examples

Offshore and submerged tubular objects: For protection against external corrosion of risers and steel jetty-pile structures situated in the splash zone, both above and below the waterline.

Submerged pipelines: For protection against external corrosion of submerged carbon steel pipelines.

Underwater pipe coating repair: For pipe coating repair, coating rehabilitation, and protection against external corrosion of submerged pipeline coating defects.

Coating repair of condensing pipelines: For protection against external corrosion of steel pipelines with a surface temperature below dewpoint.

Product properties of Stopaq® Wrappingband WSH	
Colour	Green
Thickness	2,4 mm ± 10% [94 mils] A)
Density	1,45 ± 0,1 g/cm³ [12.5 ± 0.8 lbs/gal] (ISO 1183-1)
Temperature ranges	Operational: -45 °C to +70 °C [-49 °F to +158 °F] Short term: +90 °C [+194°F]
Drip resistance	Tested 72h at +100 °C [+212 °F] A) – No dripping of compound
Adhesion	Peel tests on carbon steel St 2 cleanliness (ISO 8501-1) and plant coating PE, Neoprene whereby the coating was applied under the following conditions: – Dry (no detectable salt residues) – Dry with NaCl contamination approx. 1000 mg/m² – Immersed in fresh water – Immersed in 3% NaCl solution Peel test before ageing, after thermal ageing and after hot water immersion both for 100 days at Tmax + 20 °C = 90 °C A) – Peel strength: At +23 °C [+73 °F] ≥ 0,040 N/mm [3.6 ozf/in] At +70 °C [+158 °F] ≥ 0,020 N/mm [1.8 ozf/in] – In all cases: Cohesive separation mode and Coverage ≥ 95%
Lap shear resistance	Tested on steel St 2 cleanliness A) – Lap shear strength: At +23 °C [+73 °F] ≥ 0,004 N/mm² [0.58 psi] At +70 °C [+158 °F] ≥ 0,002 N/mm² [0.29 psi] – In all cases: Cohesive separation mode and Coverage ≥ 95%
- Properties of complete coating applied in atmospheric conditions	
Construction	1. Stopaq® Wrappingband WSH: ≥ 1 layer 2. Stopaq® Outerwrap like HSPEX: ≥ 2 layers
Thickness	Typical 4,0 mm [157 mils] A)
Indentation resistance	Tested at indentation pressure of 1 N/mm² [145 psi] at +23 °C [+73 °F] and at +70 °C [+158 °F] A) - Residual thickness ≥ 0,6 mm [24 mils]
Cathodic disbondment resistance	Tested at +23 °C [+73 °F] A) - Disbondment ≤ 20 mm
Impact resistance	Tested at 23 °C [+73 °F]: ≥ 15 J [132 in.lbf] A)
Specific electrical insulation resistance	Rs_{100} ≥ 10^8 Ω.m² [≥ 10^9 Ω.ft²] A)
- Properties of complete coating applied in submerged conditions	
Construction	1. Stopaq® Wrappingband WSH: ≥ 2 layers. 2. Stopaq® Intermediate Wrap PVC: ≥ 2 layers 3. Stopaq® Outerglass Shield: ≥ 3 layers.
Thickness	Typical 6,6 mm [260 mils] A)
Indentation resistance	Tested at indentation pressure of 10 N/mm² [1450 psi] at +23 °C [+73 °F] and @ 70 °C [+158 °F] A) - Residual thickness ≥ 0,6 mm [24 mils]
Cathodic disbondment resistance	Tested at +23 °C [+73 °F] A) - Disbondment ≤ 20 mm
Impact resistance	Tested at 23 °C [+73 °F]: ≥ 30 J [264 in.lbf] A)
Specific electrical insulation resistance	Rs_{100} ≥ 10^8 Ω.m² [≥ 10^9 Ω.ft²] A)

A) In accordance with ISO 18797-2:2021

General order information	
Product	Stopaq® Wrappingband WSH is available in rolls with the following dimensions
Art. Nr.:	Product dimensions and contents:
69101-00900	100 mm x 9 m [4" x 29'6"], 6 pcs/box
Handling	Handle with care. Keep boxes upright.
Storage	Store indoor, clean and dry, away from direct sunlight in a cool place below +45 °C [113 °F].

Application instruction - Job preparation

General	Underwater application, of Stopaq® Wrappingband WSH and additional Stopaq® materials should only be carried out by professional divers certified for application of Stopaq® products.
Tools, equipment and auxiliaries	– Surface preparation tools like water jetting equipment or power tooled wire brushes – Scissors, knife, measuring tape – Dry lint-free cloths – Personal protective gear and diving gear if applicable
Additional coating materials	**Coating applied in atmospheric conditions** Stopaq® Wrappingband WSH requires application of a polymeric outer wrap, such as: – Stopaq® Outerwrap HSPEX or HTPP – In high impact areas the use of Stopaq® Outerglass Shield is required. **Coating applied in submerged conditions** Stopaq® Wrappingband WSH requires application of the following complementary materials: – Stopaq® Intermediate Wrap PVC – Stopaq® Outerglass Shield – Stopaq® Compression Foil
Work area and substrate	The ambient and surface temperature during application should be > +4 ºC [40 °F]. There is no need for the surface to be dry.
Product conditions	The temperature of Stopaq® Wrappingband WSH should preferably be between +4 °C and +40 °C [39 to 104 °F] for the ease of application.

Application instruction - Surface preparation

General	All substrates must be free from contamination. Biological growth, mill-scale, loose rust, loose remainders of old coating, oil, grease and other adhering matter need to be removed. Adhering existing coating does not have to be removed. Water jetting equipment may be used to obtain a sufficient surface cleanliness.
Substrate cleanliness	The entire steel substrate should at least be cleaned to St 2 cleanliness grade (ISO 8501-1). Start and end sections of the area to be coated should be thoroughly cleaned to bare steel over at least 150 mm e.g. by using high pressure water jet cleaning or power tooled wire brushes. Roughness profile is not essential for adhesion. Areas with existing coating should be cleaned and de-glossed.

Application instruction – Brief version

See specific Stopaq® coating instructions for application of Stopaq® Wrappingband WSH

Wrapping	Start with removal of a small part of the transparent release liner and apply the Stopaq® Wrappingband WSH onto the substrate. Wrap the Stopaq® Wrappingband WSH with some tension and ensure to minimize air- or water entrapment underneath. Avoid strong pulling force on the roll of material.
Release liner	Do not remove the transparent release liner completely before application of the Stopaq® Wrappingband WSH. Remove just prior to application onto the substrate.
Overlap of wraps	**Coating applied in atmospheric conditions** – Side-by-side overlap: ≥ 10 mm [3/8”] – Consecutive rolls: ≥ 100 mm [4”] **Coating applied in submerged conditions** – Side-by-side overlap: ≥ 50% Consecutive rolls: ≥ 100 mm [4”]
Visual inspection	The appearance of Stopaq® Wrappingband WSH should look smooth and tight and should cover all details.
Mechanical protection	Stopaq® Wrappingband WSH must be protected against impacts, indentations, and other influences within the shortest period of time possible after finishing application. This is obtained by subsequent application of additional coating materials as per the specific application instruction.

Handling and commissioning

Exposure to loads	Objects coated with Stopaq® Wrappingband WSH should not be exposed to loads e.g. from supports- or lifting equipment.
Immersion or burying	Immersion or burying is possible immediately after completion of the coating application. Consult data sheets for specific instructions of additional materials used. In case the coating is installed on pipelines that will be buried, backfill and compact with clean sand and filling material without sharp stones or hard lumps of soil.

Information

Documentation	Extensive information is available on our web-site. Application instructions and other documentation can be obtained by sending email to **info@cpgi.kz**
Certified staff	Application of the described coating system should be carried out by certified personnel.

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