

STOPAQ® WRAPPINGBAND CZH

Product Information

Product description: Stopaq® Wrappingband CZH is a corrosion preventing wrap material adhering extremely well to steel and factory applied pipeline coatings like PE, PP and FBE.

Stopaq® Wrappingband CZH is a non-toxic, cold-applied, visco-elastic prefabricated wrap coating, based on a compound consisting of non-crystalline, low-viscosity, non-crosslinked (fully amorphous), non-reactive Polyisobutene.

Stopaq® Wrappingband CZH is viscous at the indicated operating temperatures. Due to its liquid nature it has a set of unique properties like cold-flow into all irregularities of the substrate and self-healing of the complete coating system. The compound does not cure and is unable to build up internal stress. Stopaq® Wrappingband CZH is fully resistant to water and has a very low gas- and water vapour permeability.

Stopaq® Wrappingband CZH requires an additional flexible mechanical protective layer like Stopaq® Outerwrap or Stopaq® High Impact Shield. This improves impact and indentation resistance of the coating system and supports the self-healing ability of small damages like dents and cuts. Optionally a rigid mechanical protective layer can be applied on top like Stopaq® Polyester or Stopaq® Outerglass Shield.

Features:

- Controlled cold flow providing permanent inflow into the finest pores of the substrate
- Resistance to low temperatures without getting brittle
- Conforms to irregular shapes
- Low surface tension; adheres on many types of dry substrates at a molecular level
- Adhesion based on vanderWaals forces
- Surface tolerant: no blasting techniques required, wire brushing is sufficient (ISO 8501-1: St 2)
- Constant film thickness
- Inert to ageing and weathering
- Environmentally friendly, no health and safety hazards to humans
- Resistant to many chemicals like water, salts, acids, alkalis, polar solvents, etc. For additional information, please consult Stopaq B.V.

Benefits:

- Fast and easy to apply
- Easy to control application
- Can be moulded onto various types of irregular shaped objects
- No osmosis or underfilm migration of moisture
- No cathodic disbondment
- Cathodic Protection (CP) of steel structures is not affected
- Guaranteed performance

Product certificate:

- Stopaq® Wrappingband CZH is certified by KIWA according to BRL-K911/02:
"Kiwa Product certificate for corrosion protection compound and tapes for tank and pipeline installations according to the Evaluation Guideline BRL-K911/02 with a verification according to standard EN-12068."
- Stopaq® Wrappingband CZH is certified according to NSF/ANSI Standard 61: "Drinking Water System Components – Health Effects"

Application examples

Piping and Vessels: For protection against external corrosion of buried, immersed or above ground carbon steel, alloyed steel and ductile iron pipelines structures and reservoirs.

Field joints: For protection against external corrosion of buried, immersed or above ground carbon steel, alloyed steel and ductile iron pipeline girth-weld joints.

Fittings: For protection against external corrosion of buried, immersed or above ground carbon steel, alloyed steel and ductile iron pipe fittings such as elbows, bends, tees, reducers, flanges, etc..

Pipe coating repair: For repair and rehabilitation and protection against external corrosion of pipeline coating defects.

Product properties of Stopaq® Wrappingband CZH	
Colour	Green
Thickness	2.0 ± 0.2 mm [80 ± 8 mils]
Density	1.5 ± 0.1 g/cm³ [12.5 ± 0.8 lbs/gal] (ISO 1183-1)
Temperature ranges	Operational: -45°C [-49°F] to +70°C [+158°F] Short term: +90°C [+194°F]
Water absorption	< 0.03% (ASTM D570) ^{A)}
Permeability	< 0.2 g/m²/day [0.29 grains/ft²/day] (ASTM E96/E96M)
Glass transition temp.	≤ -65°C [-85°F] ^{A), B)}
Drip resistance	Tested 72h @ +130°C [+266°F] ^{A), B)} : – No dripping of compound
Specific electrical insulation resistance	Rs ₁₀₀ > 10 ⁸ Ω.m² [$> 10^7$ Ω.ft²] ^{A), B)}
Peel test	Tested on steel (Sa 2½, St 2 and St 3) and plant coatings PP, PE and FBE ^{B)} . Results on all substrates (unless otherwise specified): – @ -45°C [-49°F]: – PP, PE, and FBE ≥ 3 N/mm [≥ 274 oz/in] – steel ≥ 20N/mm [≥ 1820 oz/in] – @ +23°C [+73°F] ≥ 0.2 N/mm [≥ 18 oz/in] – @ +70°C [+158°F] ≥ 0.02 N/mm [≥ 1.8 oz/in] In all cases: – Cohesive separation mode, ≥ 99% coverage of surface, and 0.6 mm [≥ 24 mils] residual thickness
Thermal ageing resistance and hot water immersion test	Thermal ageing resistance and hot water immersion test, both for 100 days @ +90°C [+194°F] ^{B)} : – Results of peel strength test after ageing are identical to results obtained with non-aged material.
Lap shear test	Tested @ -45°C [-49°F], @ +23°C [+73°F] and @ +70°C [+158°F] on steel (Sa 2½, St 2 and St 3) ^{B)} . – @ -45°C [-49°F] ≥ 3.0N/mm² [≥ 435 psi]; – @ +23°C [+73°F] ≥ 0.02N/mm² [≥ 2.9 psi]; – @ +70°C [+158°F] ≥ 0.002N/mm² [≥ 0.29 psi] In all cases: – Cohesive separation mode, ≥ 99% coverage of surface, and ≥ 0.6 mm [≥ 24 mils] residual thickness
Resistance to thermal cycling	25 water immersed cycles, each cycle ramping up in 9h from -30°C [-22°F] to +60°C [+140°F] and reverse in 9h: – Water absorption ≤ 0.04% ^{A)}
Properties of coating system comprising Stopaq® Wrappingband CZH and Stopaq® Outerwrap PVC	
Thickness	3.0 ± 0.2 mm [120 ± 8 mils]
Impact resistance	Tested with 15 J [132 in.lbf] ^{A), B)} @ -45°C [-49°F], @ +23°C [+73°F] and @ +70°C [+158°F]: – no holidays
Indentation resistance	Tested with 10 N/mm² [1450 psi] ^{A), B)} @ -45°C [-49°F], @ +23°C [+73°F] and @ +70°C [+158°F]: – no holidays, residual thickness ≥ 0.6 mm [24 mils]
Cathodic disbondment resistance	Tested @ +23°C [+73°F] and @ +70°C [+158°F] ^{A), B)} – Disbondment 0 mm, no holiday. Defect Ø 6mm [1/4"] self-healed within 1 day.
Corrosion protection performance test	Tested according ISO 12944-6:1998: 480h Neutral Salt Spray acc. ISO 9227, and 240h condensation acc. ISO 6270-2 (corrosivity category C5-M): – No blistering (ISO 4628-2: 0 (S0)); No rusting (ISO 4628-3: Ri 0); No cracking (ISO 4628-4: 0 (S0)); No flaking (ISO 4628-5: 0 (S0))
Self-healing test	Artificial defect Ø 6mm [1/4"] tested for completion of self-healing: @ -45°C [-49°F]: completed < 90 days, no holiday @ +23°C [+73°F]: completed < 24 hours, no holiday @ +70°C [+158°F]: completed < 24 hours, no holiday
^{A)} According to BRL-K911/02; ^{B)} According to ISO 21809-3:2008/Amendment 1:2011	
General order information	
Product	Stopaq® Wrappingband CZH is available in rolls of various widths and lengths (others on request): Product dimensions and contents:
Art. Nr.	50mm x 5m [2"x16.5']; 24 pcs/box; 576 pcs/pallet
6110	
6120	50mm x 10m [2"x33']; 12 pcs/box; 360 pcs/pallet
6125	100mm x 10m [4"x33']; 6 pcs/box; 180 pcs/pallet (container 360 pcs/pallet)
6136	150mm x 10m [6"x33']; 2 pcs/box; 128 pcs/pallet
6134	150mm x 20m [6"x66']; 2 pcs/box; 128 pcs/pallet
6130	200mm x 10m [8"x33']; 2 pcs/box; 96 pcs/pallet
6131	200mm x 20m [8"x66']; 2 pcs/box; 96 pcs/pallet
6248	300mm x 10m [12"x33']; 2 pcs/box; 80 pcs/pallet
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]. Unlimited shelf life.

Application instruction - Job preparation	
Tools, equipment and auxiliaries	<ul style="list-style-type: none"> Temperature probe, Dew point tester, High voltage holiday tester Scissors, Knife, Measuring tape Abrading pads, Wire brushes Isopropyl alcohol, cas. nr. 67-63-0 Personal protective gear
Additional mechanical protective materials	Depending on type of application, various additional mechanical protective materials might be needed: <ul style="list-style-type: none"> Stopaq® Outerwrap PVC / PE / HSPE / HSPEX / HTPP Stopaq® High Impact Shield Stopaq® Polyester Stopaq® Outerglass Shield
High humidity	Stopaq® Wrappingband CZH can be applied in a humid atmosphere. The substrate should be free from condensing water which can be reached by keeping the temperature at least 3°C [6°F] above dew point.
Work area and substrate	The substrate should be dry, clean and protected against negative weather influences.
Product conditions	Stopaq® Wrappingband CZH should be dry and the temperature should preferably be between +20°C [+68°F] and +40°C [+104°F] for the ease of application.

Application instruction - Surface preparation	
General	The area to be coated has to be clean, dry, and free from oil, grease and dust. All contamination including mill-scale has to be removed.
Degreasing	Degrease surfaces with isopropyl alcohol and e.g. a lint-free cloth.
Salts and bacteria	No need for additional cleaning.
Condensation of water	Prior to and during the application, the temperature of the substrate(s) must be at least 3°C [6°F] above the dew point.
Substrate temperature	Temperature of the substrate should not be beyond -30°C [-22°F] and +70°C [+158°F], and should preferably be between +20°C [+68°F] and +40°C [+104°F] for the ease of application. Preheating may be required.
Steel	Minimum requirement for surface preparation is St 2 according to ISO 8501-1. Roughness profile is not essential for adhesion.
Bitumen	Remove loose bitumen. For proper adhesion, make sure that the surface is clean and dry. Heating the surface to +60°C [+140°F] may be required. Avoid recoating of moist bitumen parts.
Other substrates	De-gloss and degrease the surfaces by using an abrasive pad and isopropyl alcohol.
Cleanliness check	Take a piece of Wrappingband of ± 150 mm [6"] length, remove the release foil and fold it back for about 25 mm [1"]. Put the Wrappingband onto the surface, press it firmly and leave it for 5 minutes. Pull the Wrappingband from the substrate with an angle of app. 135 deg. and a speed of 100 mm/min [4"/min]. Cohesive separation mode should occur and coverage of the surface with remaining material should be ≥ 85%. If this is less, surface cleaning is insufficient.

Application instruction - Brief version	
See specific Stopaq coating instructions for e.g. field joints, pipe wrapping, coating repair, fittings, etc.	
Wrapping	Start with removal of a small part of the release liner and apply the Wrappingband on the substrate. Apply Wrappingband without any tension onto the substrate. Avoid air-enclosures. Mould the Wrappingband tight onto the substrate.
Release foil	Do not remove the release foil before application of the Wrappingband. Remove just prior to application of the Wrappingband to the surface.
Overlap of wraps	Side-by-side overlap: ≥ 10 mm [3/8"] Consecutive rolls: ≥ 50 mm [2"] Overlap on factory applied coating: see specific Stopaq coating instructions.

Application instruction - Quality control	
Visual inspection	The appearance of Stopaq® Wrappingband CZH must look smooth and tight and should be shaped around all details and into corners.
Holiday detection	Immediately after application of Stopaq® Wrappingband CZH, holiday testing should be carried out with a voltage of 15 kV. A brush probe is recommended. No further testing is required.

Application instruction - Mechanical protection	
Mechanical protection	Once applied, Stopaq® Wrappingband CZH should be protected against impacts, indentations, soil pressure and other influences by application of Stopaq® Outerwrap or Stopaq® High Impact Shield, eventually followed by Stopaq® Polyester or Stopaq® Outerglass Shield. Please consult Stopaq for further information.

Handling and commissioning	
Exposure to loads	Objects coated with Stopaq® Wrappingband CZH 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. 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 contacting our head office, from our local distributor or by sending email to info@stopaq.com
Certified staff	Application of the described coating system should be carried out by certified personnel.
Stopaq® performance	Extensive laboratory tests and more than 15 years of service in extreme wet and chemical aggressive environments have proven that corrosion, bacterial growth or stress corrosion cracking cannot develop on substrates coated with Stopaq® coating systems.
Long term guarantee	Stopaq B.V. offers a 30 year guarantee on the material properties of the Stopaq® Wrappingband materials as described in this document.



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