

STOPAQ® HIGH IMPACT SHIELD HT

Product Information

Product description: Stopaq® High Impact Shield HT is a heat shrinkable outer wrap sleeve providing mechanical protection to corrosion preventing coating systems that further comprises complementary Stopaq® Wrappingband CZHT. It is made of a radiation cross-linked Polyethylene backing and a butyl based adhesive provided with a release liner. It is very well suited for underground applications, as well as for offshore field joint coating applications either with or without subsequent infill of the cutback area. The butyl based adhesive provides good adhesion to the outer surface of the Stopaq® Wrappingband and to most common plant coatings. The Outerwrap has good resistance to impacts, indentations and abrasion

Features:

- Fast and easy to apply
- Easy to control shrinking technique. Dimpled backing provides a permanent change indicator for application of heat
- Excellent adhesion to various plant coatings
- Excellent impact and indentation resistance
- No underfilm migration of moisture for complete coating system
- No cathodic disbondment of complete coating system
- Supports self-healing of complete coating system

Benefits:

- No primer required
- Can be applied by gas torch
- High resistance to loss of adhesion due to water immersion
- Combines perfectly with compound of Stopaq® corrosion preventing coating materials
- Cost-effective solution for new construction of pipelines and rehabilitation of pipeline coatings

Application examples

Onshore and Offshore field joints: Provides mechanical protection to Stopaq® corrosion preventing coating systems applied on girth-weld joints of onshore and offshore pipelines.

Piping, Vessels and Fittings: Provides mechanical protection to Stopaq® corrosion preventing coating systems applied on pipeline structures, reservoirs and various fittings, both onshore and offshore

Product properties of Stopaq® High Impact Shield HT

Colour	Black
Thickness (as supplied)	Backing: 0,75 mm [30 mils] Total: 1,75 mm [69 mils]
Temperature range	Onshore: max. +95 °C [203 °F] Offshore: max. +115 °C [239 °F]
Tensile strength	≥ 20 MPa (ASTM D-638)
Elongation	≥ 600 % (ASTM D-638)
Hardness, shore D	≥ 55 (ASTM D-2240)
Peel strength between layers	Before ageing: ^{A)} – @23 °C [73 °F] ≥ 1,0 N/mm [91 ozf/in] – @95 °C [203 °F] ≥ 0,1 N/mm [9 ozf/in]
Peel strength to plant coating PP	Before ageing: ^{A)} – @23 °C [73 °F] ≥ 1,0 N/mm [91 ozf/in] – @95 °C [203 °F] ≥ 0,1 N/mm [9 ozf/in]

Properties of coating system comprising Stopaq® Wrappingband CZHT and Stopaq® High Impact Shield HT

Thickness	3,6 mm [140 mils] (typical)
Impact resistance	Tested at 15 J [132 in.lbf] ^{A)} – No holiday
Indentation resistance	At test pressure 10,0 N/mm ² [1450 psi] ^{A)} – @23 °C [73 °F]: residual thickness ≥ 0,6 mm [1/4"] – @95 °C [203 °F]: residual thickness ≥ 0,6 mm [1/4"]
Cathodic disbondment resistance	After 28 days ^{A)} – @23 °C [73 °F]: no holiday, disbondment 0 mm – @95 °C [203 °F]: no holiday, disbondment 0 mm In all cases self-healing of artificial defect.
Self-healing	Self-healing of artificial defect Ø 6 mm [1/4"] – @23 °C [73 °F]: no holiday – @95 °C [203 °F]: no holiday In all cases artificial defect self-healed with 24 hours and coating has restored to initial thickness.

A) ISO 21809-3:2016 coating type 13B

General order information

Product	Stopaq® High Impact Shield HT is supplied in rolls, packed in cardboard boxes
Art. Nr.:	Product dimensions and contents:
1329	660mm x 30m, 1 roll/box, 18 rolls/pallet Complementary Stopaq® Closure Strips
1331	660mm x 100mm (1 pcs.)
1332	660mm x 150mm (1 pcs.)
Handling	Be aware of heavy weight rolls. Handle with care. Keep boxes upright.
Storage	Store indoor, clean and dry, away from direct sunlight in a cool place below +40 °C [104 °F].

Application instruction - Job preparation	
Tools, equipment and auxiliaries	<ul style="list-style-type: none"> Temperature probe, Dew point tester, Scissors, Knife, Measuring tape, Abrading pads, Emery cloth (coarse grit), Steel roller, Propane gas torch with torch head type 60. SFL™ Substrate Cleaner, or Isopropyl alcohol, cas. nr. 67-63-0 Personal protective gear
Additional coating materials	Stopaq® High Impact Shield HT is applied as part of a coating system that furthermore consists of complementary Stopaq® Wrappingband CZHT. Optionally, additional mechanical protective layers can be applied over the complete coating, like Stopaq® Outerglass Shield XT Grey, Stopaq® Polyester, or Stopaq® Vinylester.
High humidity	Stopaq® High Impact Shield HT can be applied in a humid atmosphere. The substrate must 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 must be dry, clean and protected against negative weather influences.
Product conditions	Stopaq® High Impact Shield HT must be dry and clean, and the temperature should preferably be above +10 °C [50 °F] for the ease of application.

Application instruction – Dimensions of product							
Stopaq® High Impact Shield HT must be cut to size. The length (L) depends on the pipe diameter, see guideline below							
NPS	DN	Ø(mm)	L in mm [“]	NPS	DN	Ø(mm)	L in mm [“]
2”	50	60.3	305 [12”]	24”	600	610	2110 [83”]
2½”	65	73.0	330 [13”]	26”	650	660	2270 [90”]
3”	80	88.9	380 [15”]	28”	700	711	2430 [96”]
3½”	90	101.6	430 [17”]	30”	750	762	2600 [103”]
4”	100	114.3	460 [18”]	32”	800	813	2760 [109”]
5”	125	141.3	550 [21.5”]	34”	850	864	2930 [116”]
6”	150	168.3	640 [25”]	36”	900	914	3100 [122”]
8”	200	219.1	800 [31.5”]	40”	1000	1016	3430 [135”]
10”	250	273.1	980 [39”]	42”	1050	1067	3590 [142”]
12”	300	323.9	1150 [46”]	44”	1100	1118	3750 [148”]
14”	350	355.6	1260 [50”]	46”	1150	1168	3910 [154”]
16”	400	406.4	1420 [56”]	48”	1200	1219	4065 [160”]
18”	450	457.2	1590 [63”]	52”	1300	1321	4420 [174”]
20”	500	508.0	1770 [70”]	56”	1400	1422	4750 [187”]
22”	550	558.8	1950 [77”]	60”	1500	1524	5080 [200”]

Dimension of the Closure Strip to be used depends on the pipe diameter:
 – Ø ≤ NPS 18” / DN 450: art 1331 - Stopaq® Closure strip 660mm x 100mm
 – Ø ≥ NPS 20” / DN 500: art 1332 - Stopaq® Closure strip 660mm x 150mm

Application instruction - Surface preparation	
Surface condition	The areas to be coated must be clean, dry, and free from oil, grease and dust. All contamination must be removed.
Measuring and marking	Prior to application of Stopaq® High impact Shield HT, its position must be determined by measuring and marking.
Cleaning and roughening of plant coating	De-gloss and degrease plant coating using an abrading pad and SFL™ Substrate Cleaner or Isopropyl alcohol. Then the plant coating shall be sufficiently roughened using emery cloth (or the like), followed by removal of dust. Note: cleaning and roughening can be done in one operation when preparing the steel surface as required with application of Stopaq® Wrappingband CZHT.
Pre-heating of plant coating	Prior to and during application of the High Impact Shield HT, the temperature of the plant coating should not be less than +60 °C [140 °F]. Preheating is required and shall be done prior to application of Wrappingband CZHT. Be careful not to damage plant coating by excessive heating! Time between heating and application should be kept as short as possible to prevent temperature to drop below a minimum of +60 °C [140 °F].

Application instruction - Brief version	
See specific Stopaq® coating instructions for e.g. field joints, pipe wrapping, coating repair, fittings, etc.	
Positioning	Position the High Impact Shield HT as marked. Wrap the High Impact Shield HT around the pipe starting at 2 o'clock position, provided that the overlap of complementary Wrappingband CZHT is located oppositely at 10 o'clock position. Remove the release liner from one end of the High Impact Shield HT over a length of approximately 300 mm [12”]. Attach this end to the pipe, complete the full wrap, remove the release liner over approximately 300 mm [12”] from the other end and create a layer-to-layer overlap of 50 mm [2”]. In case of horizontal pipes the layer-to-layer overlap seam must face downwards. The High Impact Shield HT should hang loose around the pipe, the sleeve diameter should be slightly bigger than the pipe diameter in order to facilitate removal of the release liner.
Removal of release liner	Hold the High Impact Shield HT in position and remove the release liner by pulling it sideways through the void between sleeve and pipe.
Application of Closure Strip	Gently preheat the adhesive of the Closure Strip with the propane torch. Patch it centrally over the seam of the High Impact Shield HT. Heat the closure strip intensively and patch it towards the pipe. After completion the indicator squares should be visible all over the Closure Strip.
Heat shrinking of High Impact Shield HT	Two workers are needed to execute heat-shrinking, one on each side of the pipe. The workers must start shrinking at the centre position of the High Impact Shield HT, working up and down in a seesaw manner, and gradually working towards the same end of the High Impact Shield HT. Continue shrinking from the centre to the other end of the High Impact Shield HT. In areas coated with Wrappingband CZHT moderate torch power must be used, while full torch power must be used in areas where the High Impact Shield HT is applied on plant coating. Be careful not to damage the High Impact Shield HT by excessive heat! Proper installation is indicated by vanishing of the indicator squares that were initially present.

Handling and commissioning	
Exposure to loads	Objects coated with Stopaq® High Impact Shield HT should not be exposed to excessive loads before cooling down to ambient temperature.
Burying	Burying is possible after the heat-shrinkable sleeve has cooled down to ambient temperature. Backfill and compact with clean sand and filling material without sharp stones or hard lumps of soil.
Immersion	Immersion in water is possible immediately after completion of the coating 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@stopaq.com
Certified staff	Application of the described coating system should be carried out by certified personnel.



Seal For Life Industries Mexico S de R.L. de C.V.
 Tijuana, Mexico
 USA Tel: +1 858 633 9797
 Mx Tel: +52 664 647 4397
mexico@sealforlife.com

Seal For Life Industries - Stopaq B.V.
 Stadskanaal, the Netherlands
 Tel: +31 599 696 170
 Fax: +31 599 696 177
info@sealforlife.com

Seal For Life Industries BVBA
 Westerlo, Belgium
 Tel: +32 14 722 500
 Fax: +32 14 722 570
belgium@sealforlife.com

Seal For Life India Private Ltd.
 Baroda, India
 Tel: +91 2667 264 721
 Fax: +91 2667 264 724
india@sealforlife.com

Anodeflex™ - Stopaq® - Polyken® - Covalence® - Powercrete® - Sealtaq® - Blockcr® - Easy.Qote® - SynergyQ®

DISCLAIMER: Seal For Life Industries warrants that the product conforms to its chemical and physical description and is appropriate for the use stated on the technical data sheet when used in compliance with Seal For Life Industries' written instructions. Because many installation factors are beyond the control of Seal For Life Industries, the user shall determine the suitability of the products for the intended uses and assume all risks and liabilities in connection herewith. Seal For Life's liability is stated in its General Terms and Conditions of Sale. Seal For Life Industries makes no other warranty either express or implied. All information contained in this technical data sheet is to be used as a guide and is subject to change without notice. This technical data sheet supersedes all previous data sheets on this product.