

## STOPAQ® OUTERWRAP PE

### Product Information

**Product description:** Stopaq® Outerwrap PE is a flexible polyethylene mechanical protection tape, provided with a butyl rubber pressure sensitive adhesive. Stopaq® Outerwrap PE is used for the mechanical protection of corrosion preventing coating systems such as Stopaq® Wrappingband CZ and CZH. It is very well suited for underground and submerged applications. The heavy-duty adhesive layer provides good adhesion to the outer surface of the Stopaq® Wrappingband as well as to its own backing. The Outerwrap has good resistance to impacts, indentations and abrasion, and is also resistant to chemicals like alkalis and acids.

#### Features:

- Complies with ISO21809-3:2016 coating type 13A-2
- Easy to apply
- Cold applied
- Flexible, good conformability
- Good adhesion to Stopaq® Wrappingband as well as to its own backing
- Excellent impact resistance
- Wide service temperature range

#### Benefits:

- Very suitable for manual application, especially in hot climates.
- Excellent mechanical protection of Stopaq® corrosion prevention products
- Resists impacts and indentations which may occur during installation and backfilling
- Supports self-healing of completed coating system
- Very high resistance to ageing, even when exposed to maximum or minimum temperature for longer periods of time
- No curing or waiting time, ready for immediate service

### Application examples

**Pipes and Vessels:** Mechanical protection of Stopaq® corrosion preventing coating systems applied on carbon steel pipeline structures and reservoirs.

**Field joints:** Mechanical protection of Stopaq® corrosion preventing coating systems applied on carbon steel girth-weld joints of on-shore pipelines.

**Pipe fittings:** Mechanical protection of Stopaq® corrosion preventing coating systems applied on carbon steel pipe fittings like elbows, bends, tees, reducers and flanges.

### Product properties of Stopaq® Outerwrap PE

<b>Colour</b>	Black	
<b>Thickness</b>	0.5 mm	
<b>Temperature range</b>	Service:	-30 °C to +70 °C
	Short term max.:	+90 °C
<b>Peel strength between layers</b>	Before ageing ( $P_0$ ): <sup>A)</sup>	
	<ul style="list-style-type: none"> <li>▪ @ +23 °C: <math>\geq 0.4</math> N/mm <sup>B)</sup></li> <li>▪ @ Tmax (+70 °C): <math>\geq 0.05</math> N/mm <sup>B)</sup></li> </ul>	
	After thermal ageing for 100 days at Tmax+20 °C (90 °C): <sup>A)</sup>	
<b>Thermal ageing resistance</b>	<ul style="list-style-type: none"> <li>▪ <math>P'_{100}/P'_0: \geq 0.75</math> <sup>B)</sup></li> </ul>	
	After hot water immersion for 100 days at Tmax+20 °C (90 °C): <sup>A,B)</sup>	
	<ul style="list-style-type: none"> <li>▪ <math>P'_{100}/P'_0: \geq 0.75</math></li> </ul>	
<b>Thermal ageing resistance</b>	Ratio of elongation at break after thermal ageing for 100 days at Tmax+20 °C (90 °C):	
	<ul style="list-style-type: none"> <li>▪ <math>1.25 \geq E_{100}/E_0 \geq 0.75</math> <sup>B)</sup></li> </ul>	
<b>Thermal ageing resistance</b>	Ratio of elastic modulus after thermal ageing for 100 days at Tmax+20 °C (90 °C):	
	<ul style="list-style-type: none"> <li>▪ <math>E_{100}/E_0 \geq 0.75</math> <sup>A)</sup></li> </ul>	
<b>Properties of complete coating system comprising Stopaq® Wrappingband CZH and Stopaq® Outerwrap PE</b>		
<b>Thickness</b>	2.8 – 3.2 mm	
<b>Self-healing test</b>	Self-healing of an artificial defect of $\varnothing$ 6 mm:	
<b>Impact resistance</b>	<ul style="list-style-type: none"> <li>▪ @ +23 °C: no holiday (<math>\leq</math> 24 hr.)</li> <li>▪ @ Tmax (+70 °C): no holiday (<math>\leq</math> 24 hr.)</li> </ul>	
	Tested at 15 J and @ +23 °C: <sup>A)</sup>	
<b>Indentation resistance</b>	<ul style="list-style-type: none"> <li>▪ no holidays</li> </ul>	
	Tested at pressure 1.0 N/mm <sup>2</sup> : <sup>A)</sup>	
<b>Cathodic disbondment resistance</b>	<ul style="list-style-type: none"> <li>▪ @ +23 °C: no holiday @ 20 kV, residual thickness <math>\geq</math> 0.6 mm</li> <li>▪ @ Tmax (+70 °C): no holiday @ 20 kV, residual thickness <math>\geq</math> 0.6 mm</li> </ul>	
	After 28 days: <sup>A)</sup>	
	<ul style="list-style-type: none"> <li>▪ @ +23 °C: disbondment 0 mm, no holiday</li> <li>▪ @ +70 °C: disbondment 0 mm, no holiday</li> </ul>	
In all cases self-healing completed within 24 hr.		

<sup>A)</sup> ISO 218089-3:2016 coating type 13A-2

<sup>B)</sup> Surpasses requirements of ISO21809-3:2016

### General order information

<b>Product</b>	Stopaq® Outerwrap PE is available in rolls, wound on cardboard cores, packed in cardboard boxes: <u>Product dimensions and contents:</u> 2 inch x 100 feet 3 inch x 100 feet 4 inch x 100 feet 6 inch x 100 feet
<b>Handling</b>	Handle with care. Keep boxes upright.
<b>Storage</b>	Store indoor, clean and dry, away from direct sunlight in a cool place below +45°C.


Application instruction - Job preparation	
<b>Tools, equipment and auxiliaries</b>	Scissors, knife and measuring tape
<b>Additional coating materials</b>	<p>Stopaq® Outerwrap PE is applied on Stopaq® corrosion preventing coating materials, such as:</p> <ul style="list-style-type: none"> <li>▪ Stopaq® Wrappingband CZ or CZH</li> <li>▪ Stopaq® Paste CZ or CZH</li> </ul> <p>Optionally, additional mechanical protective materials may be applied over the Outerwrap, e.g.:</p> <ul style="list-style-type: none"> <li>▪ Stopaq® Polyester</li> <li>▪ Stopaq® Outerglass Shield XT</li> <li>▪ Stopaq® Soil Stress Arrestor</li> </ul>
<b>High humidity</b>	Stopaq® Outerwrap PE 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 above dew point.
<b>Work area and substrate</b>	The substrate should be dry, clean and protected against negative weather influences. Temperature of the substrate should preferably be above +10°C for the ease of product handling.
<b>Product conditions</b>	Stopaq® Outerwrap PE should be dry and the temperature of the product should preferably be above +20°C for the ease of application.

Application instruction - Brief version	
<b>General</b>	Specific application instructions are available at Seal For Life Industries, e.g. for wrapping of pipes, field joints, fittings, etc.
<b>Example - Pipe wrapping</b>	<p>Horizontal pipelines should be spirally wrapped from left-to-right or from right-to-left. Pipelines positioned with an angle deviating from horizontal should be wrapped from bottom to top (e.g. risers).</p> <p>In general Stopaq® Outerwrap PE should be applied with tension by gently pulling the roll of material, unless stated otherwise in specific application instructions.</p> <p>Start wrapping Outerwrap PE with two full circumferential wraps perpendicular to the pipe, leaving 3 mm of the previously applied Stopaq® Wrappingband visible at the boundary.</p>

<b>Example – Pipe wrapping (continued)</b>	<p>After application of the circumferential wraps, consecutive spiral wraps should have an overlap of ≥ 50%</p> <p>Avoid air inclusions. Avoid tenting and bridging</p> <p>Continue spiral wrapping until reaching the boundary of the area to be coated, leaving 3 mm of the previously applied Stopaq® Wrappingband visible at the boundary.</p> <p>When more than one roll of Outerwrap PE is needed to continue wrapping, an overlap on the end of the previously applied Outerwrap PE should be created of at least 100 mm.</p> <p>End wrapping with two full circumferential wraps perpendicular to the pipe. End with a quarter circumferential wrap of Outerwrap PE without tension. In case of wrapping on horizontal pipes, the tape end should face downwards ending at 3 o'clock position. Cut off in a tie-form.</p> <p>The applied Outerwrap PE must look smooth and tight and should be shaped around all details and into corners.</p>
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Handling and commissioning	
<b>Exposure to loads</b>	Objects coated with Stopaq® Outerwrap PE should not be exposed to excessive loads e.g. from supports- or lifting equipment.
<b>Immersion or burying</b>	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	
<b>Documentation</b>	Extensive information is available on our website. Application instructions and other documentation can be obtained by contacting our head office, from our local distributor or by sending email to <a href="mailto:info@stopaq.com">info@stopaq.com</a>
<b>Certified staff</b>	Application of the described coating system should be carried out by certified personnel.

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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. Seal For Life Industries is a registered marks of the Berry Global Group, Inc. or its affiliates.