

COVALENCE® HTLP-PP

Product Information

A 3-layer polypropylene-field-joint coating system for polypropylene coated pipes.

Product description: Covalence® HTLP-PP system is a wraparound, polypropylene based heat-shrinkable sleeve and is designed for corrosion prevention and sealing for polypropylene coated pipelines, operating at temperatures up to 120°C. HTLP-PP is especially suited for higher stress conditions caused both by elevated temperatures and by soils with severe contraction between wet-dry cycles. HTLP-PP is normally used for girth weld protection of steel pipes coated with polypropylene.

Construction: Three-layer system

- *First layer:* Two component liquid epoxy.
- *Second layer:* High shear strength polypropylene adhesive layer.
- *Third layer:* Thick cross-linked polypropylene backing layer.

Features:

- Available as a one-piece wraparound unit.
- High shear resistance.
- High operating temperature rating.
- Keeps backing elasticity at elevated temperatures.

Benefits:

- Saves money by keeping application costs low.
- Provides high functional performance and safety.
- Top performance in demanding conditions.
- Has enhanced resistance to cracking at elevated temperatures.

Product selection guide

Max operating temperature	120°C .
Compatible line coatings	Polypropylene
Min. preheat temperature	170° - 180°C
Recommended pipe preparation	Sa 2½
Soil stress restrictions	None
Performance	ISO 21809-3 compliant

Product properties

Backing		
Property	Test method	Typical value
Tensile strength at break	ASTM D-638	35 MPa
Elongation at break	ASTM D-638	610%
Elongation at break after heat aging	ASTM D-638 @ 150°C , 4 weeks	486%
Hot modulus @ 100% elongation	ASTM D-638 @ 180°C	0.12 MPa
Volume Resistivity	ASTM D257	1.24E+16
Hardness, Shore D	ASTM D-2240	60
Dielectric strength	ASTM D-149	33 KV/mm
Weathering followed by elongation at break	ASTM D-2565 500 hours ASTM D-638	166 %
Water absorption	ASTM D-570 @ 95°C , 24 hrs	0.30%
Adhesive		
Property	Test method	Typical value
Melting point	ASTM D-3418	154°C
Lap shear strength	ISO 21809-3 @ 10 mm/min @ 23°C @ 110°C @ 120°C	7.20 N/mm ² 1.20 N/mm ² 0.80 N/mm ²
Installed sleeve		
Property	Test method	Typical value
Peel	ISO 21809-3 @ 23°C @ 100°C @ 110°C @ 120°C	9 N/mm 5 N/mm 4 N/mm 3 N/mm
Cathodic disbondment	ASTM G-42 @ 95°C, 30 days ISO 21809-3 @ 95°C, 28 days	10 mm 10 mm
Resistance to shear load	TP206 @ 120° C, 24 hrs	< 0.1 mm of displacement
Soil stress test	EMM 2/15/00 @ 120°C	Pass 100 cycles
Impact resistance	ISO 21809-3	> 10 J/mm
Indentation resistance	ISO 21809-3, 10 N/mm ² Remaining coating thickness @ 110°C @ 120°C	1 mm > 0.6 mm
Hot water immersion followed by peel to primed steel and plant coating	ISO 21809-3 28 days @ 95°C @ 23°C, 10 mm/min	10 N/mm

Note: The typical values in this data sheet are based on lab prepared samples. Values shown are not to be interpreted as product specifications.

Product thickness	/1.2-2	/1.2-2.2
Backing as supplied	0.9 mm (0.035 in)	0.9 mm (0.035 in)
Backing fully free recovered	1.2 mm (0.047 in)	1.2 mm (0.047 in)
Adhesive as supplied	2.0 mm (0.078 in)	2.2 mm (0.086 in)

Order information	
<p>Covalence® HTLP-PP products are available as a total system.</p> <ul style="list-style-type: none"> – The system includes the sleeve: a uni-sleeve with chamfered edges and with pre-attached closure patch*. – Installation accessories must be ordered separately. <p>Select sleeve width that will overlap on to the polypropylene line by 50 mm (2 inches) on each side of the weld joint. Take a 5% shrinkage of sleeve width during installation when calculating the minimum sleeve width.</p> <p><i>* HTLP-PP is not sold in roll form, only pre-cut uni-sleeves.</i></p>	
Epoxy	
S1401 Epoxy) two component epoxy onto bare steel.	
Installation accessories	
<ul style="list-style-type: none"> - EQ-CLAMP-COIL: induction coil for specific pipe diameter and sleeve width. Contact your Seal For Life representative for more information. - EQ-GENERATOR-IHG-120-WITH-CABLE: generator for induction coil. Contact your Seal For Life representative for more information. - EQ-HEAT-SHIELD-150X3X25M: to protect the PP line coating while preheating the steel area. - EQ-T0-KIT-BN60-1.5MM: torch with specific nozzle opening. - EQ-NOZZLE-BN40: for pipe sizes from 3" to 10" - EQ-SPACER-SET: set of spacers to lift up the sleeve during initial installation steps <p>Contact your Seal For Life representative for more information.</p>	
Cut piece / Uni-sleeve	
Example	HTLP-PP-10750X17/1.2-2/UNI
Designation	Standard ordering options
10750	Outside pipe diameter (in) 3.500 (DN80 – 48.000 (DN1200)
17	Sleeve width (in) 17.75 – 20.25 (450 – 514 mm) *
1.2-2	Product thickness /1.2-2 , /1.2-2.2**
UNI	Designates pre-attached closure patch
<i>* Nominal width. Other widths available on request.</i>	
<i>** Special thickness, minimum order quantities apply.</i>	

General information	
Product dimension	Sleeve cut lengths and appropriate closure patch widths depend on the pipe size and product construction, see latest application table AT-GIRTHWELD.
Installation guide	For proper product installation, contact your Seal For Life representative. HTLP-PP products are installed with an induction coil.
Recommended primer	HTLP-PP type products are installed with S1401-epoxy primer. Epoxy primers are ordered separately. For more ordering information on epoxy primers see latest product data sheet for S1401.
	As field application of primers may vary, consult a Seal For Life representative or Authorized Distributor for rate of coverage guidance.
Handling	Handle with care. Keep boxes upright.
Storage	Store indoor, clean and dry, away from direct sunlight in a cool place below +50°C. Unlimited shelf life.
Documentation	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 info@sealforlife.com
Certified staff	Application of the described coating system shall be carried out by certified personnel.



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