

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, FBE
Min. preheat temperature	170° - 180°C
Recommended pipe preparation	Sa 2½
Soil stress restrictions	None
Performance	ISO 21809-3 Type 14D1

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)

Product properties

Backing			
Property	Test method	Requirement	Typical value
Elongation at break after heat aging	ISO 21809-3 E ₁₀₀ /E ₇₀	≥ 0.75	0.82
Oxidation induction time at 220°C	ISO 21809-3	≥ 15 minutes	168 minutes
Adhesive			
Property	Test method	Requirement	Typical value
Lap shear strength	ISO 21809-3 @ 10 mm/min @ 23°C @ 110°C	≥ 5.0 N/mm ² ≥ 1.0 N/mm ²	7.0 N/mm ² 2.0 N/mm ²
Installed sleeve			
Property	Test method	Requirement	Typical value*
Peel to primed steel and 3LPP	ISO 21809-3 @ 23°C @ 110°C	≥ 4 N/mm ≥ 2 N/mm	10.2 N/mm 3.5 N/mm
Peel to primed steel after heat aging	ISO 21809-3 @ 23°C P ₁₀₀ /P ₇₀	≥ 0.75	0.77
Cathodic disbondment	ISO 21809-3, 28 days @ 23°C @ 95°C	≤ 5 mm ≤ 10 mm	4.4 mm 8.6 mm
Impact resistance	ISO 21809-3	≥ 10 J/mm	11 J/mm
Indentation resistance	ISO 21809-3, 10 N/mm ² Remaining coating thickness @ 110°C	≥ 0.6 mm	0.9 mm
Hot water immersion followed by peel to primed steel and plant coating	ISO 21809-3 100 days @ 95°C @ 23°C, 10 mm/min P ₁₀₀ /P ₀ to steel P ₁₀₀ /P ₀ to 3LPP	≥ 0.75 ≥ 0.75	0.75 1.17
Thermal stability at 130°C for 50 weeks	ISO 21809-3	No cracks	No cracks

* Construction /1.2-2

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

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, cut corners 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>* HTLP-PP is not sold in roll form, only pre-cut uni-sleeves.</p>	
Epoxy	
<p>S1401 Epoxy) two component epoxy onto bare steel. See datasheet of S1401 for more information.</p>	
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
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 1.2-1.5P231*** 1.2-2 1.2-2.2**
** Nominal width. Other widths available on request.	
*** Special thickness, minimum order quantities apply.	

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. 5 Years 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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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 document 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.