

COVALENCE® HTLP80

Product Information

Product description: Covalence® HTLP80 system is a wrap-around heat-shrinkable sleeve which replicates the structure and the performance of factory applied three-layer PE coatings.

Construction: Three-layer system

- *First layer:* Liquid epoxy, solvent-free two-component.
- *Second layer:* High shear strength copolymer adhesive.
- *Third layer:* Radiation cross-linked, high density polyethylene with permanent Change Indicator (PCI).

During installation, the epoxy is applied to the prepared pipe surface and the heat-shrinkable sleeve is immediately wrapped around the joint over the wet epoxy. Heat is then applied to the sleeve which shrinks to form a tight fit around the joint. While curing, the epoxy forms strong mechanical and chemical bonds to the pipe surface & to the copolymer adhesive layer. The cross-linked outer layer forms a tough barrier against mechanical damage and moisture transmission. If extra thickness is required over the weld bead, sleeve can be supplied with extra adhesive in the centre of the sleeve.

Features:

- Fully resistant to shear forces induced by soil and thermal movements.
- Sleeve applied over wet epoxy, allowing fast installation and formation of strong mechanical & chemical bonds.
- Superior cathodic disbondment and hot water immersion resistance.
- Fully reconstructs the coating of three-layer coated pipes.
- Dimpled backing provides a "permanent change" indicator for application of heat.

Benefits:

- The HTLP is tough & lasts as long as a 3-layer, factory applied coating.
- Allows fast application combined with high performance.
- Offers the optimum barrier protection against corrosion.
- HTLP systems allow three layer coated pipelines to have a virtually monolithic coating system.
- Dimpled backing allows easy post-heat inspection and offers a reliable inspectability at any time.

Product selection guide

Max operating temperature	85°C (185°F).
Compatible line coatings	PE, FBE, Coal Tar, DFBE.
Min. preheat temperature	70°C (158°F)
Recommended pipe preparation	Sa 2½
Soil stress restrictions	None
Performance	EN 12068: Class C60 UV Class C80 UV ISO 21809-3

Product properties

Backing		
Property	Test method	Typical value
Tensile strength at break	ASTM D-638	3300 psi (22.8 MPa)
Elongation at break	ASTM D-638	600 %
Hardness, Shore D	ASTM D-2240	57
Density	ASTM D-792	0.97 kg/dm³
Shrink force	ASTM D-638, @ 150°C (302°F)	40 psi
Dielectric Strength	ASTM D-149	900 volts/mil (35 kV/mm)
Moisture absorption	ASTM D-570	0.04%
Adhesive		
Property	Test method	Typical value
Softening Point	ASTM E-28	120°C (248°F)
Lap shear	ASTM D-1002, 2"/min @ 80°C (176°F) EN12068 @ 80°C (176°F)	65 psi 0.18 N/mm²
Installed sleeve		
Property	Test method	Typical value
Peel to Steel	ASTM D-1000 EN12068	40 lbs/in.width 5.1 N/mm
Cathodic disbondment	ASTM G-42 @ 80°C (176°F), 30 days EN12068 @ 80°C (176°F), 28 days	17 mm radius 12 mm radius
Hot water immersion	ASTM D-870 @ 80°C (176°F), 120 days	No delamination, no blisters or water ingress
Soil stress creep resistance	TP-206 @ 80°C (176°F)	0.003 in (0.067mm)
Low temperature flexibility	ASTM D2671, C	-25°C (-13°F)
Impact resistance	ASTM G-14 EN12068 class C	76 in-lbs > 15 J*
Penetration resistance	ASTM G-17 @ 80°C (176°F)	No holidays @ 10,000 volts
Indentation resistance	EN12068, Class C, @ 80°C (176°F)	Residual thickness > 0.6 mm *

* Construction /1-1.5 or thicker

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

	/B	/1-1.5	/C	/1.4-1.8
Backing as supplied	0.75 mm (0.030 in)	0.75 mm (0.030 in)	1.04 mm (0.041 in)	1.04 mm (0.041 in)
Backing fully free recovered	1.0 mm (0.039 in)	1.0 mm (0.039 in)	1.4 mm (0.055 in)	1.4 mm (0.055 in)
Adhesive as supplied	1.0 mm (0.039 in)	1.5 mm (0.060 in)	1.5 mm (0.060 in)	1.8 mm (0.071 in)

* Other thickness available on request. Minimum order quantities apply.

Product order information

- Covalence® HTLP80 products are available
- As cut piece (pre-cut with separate closure patch)
 - As Uni-sleeve (pre-cut with attached closure patch)
 - As a roll (closure patches to be ordered separately)
 - With integrated weld bead filler (WBF)

Select sleeve width that will overlap onto the mill-applied coating by 50 mm (2 inches) minimum on each side of the weld joint. Take a 10% shrinkage during installation of sleeve into account when calculating minimum sleeve width.

Cut piece / Uni-sleeve

Example	HTLP80-16000X17/B/(UNI) (WBF)	
	Designation	Standard ordering options
16000	Outside pipe diameter	2.375" – 100.000" (DN50 – DN2500)
17	Sleeve width (in.)	17 (17.75" or 450 mm)* 20 (20.25" or 514 mm)* 24 (23.625" or 600 mm)* * nominal width
/B	Product thickness	/B /1-1.5 /C /1.4-1.8
UNI	Designates pre-attached closure patch	Optional
WBF	Designates integrated weld bead filler	Optional

Roll form (closure patch to be ordered separately)

Example	HTLP80-20X100/1-1.5-RL (WBF)	
	Designation	Standard ordering options
20	Sleeve width (in.)	17 (17.75" or 450 mm)* 20 (20.25" or 514 mm)* 24 (23.625" or 600 mm)* * nominal width
100	Roll length	100 ft (= 30 m)
/1-1.5	Product thickness	/B /1-1.5 /C /1.4-1.8
WBF	Designates integrated weld bead filler	Optional

Rolls can have a splice. Max 10% of the roll order will have a splice. Min partial length will be 5M or 15 ft.

Closure patches (to be ordered separately)

Example	WPCP-IV-4X17	
	Designation	Standard ordering options
4	Patch width (in.)	4 (100 mm) 6 (150 mm) 8 (200 mm)
17	Patch length (in.)	17 (17.75" or 450 mm)* 20 (20.25" or 514 mm)* 24 (23.625" or 600 mm)* * nominal length

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, see latest application guideline.
Recommended primer	HTLP type products are installed with epoxy primer. HTLP80 is installed with S1301-M or S1401 (-M). Epoxy primers are ordered separately. For more ordering information on epoxy primers see latest PDS-S1301-M and PDS-S1401 (-M). 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 should be carried out by certified personnel.



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.

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