Covalence®
Heat Shrinkable Technology
SEALFORLIFE

PRODUCT DATA SHEET

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(‘S1301M) <5 mm radius(‘S1401M) 12 mm radius(S1301M-
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 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@sealforlife.com**
Certified staff	Application of the described coating system should be carried out by certified personnel.

Seal For Life Industries LLC
Charlotte NC, USA
Tel: +1 858 633 9708
sales@sealforlife.com

Seal For Life Industries Mexico S de R.L. de C.V.
Tijuana, Mexico
Tel USA +1 858 633 9797
Fax US: +1 858 633 9740
Tel Mexico: +52 664 647 4397
Fax Mexico: +52 664 607 9105
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