

COVALENCE[®] HTLP80-HP

Product Information

Product description: Covalence[®] HTLP80-HP 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.

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 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
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	ISO 21809-3 ISO 21809-3 @ 80°C (176°F)	5.0 N/mm ² 0.6 N/mm ²
Installed sleeve		
Property	Test method	Typical value
Peel to Steel	EN 12068	6 N/mm
Cathodic disbondment	EN 12068 EN 12068 @ 60°C (140°F), 28 days EN 12068 @ 80°C (176°F), 28 days	< 5 mm radius < 10 mm radius < 15 mm radius
Hot water immersion	ASTM D-870 @ 80°C (176°F), 120 days	No delamination, no blisters or water ingress
Hot Water Soak	ISO 21809-3 @ 80°C (176°F), 100 days	Pass
Soil stress creep resistance	TP-206 @ 80°C (176°F)	0.003 in (0.067mm)
Low temperature flexibility	ASTM D2671, C	-35°C (-31°F)
Impact resistance	EN 12068 class C	> 15 J *
Indentation resistance	EN 12068, Class C, @ 80°C (176°F)	Residual thickness > 0.6 mm *

* Construction /1.2-1.2 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 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 EIL

Product thickness

	/1.2-1.2	/1.2-1.4	/1.4-1.6	/1.4-1.8
Backing as supplied	0.9 mm (0.035 in)	0.9 mm (0.035 in)	1.04 mm (0.041 in)	1.04 mm (0.041 in)
Backing fully free recovered	1.2 mm (0.047 in)	1.2 mm (0.047 in)	1.4 mm (0.055 in)	1.4 mm (0.055 in)
Adhesive as supplied	1.2mm (0.047 in)	1.4 mm (0.055 in)	1.6 mm (0.063 in)	1.8 mm (0.071 in)

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

Product order information		General information											
<p>Covalence® HTLP80-HP products are available</p> <ul style="list-style-type: none"> – 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) <p>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.</p>		<p>Product dimension Sleeve cut lengths and appropriate closure patch widths depend on the pipe size and product construction, see latest application table AT-GIRTHWELD.</p>											
<p>Cut piece / Uni-sleeve</p>		<p>Installation guide For proper product installation, see latest application guideline.</p>											
<p>Example HTLP80-HP-16000X17/1.2-1.2/(UNI)</p>		<p>Recommended primer HTLP type products are installed with epoxy primer. HTLP80 is installed with S1301-M or S1401 (-M).</p>											
<table border="1"> <thead> <tr> <th>Designation</th> <th>Standard ordering options</th> </tr> </thead> <tbody> <tr> <td>16000 Outside pipe diameter</td> <td>2.375" – 100.000" (DN50 – DN2500)</td> </tr> <tr> <td>17 Sleeve width (in.)</td> <td>17 (17.75" or 450 mm)* 20 (20.25" or 514 mm)*</td> </tr> <tr> <td>/1.2-1.2 Product thickness</td> <td>/1.2-1.2 /1.2-1.4 /1.4-1.6 /1.4-1.8</td> </tr> <tr> <td>UNI Designates pre-attached closure patch</td> <td>Optional</td> </tr> </tbody> </table> <p style="text-align: right;">* nominal width</p>		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)*	/1.2-1.2 Product thickness	/1.2-1.2 /1.2-1.4 /1.4-1.6 /1.4-1.8	UNI Designates pre-attached closure patch	Optional	<p>Epoxy primers are ordered separately. For more ordering information on epoxy primers see latest PDS-S1301 and PDS-S1401.</p> <p>As field application of primers may vary, consult a Seal For Life representative or Authorized Distributor for rate of coverage guidance.</p>	
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<p>Roll form (closure patch to be ordered separately)</p>		<p>Handling Handle with care. Keep boxes upright.</p>											
<p>Example HTLP80-HP-20X100/1.4-1.6-RL</p>		<p>Storage Store indoor, clean and dry, away from direct sunlight in a cool place below +50°C. Unlimited shelf life.</p>											
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<p>Closure patches (to be ordered separately)</p>		<p>Certified staff Application of the described coating system should be carried out by certified personnel.</p>											
<p>Example WPCP-IV-4X17-(HHR)</p>													
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