

## COVALENCE<sup>®</sup> HTLP80-HP

### Product Information

**Product description:** Covalence<sup>®</sup> 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
<b>Tensile strength at break</b>	ASTM D-638	3300 psi (22.8 MPa)
<b>Elongation at break</b>	ASTM D-638	600 %
<b>Hardness, Shore D</b>	ASTM D-2240	57
<b>Shrink force</b>	ASTM D-638, @150°C (302°F)	40 psi
<b>Dielectric Strength</b>	ASTM D-149	900 volts/mil (35 kV/mm)
<b>Moisture absorption</b>	ASTM D-570	0.04%
Adhesive		
Property	Test method	Typical value
<b>Softening Point</b>	ASTM E-28	120°C (248°F)
<b>Lap shear</b>	ISO 21809-3 ISO 21809-3 @ 80°C (176°F)	5.0 N/mm <sup>2</sup> 0.6 N/mm <sup>2</sup>
Installed sleeve		
Property	Test method	Typical value
<b>Peel to Steel</b>	EN 12068	6 N/mm
<b>Cathodic disbondment</b>	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
<b>Hot water immersion</b>	ASTM D-870 @ 80°C (176°F), 120 days	No delamination, no blisters or water ingress
<b>Hot Water Soak</b>	ISO 21809-3 @ 80°C (176°F), 100 days	Pass
<b>Soil stress creep resistance</b>	TP-206 @ 80°C (176°F)	0.003 in ( 0.067mm)
<b>Low temperature flexibility</b>	ASTM D2671, C	-35°C (-31°F)
<b>Impact resistance</b>	EN 12068 class C	> 15 J *
<b>Indentation resistance</b>	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

<b>Max operating temperature</b>	85°C (185°F).
<b>Compatible line coatings</b>	PE, FBE, Coal Tar, DFBE.
<b>Min. preheat temperature</b>	70°C (158°F)
<b>Recommended pipe preparation</b>	Sa 2½
<b>Soil stress restrictions</b>	None
<b>Performance</b>	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
<b>Backing as supplied</b>	0.9 mm (0.035 in)	0.9 mm (0.035 in)	1.04 mm (0.041 in)	1.04 mm (0.041 in)
<b>Backing fully free recovered</b>	1.2 mm (0.047 in)	1.2 mm (0.047 in)	1.4 mm (0.055 in)	1.4 mm (0.055 in)
<b>Adhesive as supplied</b>	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"> <li>– As cut piece (pre-cut with separate closure patch)</li> <li>– As Uni-sleeve (pre-cut with attached closure patch)</li> <li>– As a roll (closure patches to be ordered separately)</li> </ul> <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><b>Product dimension</b> Sleeve cut lengths and appropriate closure patch widths depend on the pipe size and product construction, see latest application table AT-GIRTHWELD.</p>											
<p><b>Cut piece / Uni-sleeve</b></p>		<p><b>Installation guide</b> For proper product installation, see latest application guideline.</p>											
<p><b>Example</b> HTLP80-HP-16000X17/1.2-1.2/(UNI)</p>		<p><b>Recommended primer</b> 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><b>16000</b> Outside pipe diameter</td> <td>2.375" – 100.000" (DN50 – DN2500)</td> </tr> <tr> <td><b>17</b> Sleeve width (in.)</td> <td>17 (17.75" or 450 mm)* 20 (20.25" or 514 mm)*</td> </tr> <tr> <td><b>/1.2-1.2</b> Product thickness</td> <td>/1.2-1.2 /1.2-1.4 /1.4-1.6 /1.4-1.8</td> </tr> <tr> <td><b>UNI</b> Designates pre-attached closure patch</td> <td>Optional</td> </tr> </tbody> </table> <p style="text-align: right;">* nominal width</p>		Designation	Standard ordering options	<b>16000</b> Outside pipe diameter	2.375" – 100.000" (DN50 – DN2500)	<b>17</b> Sleeve width (in.)	17 (17.75" or 450 mm)* 20 (20.25" or 514 mm)*	<b>/1.2-1.2</b> Product thickness	/1.2-1.2 /1.2-1.4 /1.4-1.6 /1.4-1.8	<b>UNI</b> 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><b>Roll form (closure patch to be ordered separately)</b></p>		<p><b>Handling</b> Handle with care. Keep boxes upright.</p>											
<p><b>Example</b> HTLP80-HP-20X100/1.4-1.6-RL</p>		<p><b>Storage</b> 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><b>Closure patches (to be ordered separately)</b></p>		<p><b>Certified staff</b> Application of the described coating system should be carried out by certified personnel.</p>											
<p><b>Example</b> WPCP-IV-4X17-(HHR)</p>													
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Seal For Life Industries LLC  
Franklin, MA, USA  
Tel: +1 508 918 1600  
Toll Free: +1 800 248 7659  
Fax: +1 508 918 1905  
[franklin@sealforlife.com](mailto:franklin@sealforlife.com)

Seal For Life Industries Mexico  
S de R.L. de C.V.  
Tijuana, Mexico  
Tel USA: +1 858 633 9797  
Fax USA: +1 858 633 9740  
Tel Mx: +52 664 647 4397  
Fax Mx: +52 664 607 9105  
[mexico@sealforlife.com](mailto: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](mailto:info@sealforlife.com)

Seal For Life Industries BVBA  
Westerlo, Belgium  
Tel: +32 14 722 500  
Fax: +32 14 722 570  
[belgium@sealforlife.com](mailto:belgium@sealforlife.com)

Seal For Life India Private Ltd.  
Baroda, India  
Tel: +91 2667 264 721  
Fax: +91 2667 264 724  
[india@sealforlife.com](mailto:india@sealforlife.com)

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