

## COVALENCE® HTLP60-HP

### Product Information

**Product description:** Covalence® HTLP60-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. 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

|                                     |   |
|-------------------------------------|---|
| <b>Max operating temperature</b>    | 65°C  |
| <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:<br>Class C60 UV<br>ISO 21809-3 14B1 |

### 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>Density</b>                   | ASTM D-792                    | 0.97 kg/dm³                 |
| <b>Shrink force</b>              | ASTM D-638,<br>@150°C (302°F) | 40 psi                      |
| <b>Dielectric Strength</b>       | ASTM D-149                    | 900 volts/mil<br>(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                          |
| <b>Lap shear</b>       | ISO 21809-3 | 5 N/mm² @23°C<br>1 N/mm² @60°C |

#### Installed sleeve

| Property                           | Test method                 | Typical value                               |
|------------------------------------|-----------------------------|---|
| <b>Peel to Steel</b>               | ISO 21809-3                 | 5.1 N/mm @23°C<br>1.1 N/mm @60°C            |
| <b>Cathodic disbondment</b>        | ISO21809-3,<br>28 days      | ≤ 5 mm radius @23°C<br>≤ 10 mm radius @60°C |
| <b>Low temperature flexibility</b> | ASTM D2671, C               | -20°C                                       |
| <b>Impact resistance</b>           | EN12068 class C             | > 15 J                                      |
| <b>Indentation resistance</b>      | EN12068, Class<br>C, @ 60°C | Residual thickness<br>> 0.6 mm              |

*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

|                             | /E                   | /C                   | /F                   |
|-----------------------------|----------------------|----------------------|----------------------|
| <b>Backing as supplied</b>  | 0.9 mm<br>(0.035 in) | 1.1 mm<br>(0.045 in) | 1.1 mm<br>(0.045 in) |
| <b>Adhesive as supplied</b> | 1.3 mm<br>(0.050 in) | 1.5 mm<br>(0.060 in) | 1.8 mm<br>(0.071 in) |

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

**Product order information**

- Covalence® HTLP60-HP 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)

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**

|                |                                       |                                  |
|----------------|---------------------------------------|----------------------------------|
| <b>Example</b> | <b>HTLP60-HP-DN400-450/E/(UNI)</b>    |                                  |
|                | <b>Designation</b>                    | <b>Standard ordering options</b> |
| <b>DN400</b>   | Outside pipe diameter                 | DN50-DN1500 (2.375"-60.0000")    |
| <b>450</b>     | Sleeve width (mm.)                    | 450 (17.75")<br>500 (19.75")     |
| <b>/E</b>      | Product thickness                     | /E<br>/C<br>/F                   |
| <b>UNI</b>     | Designates pre-attached closure patch | Optional                         |

**Roll form (closure patch to be ordered separately)**

|                |                               |                                    |
|----------------|-------------------------------|------------------------------------|
| <b>Example</b> | <b>HTLP60-HP-500X30M/C-RL</b> |                                    |
|                | <b>Designation</b>            | <b>Standard ordering options</b>   |
| <b>500</b>     | Sleeve width (mm)             | 450 mm (17.75")<br>500 mm (19.75") |
| <b>30M</b>     | Roll length                   | 30 M (100ft)                       |
| <b>/C</b>      | Product thickness             | /E<br>/C<br>/F                     |

*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)**

|                |                                   |   |
|----------------|-----------------------------------|---|
| <b>Example</b> | <b>WPCP-IV-4X17(S50)</b>          |   |
|                | <b>Designation</b>                | <b>Standard ordering options</b>              |
| <b>4</b>       | Patch width (in.)                 | 4 (100 mm)<br>6 (150 mm)<br>8 (200 mm)        |
| <b>17</b>      | Patch length (in.)                | 17: 450 mm (17.75")<br>19.75: 500 mm (19.75") |
| <b>(S50)</b>   | Packaging quantity in plastic bag | 50 pc   |

**General information**

|                           |   |
|---------------------------|---|
| <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.  |
| <b>Installation guide</b> | For proper product installation, see latest application guideline.  |
| <b>Recommended primer</b> | HTLP type products are installed with epoxy primer. HTLP60-HP is installed with S1301-M.<br><br>Epoxy primers are ordered separately. For more ordering information on epoxy primers see latest PDS-S1301-M.<br><br>As field application of primers may vary, consult a Seal For Life representative or Authorized Distributor for rate of coverage guidance. |
| <b>Handling</b>           | Handle with care. Keep boxes upright.   |
| <b>Storage</b>            | Store indoor, clean and dry, away from direct sunlight in a cool place below +50°C. Unlimited shelf life.   |
| <b>Documentation</b>      | 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 <a href="mailto:info@sealforlife.com">info@sealforlife.com</a>   |
| <b>Certified staff</b>    | Application of the described coating system should 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.