

## COVALENCE<sup>®</sup> DIRAX

### Product Information

**Product description:** The DIRAX system is a wrap-around heat-shrinkable sleeve reinforced with fiberglass. DIRAX is designed to protect girth welds against corrosion and is the optimum joint protection for PE and FBE coated pipes used in directional drilling applications. The reinforcement gives the backing greater wear resistance.

Construction: Three-layer system

- *First layer:* Liquid epoxy, solvent-free two-component.
- *Second layer:* High shear strength copolymer adhesive.
- *Third layer:* Thick, fiberglass reinforced, radiation cross-linked polyethylene.
- *Additional component:* Wear Cone as extra protection against pull-through forces, of the same construction as the main sleeve.

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 radiation cross-linked outer layer forms a tough barrier against mechanical damage and moisture transmission. A wear cone is then applied over the leading edge of the sleeve.

**Note:** DIRAX is not suitable for "Push Through" applications.

#### Features:

- Highly resistant to shear and peel forces induced by soil and thermal movements.
- DIRAX offers abrasion and wear resistance at pull-through comparable to mill coatings.
- Wear cone protects leading edge of sleeve against pull-through forces.
- Sleeve applied over wet epoxy---there are no curing or waiting times /formation of strong mechanical & chemical bonds.
- Superior cathodic disbondment and hot water immersion resistance.
- Pre-attached closure patch.
- Low preheat requirements.

#### Benefits:

- The DIRAX is tough!
- Provides a monolithic coating system.
- Provides additional strength and security---increases reliability.
- Allows fast application---saves time! Ensures high performance!
- Offers the optimum barrier protection against corrosion.
- Allows fast and easy application.
- Makes installation faster and saves time.

### Product selection guide

|                                     |                       |
|-------------------------------------|-----------------------|
| <b>Max operating temperature</b>    | 60C (140°F).          |
| <b>Compatible line coatings</b>     | PE, FBE               |
| <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 |

### Product thickness

|  | mm   | in    |
|--|------|-------|
| <b>Backing as supplied</b>                   | 1.85 | 0.073 |
| <b>Backing fully free recovered</b>          | 2.30 | 0.091 |
| <b>Adhesive as supplied</b>                  | 1.20 | 0.047 |
| <b>Wear cone (incl.adhesive) as supplied</b> | 3.05 | 0.120 |

### Product properties Covalence<sup>®</sup> DIRAX

| Backing   |                                     |  |
|---|-------------------------------------|--|
| Property  | Test method                         | Typical value  |
| <b>Bursting strength</b>  | DIN 30672                           | 2350 N   |
| Adhesive  |                                     |  |
| Property  | Test method                         | Typical value  |
| <b>Softening Point</b>  | ASTM E-28                           | 94°C (201°F)   |
| <b>Lap shear</b>  | ASTM D-1002                         | 528 psi  |
| <b>Lap shear</b>  | EN 12068 @10mm/min.                 | 0.40 N/mm <sup>2</sup> @ 60°C (140°F)                        |
| Installed sleeve  |                                     |  |
| Property  | Test method                         | Typical value  |
| <b>Peel to Steel</b>  | ASTM D-1000 EN 12068 @10mm/min.     | 104 pli<br>11 N/mm   |
| <b>Specific coating resistance</b>                              | DIN 30672, 100 days immersion       | 6x10 <sup>8</sup> Ωm <sup>2</sup>                            |
| <b>Impact resistance</b>  | ASTM G-14 EN 12068, class C         | 170 in.lb<br>Pass 15 J                                       |
| <b>Indentation resistance</b>                                   | ASTM G-17 EN 12068, class C         | Pass<br>3.1 mm* @ 60°C (140°F)                               |
| <b>Cathodic disbondment</b>                                     | ASTM G-8, 30 days EN 12068, 30 days | 0.170" (4.33 mm)<br>0 mm radius @ 60°C (140°F)- self healing |
| <b>Resistance to UV radiation followed by bursting strength</b> | EN12068                             | Reduction in bursting strength <25% of the original value    |

\* Remaining coating thickness

| General order information   |   |  |
|---|---|--|
| Covalence® DIRAX type products are available as a kit, containing <ul style="list-style-type: none"> <li>– A Uni-sleeve (pre-cut sleeve with pre-attached closure patch)</li> <li>– A wear cone (also pre-cut with pre-attached closure patch)</li> </ul> Dirax is installed with S1239, S1301-M <sup>2</sup> or S1401 component epoxy primer which has to be ordered separately. |   |  |
| <b>Example</b>  | <b>DIRAX-16000-24/1K</b>  |  |
|   | <b>Designation</b>  | <b>Standard ordering options</b>                                       |
| <b>16000</b>  | Outside pipe diameter (mils)  | 3.500"-18.000" (DN80-DN1200)   |
| <b>24</b>   | Sleeve width (in)   | 12" (300 mm)*, 17" (430 mm)*, 24" (600 mm)*, 34" (863 mm)*             |
| <b>/1K</b>  | Number of primer kits required  | 1, 2 or 3 200ml epoxy kit according to size (to be ordered separately) |
|   | Wear cone   | Width 3" = 3.125" (80 mm) (included)                                   |
|   |   | * nominal width  |
| General   |   |  |
| <b>Installation guide</b>   | For proper product selection, see latest application table AT-DIRAX.                                      |  |
| <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 +45°C. Unlimited shelf life. |  |

| Information            |  |
|------------------------|--|
| <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 an 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.  |



*DISCLAIMER: Seal For Life Industries warrants that the product(s) represented within conform(s) to its/their chemical and physical description and is appropriate for the use as stated on the respective technical data sheet when used in compliance with Seal For Life Industries written instructions. Since many installation factors are beyond the control of Seal For Life Industries, the user is obligated to determine the suitability of the products for the intended use and assume all risks and liabilities in connection herewith. Seal For Life Industries liability is stated in the standard terms and conditions of sale. Seal For Life Industries makes no other warranty either expressed or implied. All information contained in the respective technical data sheet(s) should be used as a guide and is subject to change without notice. This document supersedes all previous revisions, see revision date.*

Local distributor / representative

For contact details of local distributor / representative Please visit [www.sealforlife.com](http://www.sealforlife.com)

[www.sealforlife.com](http://www.sealforlife.com)

|   |  |  |   |  |
|---|--|--|---|--|
| <b>Seal For Life Industries LLC</b><br>Franklin, MA, USA<br>Tel: +1 508 918 1600<br>US Toll Free: +1 800 248 7659<br>Fax: +1 508 918 1905<br><a href="mailto:franklin@sealforlife.com">franklin@sealforlife.com</a> | <b>Seal For Life Industries Mexico</b><br>S de R.L. de C.V.<br>Tijuana, Mexico<br>Tel USA +1 858 633 9797<br>Fax US: +1 858 633 9740<br>Tel Mexico: +52 664 647 4397<br>Fax Mexico: +52 664 607 9105<br><a href="mailto:mexico@sealforlife.com">mexico@sealforlife.com</a> | <b>Seal For Life Industries</b><br>Stopaq B.V.<br>Stadskanaal, the Netherlands<br>Tel: +31 599 696 170<br>Fax: +31 599 696 177<br><a href="mailto:info@sealforlife.com">info@sealforlife.com</a> | <b>Seal For Life Industries BVBA</b><br>Westerlo, Belgium<br>Tel: +32 14 722 500<br>Fax: +32 14 722 570<br><a href="mailto:belgium@sealforlife.com">belgium@sealforlife.com</a> | <b>Seal For Life India Private Ltd.</b><br>Baroda, India<br>Tel: +91 2667 264 721<br>Fax: +91 2667 264 724<br><a href="mailto:india@sealforlife.com">india@sealforlife.com</a> |
|---|--|--|---|--|