

COVALENCE[®] 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 Horizontal Directional Drilling (HDD-Pull Through) 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.

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

Max operating temperature	70°C (158°F).
Compatible line coatings	PE, FBE
Min. preheat temperature	70°C (158°F)
Recommended pipe preparation	Sa 2½
Soil stress restrictions	None
Performance	EN 12068 Class C60 UV ISO 21809-3

Product properties

Backing

Property	Test method	Typical value
Bursting strength	DIN 30672	2350 N

Adhesive

Property	Test method	Typical value
Softening Point	ASTM E28	94°C (201°F)
Lap shear	ASTM D1002	528 psi
Lap shear	ISO 21809-3	0.34 N/mm ² @ 60°C (140°F) 0.1 N/mm ² @ 70°C (158°F)

Installed sleeve

Property	Test method	Typical value
Peel to Steel	ASTM D-1000 ISO 21809-3	104 pli 11 N/mm @ 23°C (73°F) 1 N/mm @ 70°C (158°F)
Specific coating resistance	EN 12068, 100 days immersion	6x10 ⁹ Ωm ²
Impact resistance	ASTM G14 EN 12068, class C	170 in.lb Pass 30 J
Indentation resistance	ASTM G17 EN 12068, class C	Pass 2.3 mm* @ 60°C (140°F)
Cathodic disbondment	ASTM G8, 30 days EN 12068, 30 days	0.170" (4.33 mm) < 1 mm radius @ 60°C (140°F)- self healing
Resistance to UV radiation followed by bursting strength	EN12068	Reduction in bursting strength <25% of the original value

* Remaining coating thickness

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

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

Order information		
Covalence® DIRAX type products are available as a kit, containing – A Uni-sleeve (pre-cut sleeve with pre-attached closure patch) – A wear cone (also pre-cut with pre-attached closure patch)		
DIRAX is installed with S1301-M 2-component epoxy primer which has to be ordered separately.		
Example	DIRAX-16000-24/1K	
	Designation	Standard ordering options
16000	Outside pipe diameter (mils)	3.500"-18.000" (DN80-DN1200)
24	Sleeve width (in)	12" (300 mm)*, 17" (430 mm)*, 24" (600 mm)*, 34" (863 mm)* * nominal width
/1K	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)

General information	
Application table	Sleeve cut lengths and appropriate closure patch widths depend on the pipe size, see latest application table AT-DIRAX
Installation guide	For proper product installation, see latest installation instruction AG-DIRAX.
Handling	Handle with care. Keep boxes upright.
Storage	Store indoor, clean and dry, away from direct sunlight in a cool place below +40°C. Unlimited shelf life.

Information	
Documentation	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 info@sealforlife.com
Certified staff	Application of the described coating system shall 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.