Covalence®
Heat Shrinkable Products

DIRAX Wrap-around Sleeve & Epoxy System

A high performance fiberglass reinforced sleeve specifically designed for girth weld corrosion protection on pipes used in directional drilling applications.

Product description

DIRAX field-joint coating for directional drilling.
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.

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.

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.

Product features/benefits

- **Highly resistant to shear and peel forces induced by soil and thermal movements**
  The DIRAX is tough!
- **DIRAX offers abrasion and wear resistance at pull-through comparable to mill coatings**
  Provides a monolithic coating system.
- **Wear cone protects leading edge of sleeve against pull-through forces**
  Provides additional strength and security---increases reliability.
- **Sleeve applied over wet epoxy---there are no curing or waiting times / formation of strong mechanical & chemical bonds**
  Allows fast application---saves time!
  Ensures high performance!
- **Superior cathodic disbondment and hot water immersion resistance**
  Offers the optimum barrier protection against corrosion.
- **Pre-attached closure patch**
  Allows fast and easy application.
- **Low preheat requirements**
  Makes installation faster and saves time.

Product selection guide

	DIRAX
Max operating temperature	60°C (140°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

Product thickness

	Unit
Backing (as supplied)	1.85 mm (0.073 in.)
Backing (fully free recovered)	2.3 mm (0.091 in.)
Adhesive (as supplied)	1.2 mm (0.047 in.)
Wear cone (incl. coating) (as supplied)	3.05 mm (0.12 in.)

Product properties: DIRAX

Property	Test method	Typical Value
Backing		
Bursting strength	DIN 30672	2350 N
Adhesive		
Softening point	ASTM E-28	94°C (201°F)
Lap shear	ASTM G/1002	528 psi
Lap shear	EN 12068 @ 10mm (0.40")/min.	0.40 N/mm² @ 60°C (140°F)
Sleeve		
Peel to steel	ASTMD-1000	104 psi
	EN 12068 @ 10mm (0.40")/min.	18 N/mm
Specific coating resistance	DIN 30672, 100 days immersion	6 X 10^8 Ωm²
Impact resistance	ASTMD-1000	170 in.lbs
	EN 12068, Class C	Pass 15 J
Penetration resistance	ASTM G-17	Pass
	EN 12068, Class C60	3.1 mm @ 60°C (140°F)
Cathodic disbondment	ASTMG-8, 30 days EN 12068, 30 days	0.170 inches (4.33 mm) 0 mm @ 60°C (140°F)

*Remaining coating thickness

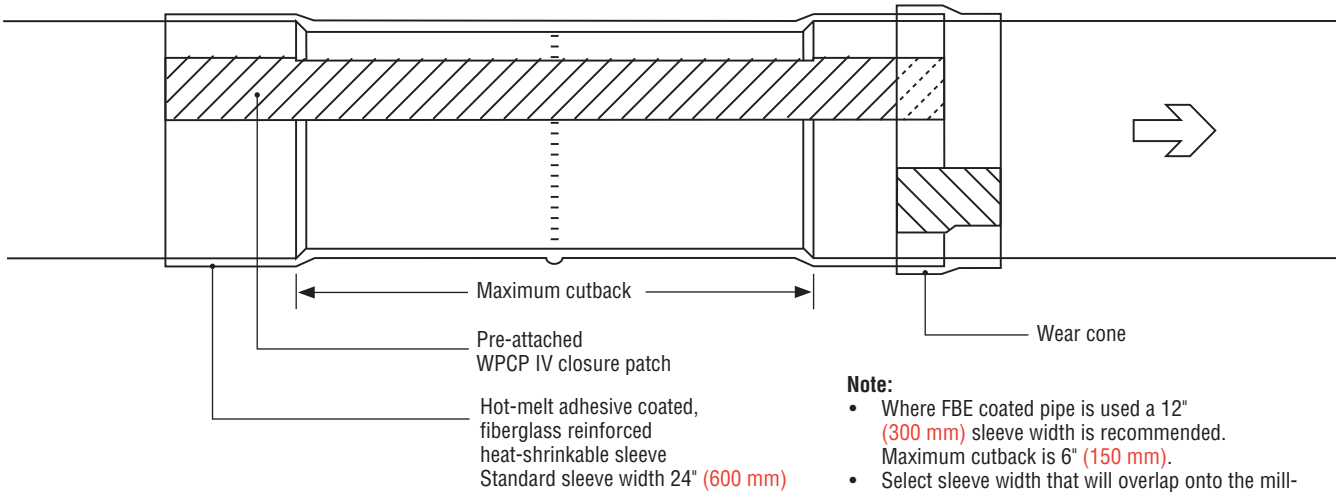
DS-DIRAX-REV-7-0309

Ordering information

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 S1239 or S1301-M 2 component epoxy primer which has to be ordered separately.



Note:

- Where FBE coated pipe is used a 12" (300 mm) sleeve width is recommended. Maximum cutback is 6" (150 mm).
- Select sleeve width that will overlap onto the mill-applied coating by 2 inches (50 mm) minimum on each side of the weld joint.

Example: DIRAX-16000-24/1K		
		Standard Ordering options
16000	Outside pipe diameter in mils	3.500" – 48.000" (DN80 – DN1200)
24	Sleeve width in inches	12" (300 mm)[(1)],17" (430 mm)[(1)] , 24" (600 mm)[(1)], 34" (863 mm) [(1)]
/1K	Number of primer kits required	1, 2 or 3 S1239 kits according to size (to be ordered separately)
	Wear cone	Width 3" = 3.125" (80 mm) (included)

[(1)] *Nominal width*

For proper product selection, see latest application table AT-DIRAX.

DS-DIRAX-REV-7-0309

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