

COVALENCE® PERP

Product Information

Repair system for damaged mill-applied PE coating.

Product description: Covalence® PERP is a heat-applied patch which, in combination with mastic filler, offers an economically effective and high-quality repair system for factory PE pipe coatings damaged mechanically during transportation, storage and laying of pipes. PERP is designed to repair the damaged areas on line coatings, mainly two- or three-layer PE.

- **Sleeves:** are recommended for large diameters areas
- **Filler tape:** is used to fill the holiday, thus restoring the mill-applied coating thickness of the pipe
- **Epoxy primer:** is additionally used when reinstatement of the epoxy layer is required

Construction: Two-layer system or three-layer system

- **First layer:** Liquid epoxy, solvent-free two-component (optional).
- **Second layer:** Copolymer adhesive
- **Third layer:** Radiation-cross-linked, high density polyethylene (unexpanded)

Installation is done with standard gas torches. To repair a damaged area, installers round out, roughen, clean and preheat the area and apply the filler tape to fill out the holiday. PERP, cut to size, is positioned onto the treated area and heated. During heating, the adhesive softens and flows to form a tight bond with the substrate. The bond strength builds up during cool-down and is fully retained after job completion.

Features:

- Adaptable repair system
- Resistant to high shear forces
- Excellent adhesion to commercial, PE mill-applied coatings
- No special equipment or skills required.

Benefits:

- Long lasting and high performance
- Ensures correct application of heat & allows easy post-heat inspection. Reliable inspectability at any time.
- Allows easy application combined with high functional performance.
- Reliable and tough. Remains user-friendly (even at low temperatures).
- "Self-healing effect".

Product selection guide

Max operating temperature	65°C (149°F)
Compatible line coatings	PE, PP, FBE, PU, Tape, Coal tar
Min. preheat temperature	70°C
Recommended pipe preparation	ST3 or SA2 1/2 Clean, dry and free of grease
Soil stress restrictions	Moderate
Performance	EN 12068 Class C50

Product thickness

Backing as supplied	0.76 mm (0.030 in)
Adhesive as supplied	0.65 mm (0.026 in)

Application table

Pipe diameter	Max damage area*
<10"	50 mm x 50 mm
<30"	100 mm x 150 mm
≥ 30"	150 mm x 150 mm

*For larger damaged areas, the use of heat-shrinkable sleeves is recommended

Product properties

Backing

Property	Test method	Typical value
Tensile strength at break	ASTM D-638	2450 psi 17 MPa
Elongation at break	ASTM D-638	400%
Hardness, Shore D	ASTM D-2240	55
Shrink force	ASTM D-638 @ 150°C	40 psi
Dielectric Strength	ASTM D149	26 kV/mm
Moisture absorption	ASTM D-570	0.05%

Adhesive

Property	Test method	Typical value
Softening Point	ASTM E-28	103°C (217°F)
Shear strength	EN 12068 @ 10 mm/min	0.22 N/mm ² @50°C (122°F)

Installed sleeve

Property	Test method	Typical value
Peel to PE	EN 12068, 10 mm/min	3.5 N/mm
Impact resistance	EN 12068 Class C	> 15 J
Indentation resistance	EN 12068, Class C	Pass @50°C (122°F)

Product order information

Covalence® PERP type products are available:

- As a kit
- As a roll

Example	Standard ordering options
PERP-KIT-SNAM	1 roll of PERP 450 mm x 5 m 1 roll of S1137 mastic filler 50 mm x 5 m
PERP-450X10000	1 roll of PERP 450 mm x 10 m
S1301-M	Epoxy primer (available in kits or bulks) Only when 3-layer coating

Note: Typical values in this data sheet are based on lab prepared samples. Values shown are not to be interpreted as product specifications. All properties are at 23°C unless otherwise specified.

Information

Documentation	Extensive information is available on our web-site. 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 should be carried out by certified personnel.

General information

Installation guide	For proper product installation, see latest installation instruction.
Handling	Handle with care. Keep boxes upright.
Storage	To ensure maximum performance, store Covalence® products in a dry, ventilated area. Keep products sealed in original boxes and avoid exposure to direct sunlight, rain, snow and dust. Avoid prolonged storage temperatures above 40°C or below -10°C. Unlimited shelf life.

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