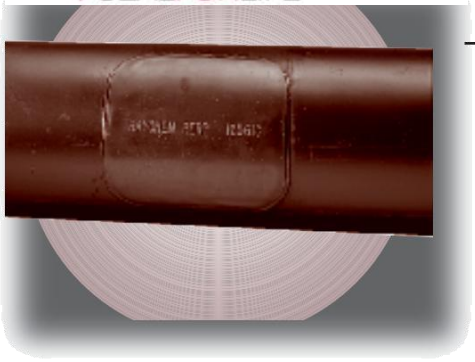
Covalence®
Heat Shrinkable Technology
SEALFORLIFE

InexChile
Servicios de ingeniería

PERP Coating Repair Patch



Product description

PERP coating repair.
Construction: 2-layer or 3 layer system:
First (optional) layer: Liquid epoxy, solvent-free two-component.
Second layer: Copolymer adhesive.
Third layer: Radiation-cross-linked, high density polyethylene (unexpanded).

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, PERP80 and are designed to repair the damaged areas on line coatings, mainly 2 or 3 layer PE. PERP60E is designed to repair the damaged areas on PE coated pipes used in high shear applications, such as directional drilling.

Sleeves are recommended for large damaged areas (see selection table below).
Filler tape is used to fill the holiday, thus restoring the mill-applied coating thickness of the pipe.
Epoxy primer is additionally used when a 3-layer coating is required.

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.

Product features/benefits

- **Adaptable repair system**
  Highly economical.
  Save money.
- **Resistant to high shear forces**
  Long lasting and high performance.
- **Excellent adhesion to commercial, PE mill-applied coatings**
  Provides a virtually monolithic coating repair of high quality.
- **Available as kit or roll form**
  Saves time with fast and convenient installation.
  Saves money by keeping inventory and logistics costs low.
- **No special equipment required**
  Makes installation fast and easy.
  Keeps installation costs low.

Product selection guide

	PERP	PERP80	PERP60E
Max operating temperature	60°C (140°F)	80°C (176°F)	60°C (140°F)
Compatible line coatings	PE,FBE	PE,FBE,CTE	PE,FBE
Min preheat temperature			
- bare metal	60-70°C (140-158°F)	90-100°C (194-212°F)	70-80°C (194-212°F)
- line coating	60-70°C (140-158°F)	70-80°C (158-176°F)	70-80°C (158-176°F)
Recommended pipe preparation	ST3 or SA 2 1/2	ST3 or SA 2 1/2	SA 2 1/2
Filler tape	S1137-50x3x3000	S1137-50x3x3000	S1182-50x3x3000
Epoxy primer	S1239 or S1301	S1301	S1239 or 1301
Soil stress restrictions	None	None	None
Performance	EN12068 class C50	EN12068 class C80	EN12068 class C60

Product thickness

	PERP (80)	PERP60E
Backing (as supplied)	0.030 in. (0.76 mm)	0.030 in. (0.76 mm)
Backing (fully free recovered)	0.030 in. (0.76 mm)	0.030 in. (0.76 mm)
Adhesive (as supplied)	0.026 in. (0.65 mm)	0.031 in. (0.80 mm)

Product properties: PERP (80) (120) (60E)

		PERP (80) (60E)
Property	**Test method**	**Typical Value**
Backing		
Tensile strength	ASTM D-638	3300 psi (22.8 MPa)
Elongation	ASTM D-638	600%
Hardness, Shore D	ASTM D-2240	55
Shrink force	ASTM D-638	40 psi 150°C (302°F)
Dielectric strength	ASTM D-149	900 volts/mil
Moisture absorption	ASTM D-570	0.05%

		PERP	PERP80	PERP60E
Property	**Test method**		**Typical Value**	
Adhesive				
Softening point	ASTM E-28	103°C (217°F)	120°C (248°F)	94°C (201°F)
Shear strength	ASTM D-1002	350 psi @ 23°C (73°F) 11 psi @ 65°C (149°F)	750 psi @ 23°C (73°F) 65 psi @ 80°C (176°F)	500 psi @ 23°C (73°F) 87 psi @ 50°C (122°F)
	EN 12068	22 N/cm²@50°C	12 N/cm²@80°C	32N/cm²@60°C
Sleeve				
Peel to PE	ASTM D-1000	25 lbs/in. width	21 lbs/in. width	60 lbs/in. width
Cathodic disbondment	ASTM G-42 30 days	13 mm radius @ 65°C (149°F)	12 mm radius @ 80°C (176°F)	8 mm radius @ 50°C (122°F)
Impact resistance	EN12068, Class C	> 15 Nm	> 15 Nm	> 15 Nm
Indentation	EN12068, Class	Pass@ 50°C	Pass@ 80°C	Pass@ 60°C

Ordering information

PERP type products are available:

U as a kit
U as a roll

Example:

	Standard Ordering options	
PERP-KIT	1 pc PERP patch 170mm x 140mm with rounded corners, 1 pc S1137 filler (50x3x25mm), 1 pc abrasive paper P60 (150x50mm), Installation instruction	For damaged area less than 40x70 mm
PERP-170x10000	Roll of 10 m (32.5 ft.) length, 170 mm (6.75") width	For extensive areas of damage
PERP-425x10000	Rolls of 10 m (32.5 ft.) length, 438 mm (17.25") width	
PERP80-425x1000-PCI	PCI = Permanent Change Indicator (embossed backing)	
PERP60E-425x10000		
S1137-50x3x3000	50 mm (2") wide, 3 mm (0.12") thick, 3 m (10 ft.) long Mastic for PERP + PERP80	Filling adhesive, necessary where rolls are used **Note:** 3 rolls of filler per roll of PERP are recommended
S1182-50x1x9000	Copolymer for PERP60E	
PERP-280x140-05	Kit of 2 pcs PERP with punched hole	To be used with HTTE, house tap tee protection
S1239 or S1301-M	Epoxy primer for PERP + PERP60E	Only when 3-layer coating
S1301-M	for PERP80	

Application table

Max. damaged area for using PERP. (*)

Pipe diameter	**Max. damage**
< 10"	100 x 100 mm (4 x 4")
< 28	150 x 150 mm (6 x 6")
ε 30"	300 x 300 mm (12 x 12")

(*) For larger damaged areas, the use of heat-shrinkable sleeves is recommended (refer to Berry Plastics girth weld sleeves).

For proper product installation, see latest installation instruction.

Berry Plastics 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 Berry Plastics written instructions. Since many installation factors are beyond the control of Berry Plastics, the user shall determine the suitability of the products for the intended use and assume all risks and liabilities in connection herewith. Berry Plastics liability is stated in the standard terms and conditions of sale. Berry Plastics makes no other warranty either expressed or implied. All information contained in this technical data sheet 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.