

COVALENCE® PPS120

Product Information

The PPS120 is a 4-component field joint coating system for high temperature, polypropylene coated pipelines operating up to 121°C (250°F) temperature.

Product description: Covalence® PPS120 is a wrap-around, heat-shrinkable sleeve designed for corrosion prevention and sealing on high temperature, polypropylene coated piping systems, which operate at temperatures up to 121°C (250°F). PPS120 is specially suited for higher stress conditions caused both by elevated temperatures and by soils with severe contraction between wet-dry cycles. PPS120 is normally used for girth weld protection of steel pipes coated with polypropylene. PPS120 may be cut to appropriate length to cover all pipe diameters. The system is designed to be applied with special and user-friendly preheating methods.

Construction: Four-component system:

- *First component:* High shear strength copolymer adhesive layer.
- *Second component:* Thick, radiation cross-linked polyethylene layer with PCI (Permanent Change Indicator).
- *Third component:* High temperature adhesive strips.
- *Fourth component:* End seals composed of a two-component liquid epoxy with fiberglass reinforcement.

While installing, PPS120 is wrapped around the joint, a closure patch is then installed (already pre-attached if Uni-sleeve) forming a tube, and the sleeve is shrunk in place. Using special installation components provided with the PPS120, a two-component liquid epoxy is applied over the ends of the PPS120 and adjacent polypropylene coating in order to form the ultimate soil stress resistant high temperature girth weld protection. (See installation instruction for more detail).

Features:

- Dimpled backing provides a “permanent change” indicator for application of heat.
- Available as a one-piece wrap-around unit or in roll-form.
- Specially designed application tools usable for all diameters.
- High shear resistance.
- High operating temperature rating.

Benefits:

- Ensures correct application heat & allows easy post-heat inspection. Reliable inspectability at any time.
- Saves money by keeping inventory and logistics costs low.
- Makes installation fast and easy. Keeps installation costs low.
- Provides high functional performance and safety.
- Top performance in demanding conditions.

Product properties

Backing

Property	Test method	Typical value
Tensile strength at break	ASTM D-638	2700 psi @ 23°C (73°F) 660 psi @ 120°C (248°F)
Elongation at break	ASTM D-638	580% @ 23°C (73°F) 560% @ 120°C (248°F)
Hardness, Shore D	ASTM D-2240	57
Shrink force	ASTM D-638, 150°C (302°F)	40 psi
Dielectric strength	ASTM D-149	800 V/mil 31.5 kV/mm
Moisture absorption	ASTM D-570, 24 hrs	0.06%

Adhesive

Property	Test method	Typical value
Softening point	ASTM E-28	175°C (347°F)
Lap shear	ASTM D-1002	1300 psi @ 23°C (73°F) 100 psi @ 120°C (248°F)
Shear resistance	EN 12068	7 N/mm ² @ 23°C (73°F) 0.7 N/mm ² @ 120°C (248°F)

Installed sleeve

Property	Test method	Typical value
Peel to steel	ASTM D-1000 EN 12068, 10 mm/min	30 pli 4 N/mm @ 23°C (73°F) 0.7 N/mm @ 120°C (248°F)
Cathodic disbondment	ISO 21809-3, 28 days, @ 95°C (203°F)	17 mm radius
Hot water immersion	ASTM D-870 @ 90°C (194°F), 120 days	No delamination, no blisters or water under sleeves
Soil stress creep resistance	TP206 @ 120°C (248°F), 24 hr	0.051 mm (0.002 in)
Impact resistance	EN 12068	Pass 8 J
Indentation resistance	EN 12068, class B, @ 120°C (248°F)	Pass

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

	/B	/1-1.75	/F*
Backing as supplied	0.75 mm (0.030 in)	0.75 mm (0.030 in)	1.04 mm (0.041 in)
Backing fully free recovered	1.00 mm (0.039 in)	1.00 mm (0.039 in)	1.40 mm (0.055 in)
Adhesive as supplied	1.00 mm (0.039 in)	1.75 mm (0.069 in)	1.80 mm (0.071 in)

* Minimum order quantities apply

Product selection guide

Max operating temperature	121°C (250°F).
Compatible line coatings	Polypropylene
Min. preheat temperature	200-210°C (392-410°F)
Recommended pipe preparation	Sa 2½
Soil stress restrictions	None

Ordering information

Covalence® PPS120 type products are available as a total system. The system includes the sleeves, system accessories and installation accessories.

The PPS120 sleeves are ordered

- As cut piece (pre-cut sleeve and separate closure patch)
- As Uni-sleeve (pre-cut with pre-attached closure patch)
- As a roll (closure patches to be ordered separately)

System accessories

- S1135-75x1x30M-PL-RL mastic strip onto PP line coating (for min 3" overlap onto the PP line coating)
- S1135-50x1x30M-PL-RL mastic strip onto PP line coating (for min 2" overlap onto the PP line coating)
- S1401-BLK 2-component epoxy onto installed sleeve edges
- FIBERMAT-100X100M woven mat to be laminated between the 2 epoxy layers

Installation accessories

- EQ-HEAT-SHIELD-150X3X25M to protect the PP line coating while preheating the steel area
- EQ-PP-PROTECT-150X0.25X30M to wrap around the PP line coating while preheating steel area to prevent the glass fiber heat shield to stick into the PP line coating

Min.sleeve width = (bare steel dimension + 50 mm (2") on each side of the fieldjoint) + 10%

Cut piece / Uni-sleeve

Example	PPS120-10750X17/B/UNI	
	Designation	Standard ordering options
10750	Outside pipe diameter	2.375"-48.000" (DN50-DN1200)
17	Sleeve width (in)	17 (17.75" or 450 mm)*, 20 (20.25" or 514 mm)*, 24 (23.6 " or 600 mm)* * nominal width
/B	Product thickness	/B, /1-1.75
UNI	Designates pre-attached closure patch	Optional

Roll form (closure patches to be ordered separately)

Example	PPS120-17X100/1-1.75-RL	
	Designation	Standard ordering options
17	Sleeve width (in)	17 (17.75" or 450 mm)*, 20 (20.25" or 514 mm)*, 24 (23.6 " or 600 mm)* * nominal width
100	Roll length	100 ft (= 30 m)
/1-1.75	Product thickness	/B, /1-1.75

Closure patch (to be ordered separately)

Example	WPCP-IV-4X17	
	Designation	Standard ordering options
4	Patch width (in)	4" (100 mm), 6" (150 mm)
17	Patch length (in)	17 (17.75" or 450 mm)*, 20 (20.25" or 514 mm)*, 24 (23.6 " or 600 mm)* * nominal length

General information

Product dimension	Sleeve cut lengths and appropriate closure patch widths depend on the pipe size and product construction, see latest application table AT-GIRTHWELD.
Installation guide	For proper product installation, see latest installation instruction.
Handling	Handle with care. Keep boxes upright.
Storage	Store indoor, clean and dry, away from direct sunlight in a cool place below +50°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.



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 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. Seal For Life Industries is a registered marks of the Berry Global Group, Inc. or its affiliates.

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