

COVALENCE® FOPS

Product Information

Sealing system for foam injection holes in thermally insulated PE jacket pipes & casings.

Product description: Covalence® FOPS is a watertight and Mechanically strong seal of foaming holes for pre-insulated pipe casings. FOPS is a hot applied, heat-stable patch.

- Market: Pre-insulated pipes.
- · Applications: Foaming hole sealing.

Construction: Two-layer system

- First layer. High-shear resistant thermoplastic adhesive.
- Second layer. Thick-walled, radiation-cross-linked, high density

The installation involves removing excess foam and abrading & cleaning the foaming hole area. The hole is filled with a FOPS plug or special mastic putty. The FOPS is placed centrally over the hole to be sealed. When heated, the FOPS adhesive softens and flows to form a tight bond with the substrate. The bond strength builds up during cooldown and is fully retained after completion of the job.

Features:

- No special equipment required (standard gas torch).
- Heat-and UV-stable.
- Highly shear-resistant & mechanically strong.
- No gas build-up during preheating and installation.

- Makes installation fast, easy and low cost.
- Acts as moisture barrier. Insulation remains functional!
- Prevents insulation from degrading. Superior sealing! Unaffected by high or low temperatures. Reliable performance!
- Secure installation.

Product selection guide	
Max.operating	50°C
temperature	(60°C under expansion cushion)
Joint design	Standard, oversized, heat-shrinkable
_	PE casings
Min. preheat temperature	60°C
Recommended pipe	Abrading & Cleaning
preparation	
Soil stress restrictions	None
Performance	300 cycles, 0.5% sand humidity
	1000 cycles, 8.0% sand humidity

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, dust or other adverse environmental elements. Avoid prolonged storage temperatures above 40°C or below -20°C. Unlimited shelf life.

Backing Property Test method Typical value Tensile strength at break ASTM D638 22.8 MPa Elongation at break ASTM D638 600% Hardness, Shore D ASTM D2240 57 Thermal ageing ASTM D3045, 150°C, 21 days 22.8 MPa Followed by elongation ASTM D3045, 150°C, 21 days > 450% Weathering (UV) ASTM D638, 23°C > 450% Weathering (UV) ASTM D638, 23°C > 450% Water absorption ASTM D570 0.05% Adhesive ASTM D570 0.05% Property Test method Typical value Softening point ASTM E28 94°C Shear strength EN 12068 2.6 N/mm² @ 23°C 0.75 N/mm² @ 50°C 7 N/mm Installed sleave EN 12068, 10 mm/min	Product properties		
Tensile strength at break ASTM D638 22.8 MPa Elongation at break ASTM D638 600% Hardness, Shore D ASTM D2240 57 Thermal ageing ASTM D3045, 150°C, 21 days > 450% Followed by elongation ASTM D638, 23°C > 450% Weathering (UV) ASTM D2365, 30 days > 450% resistance Followed by elongation ASTM D638, 23°C > 450% Water absorption ASTM D570 0.05% Adhesive Property Test method Typical value Softening point ASTM E28 94°C Shear strength EN 12068 2.6 N/mm² @ 23°C 0.75 N/mm² @ 50°C Peel strength to PE EN12068, 10 mm/min 7 N/mm	Backing		
Elongation at break ASTM D638 600% Hardness, Shore D ASTM D2240 57 Thermal ageing ASTM D3045, 150°C, 21 days > 450% Followed by elongation ASTM D638, 23°C > 450% Weathering (UV) resistance ASTM D2365, 30 days > 450% Followed by elongation ASTM D638, 23°C > 450% Water absorption ASTM D570 0.05% Adhesive ASTM D570 0.05% Property Test method Typical value Softening point ASTM E28 94°C Shear strength EN 12068 2.6 N/mm² @ 23°C 0.75 N/mm² @ 50°C Peel strength to PE EN12068, 10 mm/min 7 N/mm	Property	Test method	Typical value
Hardness, Shore D	Tensile strength at break	ASTM D638	22.8 MPa
Thermal ageing ASTM D3045, 150°C, 21 days Followed by elongation ASTM D638, 23°C > 450% Weathering (UV) resistance ASTM D2365, 30 days > 450% Followed by elongation ASTM D638, 23°C > 450% Water absorption ASTM D570 0.05% Adhesive Property Test method Typical value Softening point ASTM E28 94°C Shear strength EN 12068 2.6 N/mm² @ 23°C Peel strength to PE EN12068, 10 mm/min 7 N/mm	Elongation at break	ASTM D638	600%
150°C, 21 days	Hardness, Shore D	ASTM D2240	57
Followed by elongation ASTM D638, 23°C > 450% Weathering (UV) ASTM D2365, 30 resistance days Followed by elongation ASTM D638, 23°C > 450% Water absorption ASTM D570 0.05% Adhesive Test method Typical value Softening point ASTM E28 94°C Shear strength EN 12068 2.6 N/mm² @ 23°C 0.75 N/mm² @ 50°C Peel strength to PE EN12068, 10 mm/min 7 N/mm	Thermal ageing		
resistance days Followed by elongation ASTM D638, 23°C > 450% Water absorption ASTM D570 0.05% Adhesive Test method Typical value Softening point ASTM E28 94°C Shear strength EN 12068 2.6 N/mm² @ 23°C 0.75 N/mm² @ 50°C Peel strength to PE EN12068, 10 mm/min 7 N/mm	Followed by elongation		> 450%
Followed by elongation ASTM D638, 23°C > 450% Water absorption ASTM D570 0.05% Adhesive Property Test method Typical value Softening point ASTM E28 94°C Shear strength EN 12068 2.6 N/mm² @ 23°C 0.75 N/mm² @ 50°C Peel strength to PE EN12068, 10 mm/min	Weathering (UV)	ASTM D2365, 30	
Water absorption ASTM D570 0.05% Adhesive Test method Typical value Softening point ASTM E28 94°C Shear strength EN 12068 2.6 N/mm² @ 23°C 0.75 N/mm² @ 50°C Peel strength to PE EN12068, 10 mm/min 7 N/mm		•	
Adhesive Property Test method Typical value Softening point ASTM E28 94°C Shear strength EN 12068 2.6 N/mm² @ 23°C 0.75 N/mm² @ 50°C EN12068, 7 N/mm 10 mm/min To mm/min	Followed by elongation		> 450%
Property Test method Typical value Softening point ASTM E28 94°C Shear strength EN 12068 2.6 N/mm² @ 23°C 0.75 N/mm² @ 50°C Peel strength to PE EN12068, 10 mm/min 7 N/mm	Water absorption	ASTM D570	0.05%
Softening point ASTM E28 94°C	Adhesive		
Shear strength EN 12068 2.6 N/mm² @ 23°C 0.75 N/mm² @ 50°C EN12068, 7 N/mm 10 mm/min 10 mm/min 7 N/mm	Property	Test method	Typical value
0.75 N/mm² @ 50°C Peel strength to PE	Softening point	ASTM E28	94°C
10 mm/min	Shear strength	EN 12068	
Installed sleeve	Peel strength to PE		7 N/mm
installed sieeve	Installed sleeve		
Property Test method Typical value	Property	Test method	Typical value
Soil stress resistance EN 489	Soil stress resistance	EN 489	• •
0.5% sand humidity Min 300 cycles		0.5% sand humidity	
8.0% sand humidity Min 1000 cycles			
External water pressure EN 489 @ 23°C, Pass	•		Pass
after soilstress 0.7 bar, 24 hr	after soilstress	0.7 bar, 24 hr	

Ordering information		
Covalence® FOPS products are available - As finished unit		
Example	FOPS	
Standard ordering options		
FOPS 100 PRT (S100)	Foaming hole closure patch (standard pack is 100 pc in a bag)	
Accessories (to be ordered separately)		
	Standard ordering options	
EQ-PRESS-FOPS	PU-foam press with silicone bottom layer and aluminium top plate & handle	

Product thickness	
Backing as supplied	0.75 mm
Adhesive as supplied	0.80 mm
Patch diameter as supplied	92.5 mm

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.



SEALFORLIFE
In dustries 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 In dustries a Seal For Life Industries' written instructions. Because many installation factors are beyond the control of Seal For Life Industries, the user shall determine the solitability 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 www.sealforlife.com

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