



FOPS

Foaming Hole Closure

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



Market	Applications	Temperature Range	Performance
Pre-insulated Pipes	Foaming Hole Sealing	up to 50°C (122°F)	EN 489-2009

System Description

Construction: Two-layer system

First layer:

High shear-resistant thermoplastic adhesive.

Second layer:

Thick-walled, radiation-cross-linked, high density polyethylene with Thermochromic Change Indicator.

FOPS is a watertight and mechanically strong seal of foaming holes for pre-insulated pipe casings. FOPS is a hot applied, heat-stable patch. 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 cool-down and is fully retained after completion of the job.

Product Advantages

- **No special equipment required (standard gas torch)**
Makes installation fast, easy and low cost.
- **Thermo indicator**
Ensures correct application heat (to make adhesive flow) & allows easy post-heat inspection.
- **Heat- and UV-stable**
Acts as moisture barrier. Insulation remains functional!
- **Highly shear-resistant & mechanically strong**
Prevents insulation from degrading. Superior sealing! Unaffected by high or low temperatures. Reliable performance!
- **No gas build-up during preheating and installation**
Secure installation.

Product Selection Guide

- **Max operating temperature**
50°C (60°C under expansion cushion)
- **Joint design**
Standard, Oversized, Heat-Shrinkable PE Casings
- **Min preheat temperature**
60°C
- **Recommended pipe preparation**
Abrading & Cleaning
- **Soil stress restrictions**
None
- **Performance**
300 cycles, 0.5% sand humidity FFI, meets EN489, edition 2009
1000 cycles, 8.0% sand humidity FFI

Product Construction

- **Backing (as supplied)** 0.75 mm
- **Adhesive (as supplied)** 0.80 mm
- **Patch diameter (as supplied)** 92.50 mm

Product Properties

Properties	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
Thermal ageing	ASTM D-3045, 150°C, 21 days	
Followed by elongation	ASTM D-638, 23°C	> 450%
Weathering (UV) resistance	ASTM D-2565, 30 days	
Followed by elongation	ASTM D-638, 23°C	> 450%
Water absorption	ISO 62	0.05%
Adhesive		
Softening point	ASTM E-28	94°C
Shear strength	EN12068	120 N/cm ² @ 23°C 55 N/cm ² @ 50°C
Peel strength to PE	EN12068, 10 mm/min.	70 N/cm
System		
Soil stress resistance	EN 489 0.5% sand humidity 8.0% sand humidity	Min 300 cycles Min 1000 cycles
External water pressure after soilstress	EN 489 @ 23°C, 0.7 bar, 24 hrs	Pass

Ordering Information

FOPS products are available:

- as finished unit

Example: FOPS

Standard ordering options

FOPS 100 (C100) Foaming hole closure patch (standard pack is 100 pc in a bag)

Accessories (to be ordered separately)

Standard ordering options

FOPS-PLUG-25(C100) Foaming hole plug 25 mm diameter (standard pack is 100 pc in a bag)
 FOPS-II-PLUG-25(S100) Foaming hole plug with mastic filler(standard pack is 100 pc in a bag)
 EQ-PRESS-FOPS PU-foam press with silicone bottom layer and aluminium top plate & handle



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Local Distributor / Representative:

For contact details of local Distributors / Representatives
 Please visit www.berrycpg.com.

Headquarters

Franklin, MA, USA
 Tel: +1 508 918 1714
 US Toll Free: +1 800 248 0149
 Fax: +1 508 918 1910
 CPG@berrypastics.com

Houston, TX, USA

Tel: +1 713 676 0085
 US Toll Free: +1 888 676 7202
 Fax: +1 713 676 0086
 CPGH@berrypastics.com

Tijuana, Mexico

Tel USA +1 858 633 9797
 Fax US: +1 858 633 9740
 Tel Mexico: +52 664 647 4397
 Fax Mexico: +52 664 607 9105
 CPGTJ@berrypastics.com

Westerlo, Belgium

Tel. +32 14 722500
 Fax +32 14 722570
 CPGE@berrypastics.com

Baroda, India

Tel: +91 2667 264721
 Fax: +91 2667 264724
 CPGIN@berrypastics.com