

# PITTWRAP<sup>®</sup> HS (HEAT SEAL) JACKETING

## Product Datasheet

### 1. Description and Area of Application

PITTWRAP<sup>®</sup> HS (Heat Seal) jacketing is a heat sealable, multi-ply laminate for protecting underground FOAMGLAS<sup>®</sup> insulation systems for outer surface temperatures at or below 88 °C (190 °F).

PITTWRAP<sup>®</sup> HS jacketing consists of three layers of a polymer-modified, bituminous compound separated by glass fabric reinforcement and aluminum foil. An outer layer of polyester film is laminated to the bituminous compound. Product is supplied with a release paper to aid efficient application.

### 2. Field Application

Always read and understand information contained within product datasheets and safety datasheets before attempting to use this product. If you have questions regarding fitness of use of this product for a particular application, consult Pittsburgh Corning LLC.

All underground insulation systems must be designed with proper engineering details to control expansion / contraction, anchoring, etc. A qualified engineer should be consulted for design.

#### Recommended Application Equipment

- LPG Torch, regulator: Goss Kit KP118 with BP-5TE tip and EX128 extension.
- LPG Tank: LP-20
- LPG Hose: Goss HEF-25
- Gloves
- Pointed trowel
- Shears

#### Substrate Preparation

All surfaces should be dry and free of dust, loose scale, oil, grease and frost.

Insulation should be secured to the pipe with fiberglass reinforced strapping tape, 2 pieces per section overlapped by at least 50%.

#### Cellular Glass Application Guidelines

PITTWRAP<sup>®</sup> HS jacketing may be shop or field-applied. See supplemental application instructions at the end of this document.

A cigarette-wrap application is used around FOAMGLAS<sup>®</sup> insulation with butt strips over the end joints.



## Fittings or changes in thickness

Any change in insulation thickness, such as screwed ell covers, pipe step-downs, etc., should be field-tapered to make a smooth transition. Fittings may be covered with jacketing cut in shapes to fit, or with commercially available asphalt mastic such as Karnak 19 Ultra Rubberized Wet/Dry Flashing Cement and PC® Fabric 79 (FI-159).

Stop the last full section of jacketing 10 cm (4 in.) short of the change in thickness or beginning of curvature. The polyethylene film on the PITWRAP® HS jacketing must be flashed off a minimum of 5 cm (2 in.). Apply a tack coat of asphalt mastic over the bituminous surface and embed PC® Fabric 79, carefully lapping jacketing a minimum of 5 cm (2 in.). After one hour, apply a second coat and a second layer of fabric. If the fabric is still visible when the coating is dry, apply a third and final top coat.

If backfilling is planned less than 24 hours coating is applied, roofing felt shall be placed over the coating to ensure that it is not compromised during backfill.

## Clean up and Disposal

Dispose of excess jacketing, release film and packaging in accordance with local, state and federal regulations.

## 3. Type of Delivery and Storage

- Kits (1 Roll + 1 Buttstrip):
  - Rolls: 0.594 m x 15.24 m (23.4 in. x 50 ft) or 9 m<sup>2</sup> (97.5 ft<sup>2</sup>),
  - Butt Strips: 0.102 m x 15.24 m (4 in. x 50 ft),
  - Gross weight: 40.4 kg (89 lb)
- Rolls 1.22 m x 7.62 m (48 in. x 25 ft) or 9.3 m<sup>2</sup> (100 ft<sup>2</sup>) are available by special order.
- Store out of direct sun light.
- Store in temperature controlled area prior to use to facilitate cold weather application.
- Consult Safety Datasheet for additional storage and handling information.

## 4. Coverage

Standard application of jacketing to FOAMGLAS® insulation:

The required amount of jacketing for a section of insulated pipe can be calculated as follows:

- Required Jacketing Area (A)

Equation 1, SI, metric Units  $A = [\pi \times (d + 2 t) + 50] \div 1000] \times l$

Equation 2, Imperial Units  $A = [\pi \times (d + 2 t) + 2] \div 12] \times l$

Where d = actual pipe diameter in mm or inches, t = insulation thickness in mm or inches, and l = pipe length in m or ft.

Figures DO NOT include losses.

## 5. Typical Properties

PROPERTY <sup>A</sup>	METHOD	SI	ENGLISH
COLOR			Black
THICKNESS, TOTAL TOP FILM + BITUMEN/FOIL COMPOSITE – RELEASE FILM		3 mm	125 mil
WEIGHT (NOMINAL), TOP FILM + BITUMEN/FOIL COMPOSITE – RELEASE FILM		3.3 ± 0.1 kg / m <sup>2</sup>	0.675 ± 0.015 lb / ft <sup>2</sup>
APPLICATION TEMPERATURE, MINIMUM		≥ -7 °C	≥ 20 °F
SERVICE TEMPERATURE <sup>B</sup>			
MAXIMUM		88 °C	190 °F
MINIMUM		-7 °C	20 °F
CHEMICAL RESISTANCE			
WATER			Good
ALKALI			Good
ACID			Good
PETROLEUM SOLVENT			Poor
REACTION TO FIRE			Combustible
LAP ADHESION	ASTM D882	≥ 97 kPa	≥ 14 psi
TENSILE STRENGTH	ASTM D882	≥ 2.1 MPa	≥ 300 psi
PUNCTURE RESISTANCE	ASTM E154	≈ 45 kgf	≈ 100 lbf
PERMEANCE	ASTM E96	1.1 ng / Pa·s·m <sup>2</sup>	0.02 perm
WATER VAPOR PERMEABILITY <sup>C</sup> :	ASTM E96 (Wet Cup)	0.003 ng / Pa·s·m	0.002 perm-in

<sup>A</sup> Properties are subject to change. Consult Pittsburgh Corning LLC.

<sup>B</sup> Service temperature limits are derived from laboratory evaluation of the product. Variations in substrates, loading conditions, or other external factors may further limit service temperature. Always consult Pittsburgh Corning LLC FOAMGLAS® Insulation System Specification for suitability for use recommendations for a specific application.

## 6. Limitations

- DO NOT use over combustible insulations or install where open flames are not permitted
- DO NOT use above ground without a metal jacket.
- DO NOT use where jacketing will be exposed to solvents that will dissolve asphalt.
- ALWAYS observe practical precautions when backfilling so not to puncture jacket.
- This material is designed for application by trained professional using proper equipment, and is not intended for sale to the general public.

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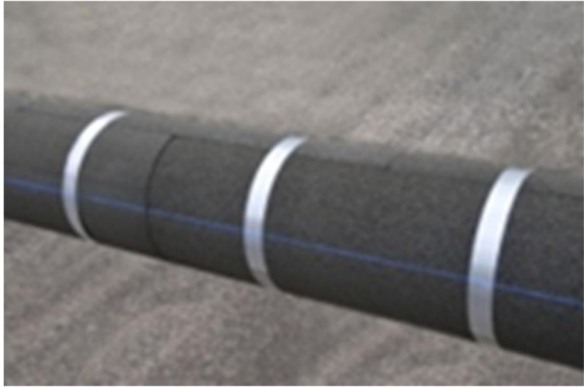

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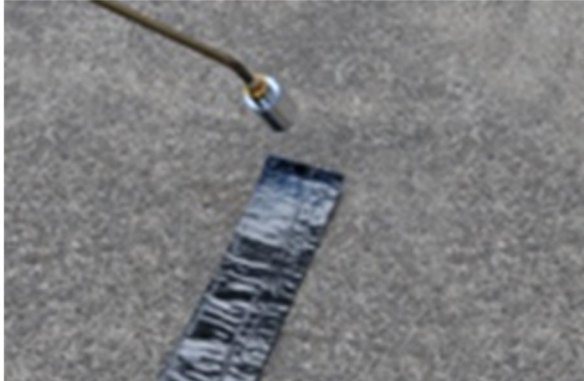



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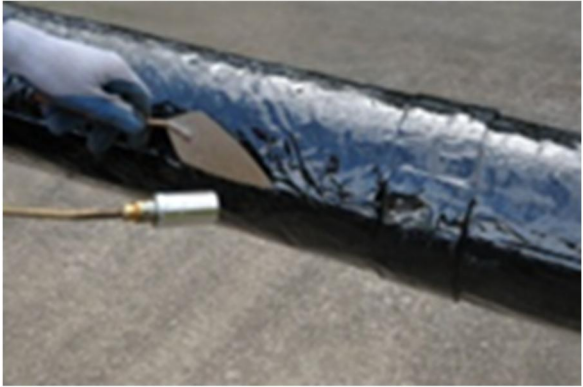
## Supplemental Instructions for Field-Applied Jacketing

STEP 1	STEP 2
<p>After FOAMGLAS® insulation is installed; strike a chalk line at the three or nine o'clock position.</p>	<p>Cut jacketing to sufficient length for a ~ 50 mm (2 in.) overlap. Remove release paper from jacketing prior to heating.</p>
	
STEP 3	STEP 4
<p>Heat half of the underside of the jacketing, including the leading edge, with the recommended torch.</p>	<p>Starting on the chalk line, press the heated surface of the jacketing half way around the FOAMGLAS® insulation.</p>
	

<p><b>STEP 5</b></p> <p>Burn off the polyester top film at the lap seal for a distance of ~ 8 cm (3 in.) back from the edge of the jacketing.</p>	<p><b>STEP 6</b></p> <p>Heat the remaining half of the underside of the jacketing. Pull the jacketing around the insulation and make a ~ 50 mm (2 in.) lap seal. Repeat steps 1 through 6 for application of subsequent jacketing sections.</p>
	
<p><b>STEP 7</b></p> <p>Cut a jacketing butt strip 64 mm (2.5 in.) longer than the circumference of the jacketed insulation. Remove the release paper from the butt strip.</p>	<p><b>STEP 8</b></p> <p>Burn off the polyester film a distance of ~ 5 cm (2 in.) on both sides of a jacketing joint.</p>



<p><b>STEP 9</b> Heat the leading edge and half of the butt strip.</p>	<p><b>STEP 10</b> Starting at the edge of the jacketing lap seal, keeping it centered over the joint, apply the butt strip half-way around the jacketed insulation.</p>
	
<p><b>STEP 11</b> Burn off the polyester film a distance of ~ 5 cm (2 in.) back from the edge of the butt lap seal.</p>	<p><b>STEP 12</b> Heat the remaining half of the butt strip and pull it around the jacketed insulation to complete the lap seal.</p>
	

STEP 13	STEP 14
<p>Seal the jacketing lap edges and around the butt strip edges using a torch until the bitumen flows and seals together creating a monolithic membrane.</p>	<p>Visually inspect the seal to ensure that molten asphalt has flowed into and collected in the lap. Further assurance of a positive seal can be made by pressing the lap in place with a pointed trowel.</p>
	
<p>NOTE: The lap is closed with opening facing upward to allow softened bitumen to flow into open seam. This provides a positive seal. This technique is the opposite of conventional jacketing applications.</p>	