

## 1. Description and area of application

PITTWRAP® CW PLUS jacketing is a 1.27 mm (50 mil) thick self-sealing, modified bituminous membrane for protecting underground FOAMGLAS® insulation systems on chilled water and hot water service pipelines. Manual pressure seals the jacketing without the use of a torch or heater. PITTWRAP® CW PLUS jacketing may also be factory-applied on the insulation.

PITTWRAP® CW PLUS jacketing consists of a polymer modified bituminous compound reinforced with a glass fabric and a 0.0254 mm (1 mil) aluminum top film and release paper backing

## 2. Field Application

Insulation should be secured to the pipe with 2 pieces per section of fiberglass reinforced strapping tape overlapped at least 50%. Cut a length of jacketing to provide at least a 50mm (2 in.) overlap at the longitudinal seam. Slit the release paper at this overlap, taking care not to slit jacket. Strike a horizontal line along the insulation convenient for starting jacket positioning and to insure a uniform lap line. Remove release paper except at the overlap. Dirt and dust must be kept off jacketing. Place the end of the jacketing containing the release paper in alignment with the struck line. See sketches below. The first piece of jacketing should be straight. Smooth the remaining jacket into place working around the pipe cover. Once the jacketing is completely around the insulation, lift the overlap and pass the opposite end beneath the overlap. Remove the remaining release paper on the overlap and press tightly to seal the longitudinal joint.

Any gaps or folds should be removed and resealed immediately. An ordinary wallpaper seam roller has been found to be particularly useful for applying pressure to the overlap areas.

Note: Cure occurs in a few hours after seal is made

When temperature is below 10°C (50°F), or if surfaces are dirty, apply a thin coat of primer by brush to the bituminous surface in the overlap area. If temperature is below 10°C (50°F) and surfaces are clean, the overlap may be warmed with a heater or torch, taking care not to burn through the jacket.

The second and succeeding sections are applied in the same manner. Succeeding sections are placed to overlap the previous section of jacket a minimum of 50.8 mm (2 in). All longitudinal joints should be started on the same line to avoid gaps.

**Butt Strips:** Cut a length of butt strip at least 63.5 mm (2.5 in) longer than the outer circumference of the jacketed pipe cover. Apply a bead of PITTSEAL® 444N sealant (FI-164) along the edge of the longitudinal joint the width of the butt strip. Remove the release paper from the end of the butt strip and embed the end in the sealant. Smooth the butt strip into place working down and under the cover, then up and over, finally overlapping the embedded end. Press and roll the overlap to provide a seal. After application, inspect all joints, smooth and repress any loose areas. Use primer or heat the same as for applying the jacket, if required.

**Fittings or changes in thickness:** Fittings may be covered with jacketing cut in shapes to fit, or with PITTCOTE® 300 finish and PC® Fabric 79. When mastic is used, the mastic must be lapped over the bituminous surface and not the polyethylene surface. To do this, stop the last full section of jacket 10 cm (4 in) short of the change in thickness or beginning of curvature. Apply a 10 cm (4 in) butt strip with bituminous surface exposed; keeping the longitudinal lap even with the last full section. Apply a butt strip in the normal fashion over the joint between the last full section and the reversed butt strip. This leaves 5 cm (2 in) of exposed bituminous surface. Apply PITTCOTE® 300 finish and PC® Fabric 79 over the fitting, lapping onto the final butt strip. In cases of severe conditions, it may be desirable to reverse a larger width than 10 cm (4 in).

## 3. Type of Delivery and Storage

Rolls: 60cm x 22.9m (23.5 in. x 75 ft.), Weight per roll approx. 22.7 kg (50 lbs.)    Butt Strips: 10.2cm x 22.9m (4 in. x 75 ft.) 4 per box

PITTWRAP® CW PLUS jacketing should not be stored where it may come in contact with hydrocarbon solvents such as petroleum spirit and diesel oil or other organic solvents.

PITTWRAP® CW PLUS jacketing rolls must be stored on end and under cover and be protected from mechanical damage.



Store PITTWRAP® CW PLUS jacketing in a well-ventilated room and at a maximum temperature of 38°C (100°F).

Store PITTWRAP® CW PLUS jacketing in a heated area for cold weather application

#### 4. Coverage

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

$$\text{Required Jacketing Area}^* (A) \quad \begin{array}{l} \text{Equation 1. SI, metric Units, (m}^2\text{)} \quad A^* = [\pi(d + 2t) + 6.4] \div 1000 \times L \\ \text{Equation 2. Imperial Units, (ft}^2\text{)} \quad A^* = [\pi(d + 2t) + 2.5] \div 12 \times L \end{array}$$

(Where  $d$  = actual pipe diameter in inches or mm,  $t$  = insulation thickness in inches or mm, and  $L$  = pipe length in meters or feet)

\*Calculation does not include losses or butt strips.

#### 5. Typical Properties <sup>A</sup>

Property	Test Method	SI Value <sup>c</sup>	Imperial Value
Color:	-		Silver
Thickness: (nominal)	-	1.27 mm	50 mils
Weight: (nominal)	-	1.56 kg / m <sup>2</sup>	0.32 lbs. / ft <sup>2</sup>
Width: (nominal)	-	60 cm	23.5 in.
Roll length: (nominal)	-	22.86 m	75 ft.
Nominal Roll Area:	-	13.6 m <sup>2</sup>	147 ft <sup>2</sup>
Application Temperature, min. without Primer:	-	10 °C	50 °F
with Primer:	-	-7 °C	20 °F
Service Temperature Limits at the Jacket:			
Max.		60°C	140 °F
Min.		-32°C	-25°F
Permeability:	ASTM E96 (Water Method)	0.003 ng/Pa·s·m	0.002 Perm in.
Permeance: @ 1.27 mm (50mils)	ASTM E96 (Water Method)	2.3 ng/Pa·s·m <sup>2</sup>	0.04 Perm
Resistance:	Water: Good Petroleum Solvents: Poor	Alkalis: Good Fire: Combustible	Acids: Good

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

#### 6. Limitations

Do not attempt to apply when ambient temperature is below -7°C (20°F).

Do not use in areas where jacketing will be exposed to temperatures in excess of 60°C (140°F).

Do not use in areas where jacketing will be exposed to solvents that can dissolve asphalt.

Do not use above ground without metal jacketing to protect the membrane from UV radiation.

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