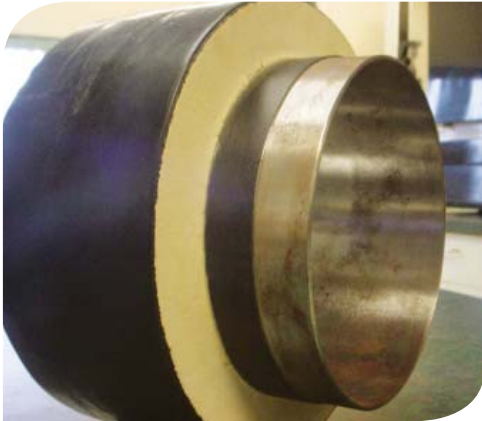


Ultrafoam TA

Thermal insulation and corrosion protection

ENERGY & MINING



Ultrafoam TA consists of a primer and polymer tape corrosion barrier, spray applied polyurethane foam overcoated with a high integrity rubberized adhesive and extruded polyethylene jacket. This polyurethane foam insulation system is designed to provide excellent thermal insulation combined with robust polyethylene jacket for excellent mechanical protection and water resistance.

Product Features

- Designed for operating temperatures from -40°C* up to 85°C
- Polyurethane foam can be applied at thicknesses from 25.4mm (1 inch) to 76.2mm (3 inches)
- Field bendable to CSA Z662 Specifications
- Anti-corrosion coatings can be varied to meet customer's design requirements
- Designed to provide excellent thermal insulation and mechanical protection for buried pipelines

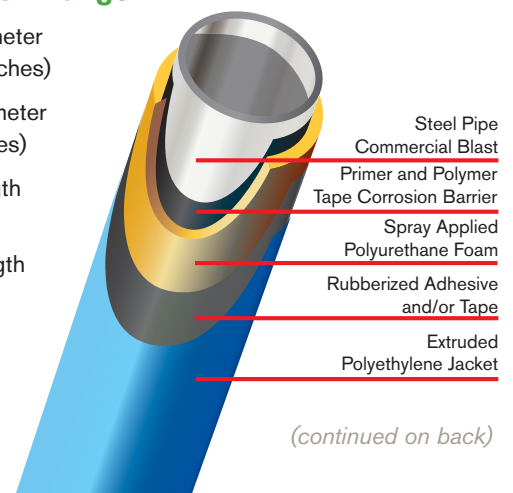
Cold Weather Handling: Precautionary measures must be exercised during handling and installation in cold temperatures (-25°C and colder). Please contact Bayou Perma-Pipe Canada, Ltd. for more information on cold weather handling procedures.

Pipe Application Range

- Minimum Pipe Diameter
 - 60.3mm (2.375 inches)
- Maximum Pipe Diameter
 - 1067mm (42 inches)
- Minimum Pipe Length
 - 5.5m (18 feet)
- Maximum Pipe Length
 - 25m (82 feet)

Compliance

ISO 9001:2008



Typical Properties and Performance Characteristics

Corrosion Barrier Properties

Tape and Primer Corrosion Barrier Properties

| | |
|---------------|--------------------------|
| Primer | 0.05mm (2 mils) |
| Tape adhesive | 0.13mm (5 mils) |
| Tape backing | 0.25mm (10 mils) average |

Polyurethane Foam Properties

| | |
|------------------------------------|------------------------|
| Density ASTM D1622 | > 40 kg/m ³ |
| Compressive strength ASTM D1621 | ≥ 0.3 MPa |
| Open cell content ASTM D6226 | ≤ 12% |
| Thermal conductivity ASTM C518 | ≤ 0.03 W/mK |

External Jacket Properties

| | |
|---------------------------------|---------------------------|
| Polyethylene density ASTM D1505 | > 0.940 g/cm ³ |
| Elongation ASTM D638 | 600% |
| Tensile strength ASTM D638 | 18.5 MPa |
| Impact resistance ISO 179-1 | ≥ 3.0 kJ/m ² |
| Outdoor exposure | ≤ 2 years |

Dimensional Properties

Coating

| | | |
|--|--|---------|
| Primer | 0.05mm (2 mils) | |
| Polymer tape | 0.38mm (15 mils) adhesive and backing | |
| Foam thickness (Customer specified) | 25.4mm (1 inch) to 76.2mm (3 inches) (-3/+10mm) | |
| Adhesive over foam and/or tape | Complete coverage | |
| External polyethylene jacket | ≤ NPS 12 | ≥ 1.0mm |
| | > NPS 12 ≤ 20 | ≥ 1.5mm |
| | > NPS 20 | ≥ 2.0mm |

BPPC Quality Plan

Operating Properties

| | |
|-------------------------------|--------|
| Maximum operating temperature | 85°C |
| Minimum operating temperature | -40°C* |

*Please see notes on cold weather handling on front of data sheet.

Girth Weld Protection: Bayou Perma-Pipe Canada, Ltd. can supply heat shrinkable sleeves and polyurethane foam half shells for completion of insulation system on field joint areas.

Note: For contractual purposes, the most recent edition of BPPC's Quality Plan shall apply, plus additional written agreements between the Customer and Bayou Perma-Pipe Canada, Ltd.



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