



**Submittal Data # 220 E**  
**UreconRed<sup>®</sup> system**  
**for below grade applications**  
**for pipe with plain ends**

Urecon's "U.I.P."<sup>®</sup> factory insulation piping process and related ISO-9000 quality control procedures assure you of the highest quality product on the market today. This unique, time proven, void free process allows us to visually inspect the urethane foam insulation prior to jacket application. A red UV inhibited \*polyethylene jacket protects the system once the "U.I.P."<sup>®</sup> foam has cured.

**Application:**

UreconRed warm water "U.I.P."<sup>®</sup> pre-insulated piping system is suitable for below ground water lines to 86<sup>o</sup>C (185<sup>o</sup>F).

**Core Pipe:**

All types of plain end pipe may be factory insulated with the "U.I.P."<sup>®</sup> process; refer to the attached pipe manufacturer's data sheet for information on the core pipe(s) chosen for this project.

**Pipe Preparation:**

Pipe shall be cleaned of surface dust and dirt to insure a positive bond of the foam to the entire pipe surface.

**Insulation:**

- Material, polyurethane foam, factory applied.
- Thickness: nominal 1 in to 1.5 inches , depending on diameter (other thicknesses available upon request).
- Density: (ASTM D 1622) 35 to 46 kg/m<sup>3</sup> (2.2 to 3.0 lbs/ft<sup>3</sup>).
- Closed cell content: (ASTM D 2856) 90%, minimum.
- Water absorption: (ASTM D 2842) 4.0% by volume .
- Thermal conductivity: (ASTM C518) 0,020 to 0,026 W/m<sup>o</sup>C (0.14 to 0.17 Btu • in/ft<sup>2</sup> •hr • <sup>o</sup>F).

**System Properties:**

- System compressive strength: (modified ASTM D 1621 with 0.42mm (15 mil) jacket) approximately 414 to 552 kPa (60-80 lbs/in<sup>2</sup>), varies with pipe diameter.
- b) Temperature limitations:
  - in service, -45<sup>o</sup> to 86<sup>o</sup>C(-49<sup>o</sup> to 185<sup>o</sup>F)

**Outer Jacket on Pipe Insulation:**

The outer protective jacket shall consist of custom blended red polyethylene, 0.42mm (15 mils) thick, UV inhibited factory applied. The jacket shall have a modified butyl rubber adhesive to ensure positive adhesion to the foam insulation and shall be applied hot to ensure a waterproof bond throughout its entire length.

**Outer Jacket Characteristics:**

- jacket material: red (UV inhibited ) polyethylene
- sealant: butyl rubber, resin
- jacket thickness: 0.42 mm (15 mils)
- minimum elongation: (ASTM D 1000) 300%, 6 month test
- tensile strength: (ASTM D-1000) 8,93 kg/cm (38 lbs/in)

**Plain End Joints:**

The pipe is provided with the appropriate cut-backs to allow for joining in the field. These are typically:

- butt-welded steel @ 150mm (6 in.)
- butt-fused HDPE @ 225mm (9 in.)
- soldered copper @ 150mm (6 in.) for up to 37mm (1 ½ in.), and 225mm (9 in.) for 50mm (2 in.) and larger.

Joint insulation kits consist of a preformed set of urethane or polyisocyanurate foam half shells with red PE hand roll tape with similar characteristics to the tape jacket on the pipe.

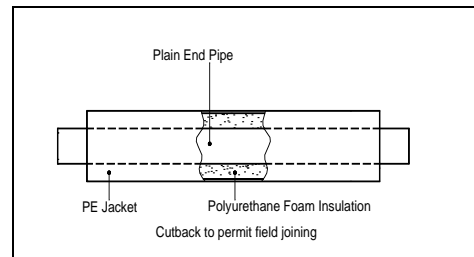
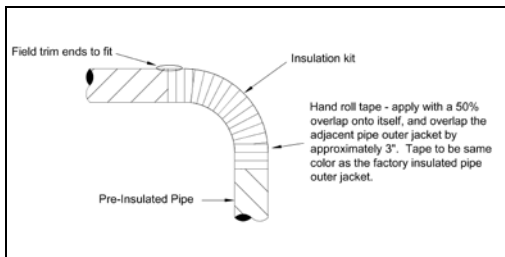
**Fittings:**

May be supplied factory insulated if the fitting has long tangential legs (such as with fabricated polyethylene fittings) or insulation kits may be provided for field installation. These kits shall match the thickness of the insulation on the pipe and are supplied complete with extension legs to suit the cut-back on the pipe. Blue PE hand roll tape is supplied to seal the fitting kit and shall overlap onto the adjacent pipe jackets by approximately 75 mm (3 in) as per illustration below.

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Nominal Standard Pipe Size	Foam OD**
1/2", 3/4" or 1"	3.25"
1 1/4" or 1 1/2"	4"
2"	4.63"
2 1/2"	5.13"
3"	5.75"
4"	7"
5"	8"
6"	9"
8"	11"
10"	14"
12"	16"
14"	18.5"
16"	20.50"

\*\*other thicknesses upon request



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