



Submittal Data # 221 E
UreconBlue® system
for below grade applications
for pipe with plain ends

Urecon's "U.I.P."® 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 blue UV inhibited *polyethylene jacket protects the system once the "U.I.P."® foam has cured.

Application:

UreconBlue chilled water "U.I.P."® pre-insulated piping system is suitable for below ground water lines to 93°C (200°F).

Core Pipe:

All types of plain end pipe may be factory insulated with the "U.I.P."® process; refer to the 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 25 to 50mm (1 to 2 in) depending on pipe diameter.
 - up to 200mmø (8 inø) nominal pipe
 - @ 25 mm (1 in) thick
 - 225mmø (9 inø) to 350mmø (14 inø) nominal pipe
 - @ 37 mm (1.5 in) thick
 - 375mmø (15 inø) to 600mmø (24 inø) nominal pipe
 - @ 50 mm (2 in) thick
- Density: (ASTM D 1622) 35 to 46 kg/m³ (2.2 to 3.0 lbs/ft³).
- 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/m⁰C (0.14 to 0.17 Btu • in/ft² • hr • °F).

System Properties:

- System compressive strength: (modified ASTM D 1621 with 0.42mm (15 mil) jacket) approximately 414 to 552 kPa (60-80 lbs/in²), varies with pipe diameter.
- b) Temperature limitations:
 - in service, -45⁰ to 93⁰C (-49⁰ to 200⁰F)

Outer Jacket on Pipe Insulation:

The outer protective jacket shall consist of custom blended blue 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: blue (UV stable) polyethylene
- sealant: butyl rubber, resin
- jacket thickness: insulation diameter
 - up to 380mm (14.95 in)
 - @ 0,42mm (15 mils)
 - 381mm (15.0 in) to 583mm (22.95 in)
 - @ 0,51mm (20 mils)
 - 584mm (23.0 in) and over
 - @ 1,02mm (40 mils)
- minimum elongation: (ASTM D 1000) 300%, 6 month test
- tensile strength: (ASTM D-1000) 6,83 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 blue PE hand roll tape with similar characteristics to the tape jacket on the pipe. The tape shall overlap the jackets on the adjacent pipes by approximately 75 mm (3 in) on each side.

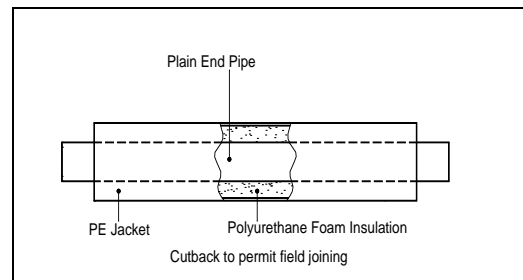
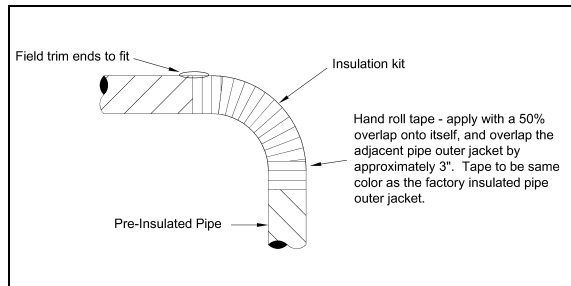
Fittings:

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 jackets by approximately 75 mm (3 in) as per illustration below.

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Nominal Standard Pipe Size	Approx. Foam OD**	Nominal insulation thickness**	Jacket thickness
13 mmø (½"ø)	82 mm (3.25")	25 mm (1")	0.38 mm (15 mil)
19 mmø (¾"ø)	82 mm (3.25")	25 mm (1")	0.38 mm (15 mil)
25 mmø (1"ø)	89 mm (3.5")	25 mm (1")	0.38 mm (15 mil)
31 mmø (1¼"ø)	95 mm (3.75")	25 mm (1")	0.38 mm (15 mil)
38 mmø (1½"ø)	102 mm (4")	25 mm (1")	0.38 mm (15 mil)
50 mmø (2"ø)	114 mm (4.5")	25 mm (1")	0.38 mm (15 mil)
63 mmø (2½"ø)	127 mm (5")	25 mm (1")	0.38 mm (15 mil)
75 mmø (3"ø)	143 mm (5.63")	25 mm (1")	0.38 mm (15 mil)
100 mmø (4"ø)	168 mm (6.63")	25 mm (1")	0.38 mm (15 mil)
150 mmø (6"ø)	226 mm (8.88")	25 mm (1")	0.38 mm (15 mil)
200 mmø (8"ø)	276 mm (10.88")	25 mm (1")	0.38 mm (15 mil)
250 mmø (10"ø)	359 mm (14.13")	38 mm (1.5")	0.38 mm (15 mil)
300 mmø (12"ø)	410 mm (16.13")	38 mm (1.5")	0.51 mm (20 mil)
350 mmø (14"ø)	441 mm (17.38")	38 mm (1.5")	0.51 mm (20 mil)
400 mmø (16"ø)	518 mm (20.38")	50 mm (2")	0.51 mm (20 mil)
450 mmø (18"ø)	568 mm (22.38")	50 mm (2")	0.51 mm (20 mil)
500 mmø (20"ø)	622 mm (24.5")	50 mm (2")	1.02 mm (40 mil)
600 mmø (24"ø)	724 mm (28.5")	50 mm (2")	1.02 mm (40 mil)

**other thicknesses upon request



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