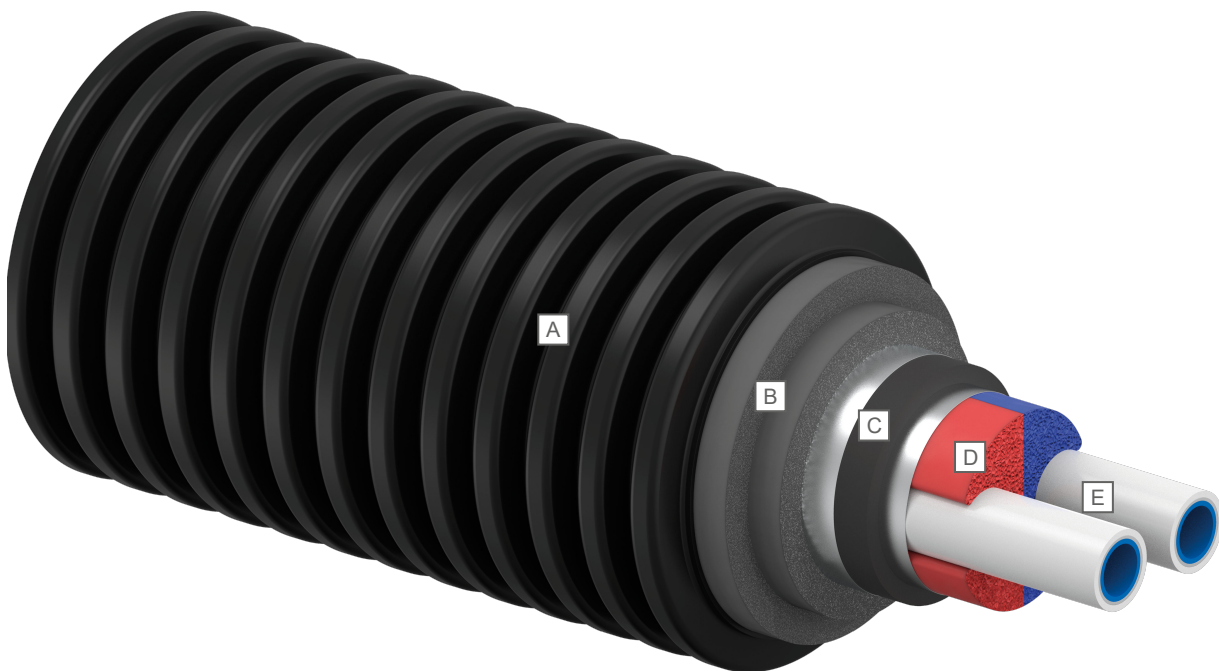


Uponor Ecoflex VIP Thermo Twin MLCP



System description



RP0000370

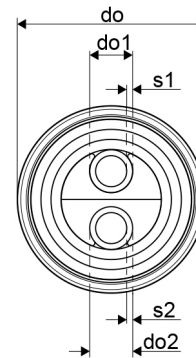
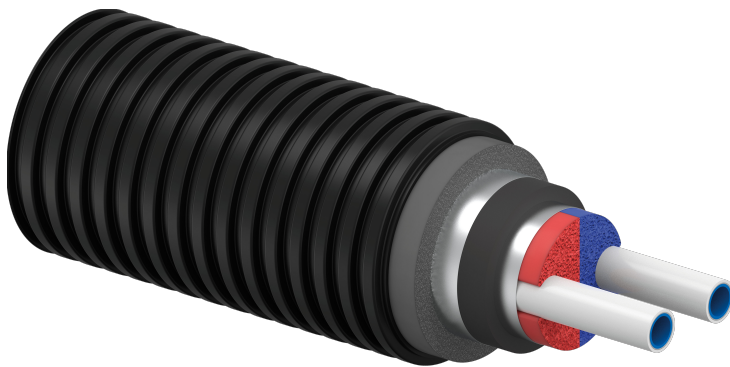
| Item | Description |
|------|---|
| A | Jacket pipe Corrugated polyethylene (PE-HD) |
| B | Insulation material Closed-cell, cross-linked polyethylen (PE-X) foam |
| C | Insulation material VIP "Vacuum Insulation Panel" |
| D | Coloured centering profile to avoid confusion between the flow and return pipes |
| E | Medium pipe Multi-layer composite pipe |

In recent years, local district heating has become increasingly popular among municipalities, planners, and construction companies.

This new Ecoflex VIP Thermo Twin MLC pipe from Uponor offers a quick pipe connection between buildings and district heating lines.

Due to the material's flexibility, practical connection with pressing tools, and long service life, projects can be completed quickly, economically, and reliably. Features such as the corrugated jacket pipe and the hybrid insulation layers, together with the multilayer composite service pipe, offer an optimal solution for energy-efficient connection to buildings and between buildings.

Uponor Ecoflex VIP Thermo Twin MLCP



RP0000375

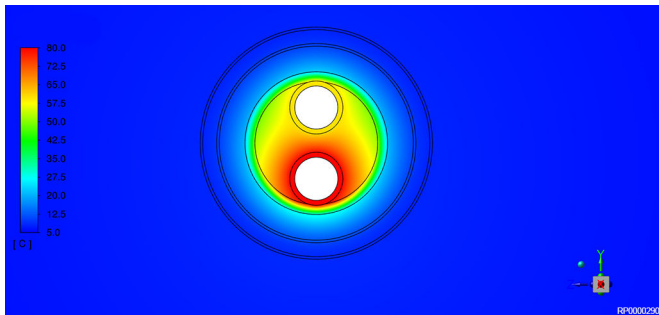
| Type | Medium pipe do1 x s1 [mm] | Medium pipe do2 x s2 [mm] | Jacket pipe do [mm] | Bending radius [m] | Weight empty [kg/m] | Volume Medium pipe [l/m] | Coil length [m] | U-value [W/K+m ²] |
|------------|---------------------------------|---------------------------------|------------------------|-----------------------|------------------------|--------------------------------|--------------------|----------------------------------|
| 2 x 16/90 | 16 x 2,0 | 16 x 2,0 | 90 | 0,25 | 1,13 | 0,113 | 100 | 0,120 |
| 2 x 20/90 | 20 x 2,25 | 20 x 2,25 | 90 | 0,30 | 1,23 | 0,189 | 100 | 0,125 |
| 2 x 25/140 | 25 x 2,5 | 25 x 2,5 | 140 | 0,40 | 1,95 | 0,314 | 100 | 0,122 |
| 2 x 32/140 | 32 x 3,0 | 32 x 3,0 | 140 | 0,50 | 2,24 | 0,531 | 100 | 0,145 |

Possible operating temperature profile for heating (30 years):

15 years of 70°C + 14 years of 80°C + 7760 hours of 90°C + 1000 hours of 95°C + 100 hours of 100°C

Other temperature/time profiles can be applied in accordance with EN ISO 13760 (Miner's Rule)

Heat flow in Twin pipe installation



Example calculation

Flow temperature: $\vartheta_f = 80\text{ °C}$

Return temperature: $\vartheta_r = 60\text{ °C}$

Ground temperature: $\vartheta_g = 10\text{ °C}$

$$\vartheta_{av} = \frac{1}{2} \cdot (80\text{ °C} + 60\text{ °C}) = 70\text{ °C}$$

$\Delta\vartheta$ = Temperature difference [K]

$$\Delta\vartheta = \vartheta_{av} - \vartheta_g = 70\text{ °C} - 10\text{ °C} = 60\text{ K}$$

Heat loss: 7,3 W/m

| Type | Heat loss [W/m] for corresponding temperature difference $\Delta\vartheta$ [K] | | | | | | |
|------------|--|-----|-----|-----|------|------|--|
| | 30 | 40 | 50 | 60 | 70 | 80 | |
| 2 x 16/90 | 3,6 | 4,8 | 6,0 | 7,2 | 8,4 | 9,6 | |
| 2 x 20/90 | 3,7 | 5,0 | 6,2 | 7,5 | 8,7 | 10,0 | |
| 2 x 25/140 | 3,7 | 4,9 | 6,1 | 7,3 | 8,5 | 9,7 | |
| 2 x 32/140 | 4,4 | 5,8 | 7,2 | 8,7 | 10,1 | 11,6 | |

Components

Uponor Ecoflex weldable adapters

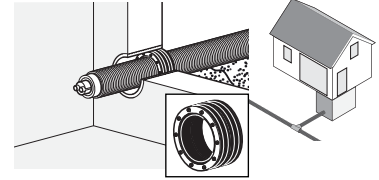


RP0000371

Uponor Ecoflex weldable adapters connect pre-insulated steel pipes with MLC pipes effortlessly in district heating networks. Uponor weldable adapters have a robust design, high gripping strength, strong sealing performance and excellent temperature resistance.

With the Uponor pressing tool, the connection to the MLC pipe is finalized after welding and assembling the adapter.

Uponor Ecoflex wall seal

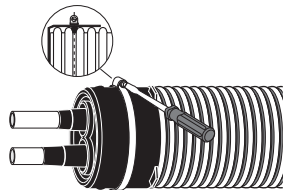


RP0000374

Pressure waterproof (PWP) Ecoflex wall seals are designed for high-water pressure applications.

It is installed directly to a coated drill hole within waterproof concrete or a fibre cement pipe that is bricked or concreted into the intended location.

Uponor Ecoflex rubber end caps

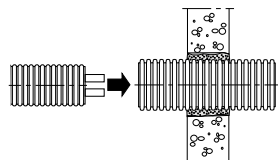


RP0000372

Uponor Ecoflex rubber end caps protect pipe-end insulation from moisture and potential damage to ensure optimal system operation. It is assembled by sliding over the pipe ends and securely affixed using a clamping ring.

It is equipped with a protective sealing ring that prevents water infiltration up to 0,3 bar.

Uponor Ecoflex wall sleeve



RP0000373

Uponor's non-pressure waterproof (NPW) EcoFlex wall sleeve set is used for the inlet through building foundation above ground water level.

It can be installed during the foundation casting process or retrofitted into a drilled hole later on.

Uponor GmbH

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Production: Uponor/SDE

Uponor reserves the right to change the product portfolio and the related documentation without prior notification, in line with its policy of continuous improvement and development.



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