

# Efficient energy distribution with Uponor Ecoflex

Flexible to install, easy to connect, economic in use





# Uponor Ecoflex – flexible to install, c

**Uponor Ecoflex** offers an innovative and energy-efficient selection of pre-insulated pipes, fittings and accessories. The secure and durable systems are suitable for heating-, cooling-, and water distribution. Whether for buildings or complete local distribution networks, the system combines excellent heat loss performance with high flexibility and easy installation.

Our product range for district heating networks is based on Uponors strong experience and know-how.

**Uponor Ecoflex** offers a complete system solution from the energy source to the building. The energy source can be any source of heat, e.g a power plant, boiler room or district heating sub station.

Wide range of services support our customers in all project phases from training to design, delivery and site support. We are the best partner for our customers with our over 30 years of experience and with more than 35 million meters of pipes installed world wide.



Heating water



Hot tap water  
Cold tap water /  
Freeze protection



Chilled water



Industrial fluids



District heating



District cooling



Biomass



Power plants



Remote boilers



Heat pumps



, easy to connect, economic in use

**MORE THAN  
35 MILLION METERS  
INSTALLED PIPE WORLD WIDE**



**Uponor Ecoflex – the best choice for economical transport of hot and cold fluids for both domestic and commercial applications**

- Excellent insulation efficiency
- Light weight and easy laying around corners and obstacles
- Up to 240 meters installation as a continuous pipe run
- Heat load capacity as high as 1800 kW
- Self-adjusting pipe structure, no need for compensators
- Fast building progress / short assembly times
- Easy, reliable jointing method, including subsequent insulation of connections and branches
- Service life of 30 years according to EN 15632





# Uponor Ecoflex – the energy efficient solution for local distribution networks and residential house connections

## Heating and cooling

Energy efficient and flexible pre-insulated pipes for heating and cooling



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Ecoflex Thermo  
Ecoflex VIP Thermo  
Ecoflex Thermo HP  
Ecoflex Thermo Mini  
Ecoflex Varia  
Ecoflex Quattro

## Warm tap water

Pre-insulated pipes for warm tap water



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Ecoflex Aqua  
Ecoflex Aqua VIP  
Ecoflex Quattro

## Cold water supply

For secure cold water supply in frosty environment



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Ecoflex Supra  
Ecoflex Supra Standard  
Ecoflex Supra PLUS  
Ecoflex Supra Mantle





# Flexible, versatile and durable – Uponor Ecoflex system made of proven high-quality components

## Pre-insulated pipes

The main characteristics and features of Uponor Ecoflex pipes



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## Fittings

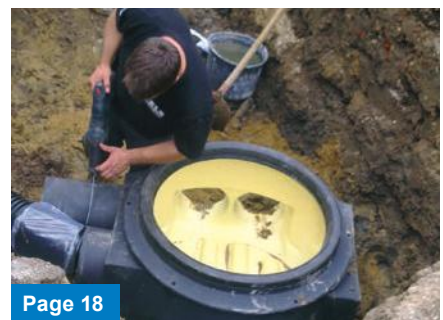
Reliable and practical connections with the Uponor Wipex and Q&E fittings



Page 16

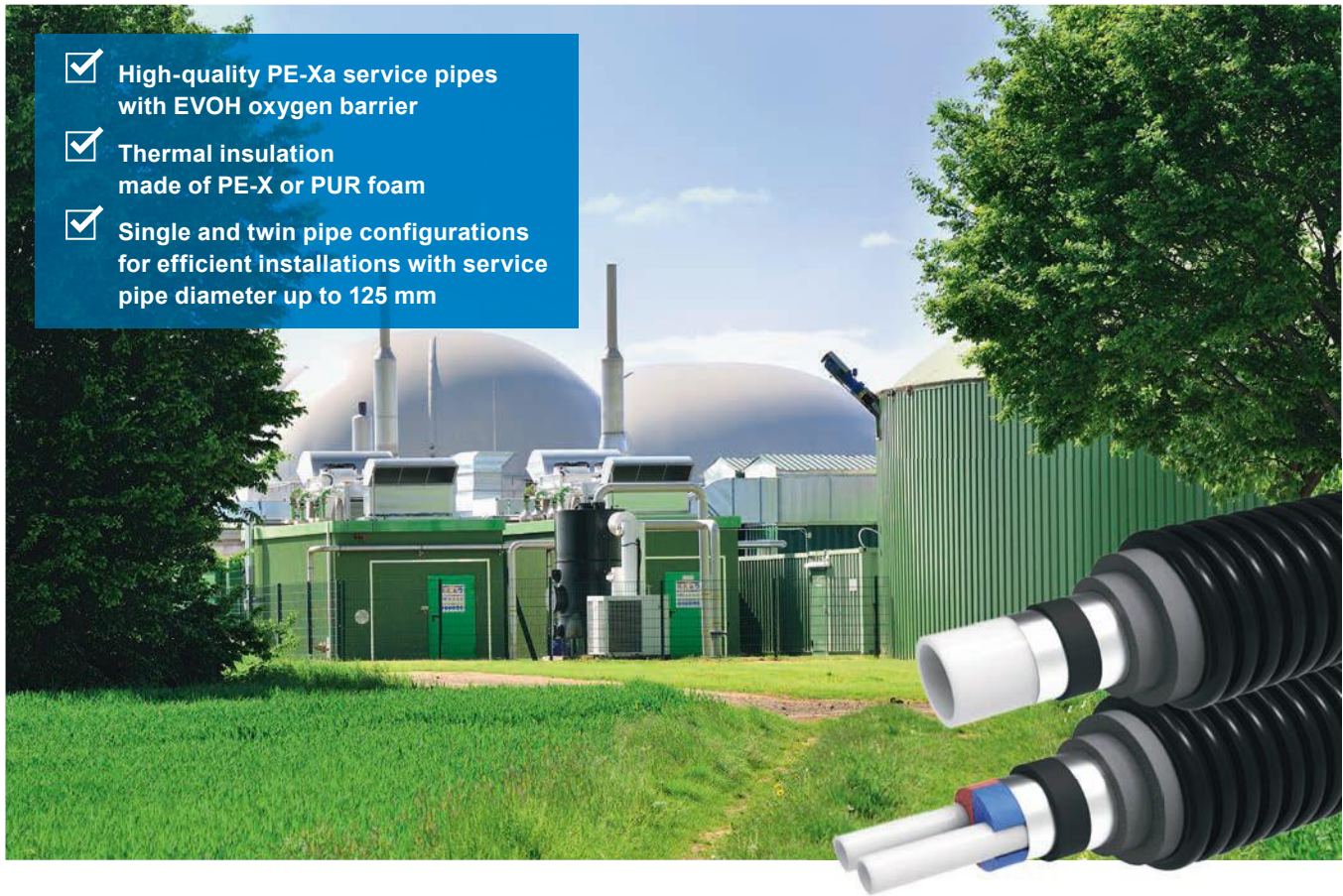
## Accessories and tools

Accessories and tools for easy installation of Uponor Ecoflex system



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- ✓ High-quality PE-Xa service pipes with EVOH oxygen barrier
- ✓ Thermal insulation made of PE-X or PUR foam
- ✓ Single and twin pipe configurations for efficient installations with service pipe diameter up to 125 mm

# Uponor Ecoflex Thermo – for energy efficient heating networks and house connections


With the efforts to limit CO<sub>2</sub> emissions and global warming, district heating and use of renewable energies are gaining importance. The flexible, energy saving and intelligent district heating networks are essential for the use of renewable energy sources and heating energy delivery.

The Uponor Ecoflex product range offers pre-insulated pipes for heating and cooling, covering both single buildings as well as complete local heating and cooling networks.

- Fields of use**
- Connection of communities and individual large heat consumers to central power plants, woodchip plants and biomass boilers
  - Local networks for the heating and cooling water supply
  - Heating and cooling distribution within industrial and agricultural production plants
  - Heat transfer between single buildings, e.g. from a heat pump placed in a separate technical building or garage

# Heating with Uponor Ecoflex – versatile range of pipes for optimum system design

## Uponor Ecoflex Thermo



**Primary application**

- Heating water

**Secondary applications**

- Cooling water
- Chemicals (call for confirmation)

**Service pipe**

- PE-Xa with EVOH oxygen barrier, 6 or 10 bar

**Option**

- Heating cable

**Insulating material**

- PE-X foam

**Jacket pipe material**

- PE-HD

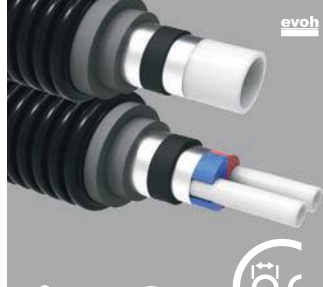
80 °C  
max. 95 °C

6 bar or  
10 bar

25–110 mm  
(Single)  
25–63 mm  
(Twin)

Perfect balance of very good flexibility and great heat performance

## Uponor Ecoflex VIP Thermo



**Primary application**

- Heating & cooling water

**Service pipe**

- PE-Xa with EVOH oxygen barrier, 6 bar

**Insulating material**

- Vacuum insulated panel + PE-X foam

**Jacket pipe material**

- PE-HD

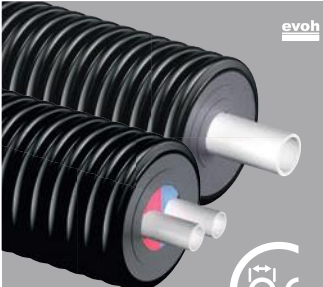
80 °C  
max. 95 °C

6 bar

40–140 mm  
(Single)  
25–75 mm  
(Twin)

Outstanding insulation performance and incredible flexibility

## Uponor Ecoflex Varia



**Primary application**

- Heating water

**Secondary applications**

- Chemicals (call for confirmation)

**Service pipe**

- PE-Xa with EVOH oxygen barrier 6 bar

**Insulating material**

- PE-X foam

**Jacket pipe material**

- PE-HD

80 °C  
max. 95 °C

6 bar

25–125 mm  
(Single)  
25–50 mm  
(Twin)

Extremely flexible with good heat performance

## Uponor Ecoflex Thermo Mini



**Primary application**

- Cooling Water
- Heating water

**Service pipe**

- PE-Xa with EVOH oxygen barrier 6 bar

**Insulating material**

- PE-X foam

**Jacket pipe material**

- PE-HD

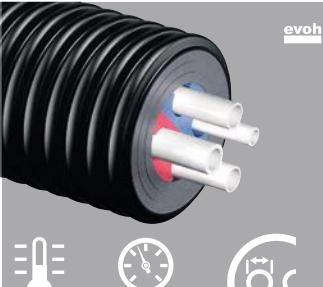
80 °C  
max. 95 °C

6 bar

25–32 mm

Perfect fits for cooling water or heat pump connection

## Uponor Ecoflex Quattro



**Primary application**

- Heating water

- Warm tap water with circulation

**Service pipe**

- PE-Xa, 10 bar (for warm tap water)
- PE-Xa with EVOH oxygen barrier, 6 bar (for heating)

**Insulating material**

- PE-X foam

**Jacket pipe material**

- PE-HD

70/80 °C  
max. 95 °C

6 bar and  
10 bar

25–40 mm  
18–40 mm

Efficient all-in-one solution for combined heating and warm tap water supply

## Uponor Ecoflex Thermo Twin HP



**Primary application**

- Heating water with protective tubes for cables

**Service pipe**

- PE-Xa with EVOH oxygen barrier 6 bar

**Insulating material**

- PE-X foam

**Jacket pipe material**

- PE-HD

80 °C  
max. 95 °C

6 bar

32–40 mm

Efficient all-in-one solution for heat pump connections





- ✓ Hygienic PE-Xa service pipes, resistant to incrustation and corrosion
- ✓ Fit for purpose thermal insulation made of PE-X
- ✓ Comprehensive range of single and twin pipe configurations even up to 110 mm service pipe

## Uponor Ecoflex Aqua – warm water supply with minimal heat loss

Uponor Ecoflex Aqua and Quattro pipes are used for energy-efficient and hygienic underground transportation of warm tap water. The pipes are temperature resistant, corrosion and incrustation free. Ecoflex Aqua pipes are pre-insulated with flexible PE-X foam protecting against heat loss.

With the compact Uponor Aqua Twin pipes, the hot water and circulation pipes are combined in one pipe with the advantage of smaller trench needed and simpler installation. The pipes have coloured centring profile to clearly identify between flow and circulation pipes.

In addition to drinking water pipes, Uponor Ecoflex Quattro pipes contain supply and return pipes for heating water. Energy-efficiency is enhanced, as only one pipe for a building is needed.


### Fields of use

- Connection of communities or individual buildings to a central warm water boiler
- Transport of warm tap water between single buildings
- Warm tap water distribution within industrial and agricultural production plants
- All-in-one heating and warm tap water supply for single buildings with only one pipe (Ecoflex Quattro)



# Warm tap water with Uponor Ecoflex – the reliable choice for clean and hygienic solution

## Uponor Ecoflex Aqua



**Primary application**

- Warm tap water
- Warm tap water with circulation

**Secondary applications**

- Foodstuffs, chemicals (call for confirmation)

**Service pipe**

- PE-Xa, 10 bar

**Option**

- Heating cable

**Insulating material**

- PE-X foam

**Jacket pipe material**

- PE-HD

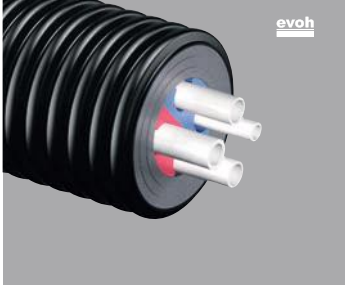
70 °C  
max. 95 °C

10 bar

25–110 mm (Single)  
18–50 mm (Twin)

The proven choice with ease of installation and good quality insulation

## Uponor Ecoflex Quattro



**Primary application**

- Heating water
- Warm tap water with circulation

**Service pipe**

- PE-Xa, 10 bar (for warm tap water)
- PE-Xa with EVOH oxygen barrier, 6 bar (for heating)

**Insulating material**

- PE-X foam

**Jacket pipe material**

- PE-HD

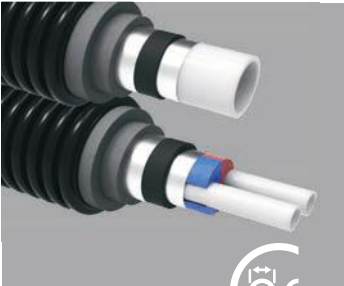
70/80 °C  
max. 95 °C

6 bar and 10 bar

25–40 mm  
18–40 mm

Efficient all-in-one solution for combined heating and warm tap water supply

## Uponor Ecoflex VIP Aqua



**Primary application**

- Warm tap water
- Warm tap water with circulation

**Service pipe**

- PE-Xa, 10 bar

**Insulating material**

- Vacuum insulated panel + PE-X foam

**Jacket pipe material**

- PE-HD

70 °C  
max. 95 °C

10 bar

40–110 mm (Single)  
25–63 mm (Twin)

Outstanding insulation performance and incredible flexibility





- ✓ Reliable water distribution in cold conditions
- ✓ Flexibility and good insulation enables shallow buried installations
- ✓ Energy-efficient freeze protection

## Uponor Ecoflex Supra – state of the art and long lasting PE pipe with the best crack resistance performance on the market

The Uponor Ecoflex Supra pipes are applied for energy-efficient and reliable water supply in arctic weather conditions. These pre-insulated and heat traced pipes are delivered in the dimensions 25 – 110 mm with the best in class pipe material called PE100 RC. The pipes have several insulation and heat trace cable configurations.

Uponor Ecoflex Supra offers highest protection against freeze. The extensive product range of flexible pipes include electrical connections for easy installation.

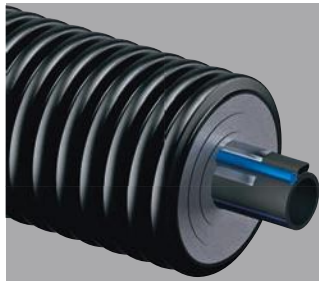
### Fields of use

- Frost-proof underground transport of cold tap water to single buildings
- Frost-proof above-ground cold water supply of temporary residential containers on major construction sites with ambient temperatures down to -50 °C
- Transport of cold tap water or cooling water in industrial production plants
- Frost proof sewage drainage of buildings in installations where there is a risk of freezing



# Freeze protected cold tap water distribution with Uponor Ecoflex

## Uponor Ecoflex Supra PLUS



### Main application

- Transport of cold water
- Freeze-protection

### Service pipe

- PE 100 RC, 16 bar

### Cable

- 1 self-regulating cable up to 150 m (optionally 2 cables on request)

### Insulating material

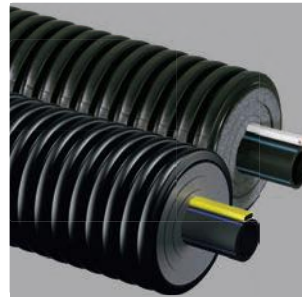
- PE-X foam

### Jacket pipe material

- PE-HD

Pre-insulated pipe with self-regulating freeze protection

## Uponor Ecoflex Supra Standard



### Main application

- Transport of cold water
- Freeze-protection

### Service pipe

- PE 100 RC, 16 bar

### Cable

- Constance resistance (white): 150–700 m
- Constance resistance (yellow): 50–300 m

### Insulating material

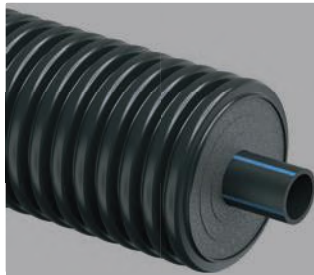
- PE-X foam

### Jacket pipe material

- PE-HD

Pre-insulated pipe with constant freeze protection

## Uponor Ecoflex Supra



### Main application

- Cold tap water
- Cooling water

### Service pipe

- PE 100 RC, 16 bar

### Insulating material

- PE-X foam

### Jacket pipe material

- PE-HD

General purpose pre-insulated pipe for cold tap water and cooling in underground installations

## Uponor Ecoflex Supra PLUS/Standard Sewer



### Main application

- Transport of sewage in pressurized sewer systems with heat tracing cable for freeze protection

### Service pipe

- PE 100 RC, 16 bar

### Cable

- Constant resistance (Supra Standard) or self regulating (Supra PLUS)

### Insulating material

- PE-X foam

### Jacket pipe material

- PE-HD

Sewer pipe with freeze protection

## Uponor Ecoflex Supra Mantle



### Main application

- Freeze-protection for tap water house connections

### Cable

- Self-regulating with plug

### Insulating material

- PE-X foam

### Jacket pipe material

- PE-HD

Special insulation with freeze protection for already installed house connections

## Uponor Ecoflex Supra PLUS control unit



### Control unit

- Energy efficient control of heating power, up to 50% energy saving

### Connections

- Continuous electrical connection up to 150 m
- Easy electrical connections with clear instructions

### Sensor cable

- A continuous PE tube along a PE service pipe ensures easy installation of temperature sensor at every cut length

Advanced Supra PLUS controls for energy efficient freeze protection



- ✓ Flexible and easy to install
- ✓ Efficient and energy saving insulation
- ✓ Temperature resistant and mechanically robust



## Fits in narrowest trenches – flexible, pre-insulated Uponor Ecoflex pipes

### For tailor-made solutions

The Uponor Ecoflex pipes can be tailored for different purposes. The flexible, pre-insulated pipes are suitable for heating as well as for hot and cold water. The different pre-insulated Ecoflex pipes allow liquid to be transferred both inside and outside a building – for heating as well as for hot and cold water.

### Flexibility means more cost-efficiency

The Uponor Ecoflex pipes are easy and quick to install due to the low-weight and flexibility. Up to 240 m of pipe can be delivered without joints.

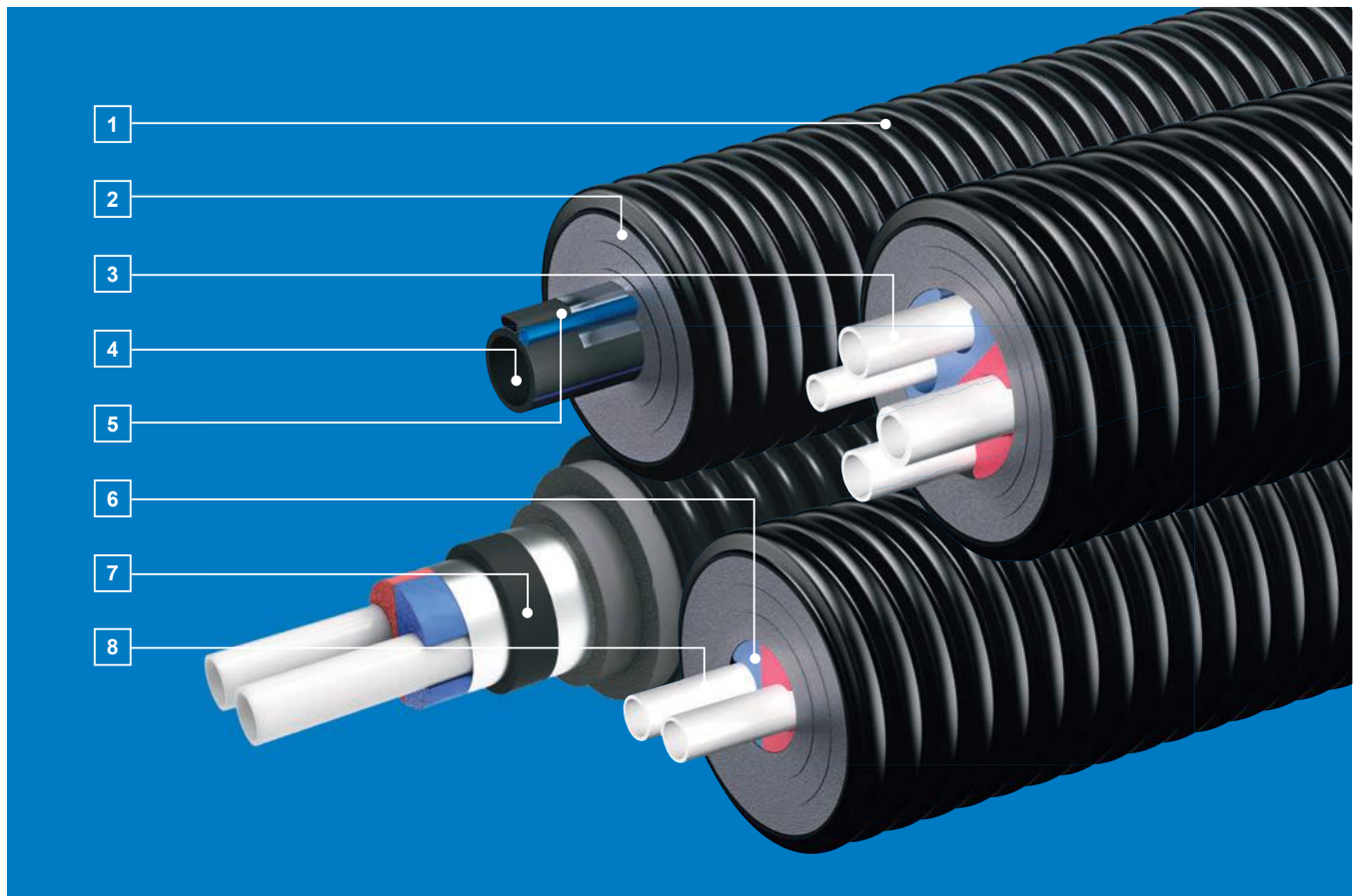
### High quality insulation for lower heat losses

For optimum energy efficiency, Uponor Ecoflex pipes are pre-insulated with flexible PE-X foam or highly effective PUR foam to guarantee highest energy efficiency.





# The sum of superior features makes Uponor Ecoflex pipes a reliable choice



## 1 High mechanical strength

The PE-HD jacket pipe: the high quality material and the special geometry of the jacked pipe makes Ecoflex Pipes extra flexible and highly resistant to static and mechanical loads. Suitable for traffic loads up to 60 tons.

## 2 Durable and exceptionally flexible

The insulation made from cross linked polyethylene foam (PE-X): ideal insulating properties, ageing-resistant, resistance to moisture and very high flexibility.

## 3 Reliable and hygienic

The PE-Xa service pipe: hygienic, temperature resistant and resistant to incrustation and stress cracking. For heating applications coated with an EVOH oxygen barrier to avoid oxygen migration into the system.

## 4 Designed for cold liquids

The PE-HD (PE 100 RC) service pipes: provides maximum safety and service life in cold water applications up to 16 bar and are resistant against many aggressive media.

## 5 Protects water from freezing

Heat traced freeze protected Supra products equipped with either self-regulated or constant resistance cable together with insulation guarantee reliable water supply in arctic conditions.

## 6 Clear identification of service pipes

The colored centering profile ensures a clear assignment of the service pipes.

## 7 Extreme flexible with outstanding insulation

Vacuum Insulated Panel (VIP) technology ensures reduced heat losses by up to 60%.

## 8 Compact dimensions for narrow trenches

Twin and Quattro service pipes: combining several service pipes in one pre-insulated Ecoflex pipes reduces the required trench dimensions and thus the installation effort.



# Uponor Ecoflex Pipes at a glance

## Uponor Ecoflex pipes for heating/cooling and warm tap water



### Main Application

Tap water, warm				
Heating water	●	●	●	●
Cooling water	●	●	●	●

### Variations

Optional heating cable (only for single pipes)		●		
Single / Twin	● / ●	● / ●	● / ●	● / -

### Material

Medium pipe	PE-Xa with EVOH	PE-Xa with EVOH	PE-Xa with EVOH	PE-Xa with EVOH
Insulating material	VIP + PE-X	PE-X	PE-X	PE-X
Insulation performance	++++	+++	++	+
Jacket pipes	PE-HD	PE-HD	PE-HD	PE-HD



### Main Application

Tap water, warm	●		●	●
Heating water	●	●		

### Variations

Optional heating cable (only for single pipes)			●	
Single / Twin	- / ●	- / ●	● / ●	● / ●

### Material

Medium pipe	PE-Xa and PE-Xa with EVOH	PE-Xa with EVOH	PE-Xa	PE-Xa
Insulating material	PE-X	PE-X	PE-X	VIP + PE-X
Insulation performance				++++
Jacket pipes	PE-HD	PE-HD	PE-HD	PE-HD



## Uponor Ecoflex pipes for cold water supply and freeze protection



### Main Application

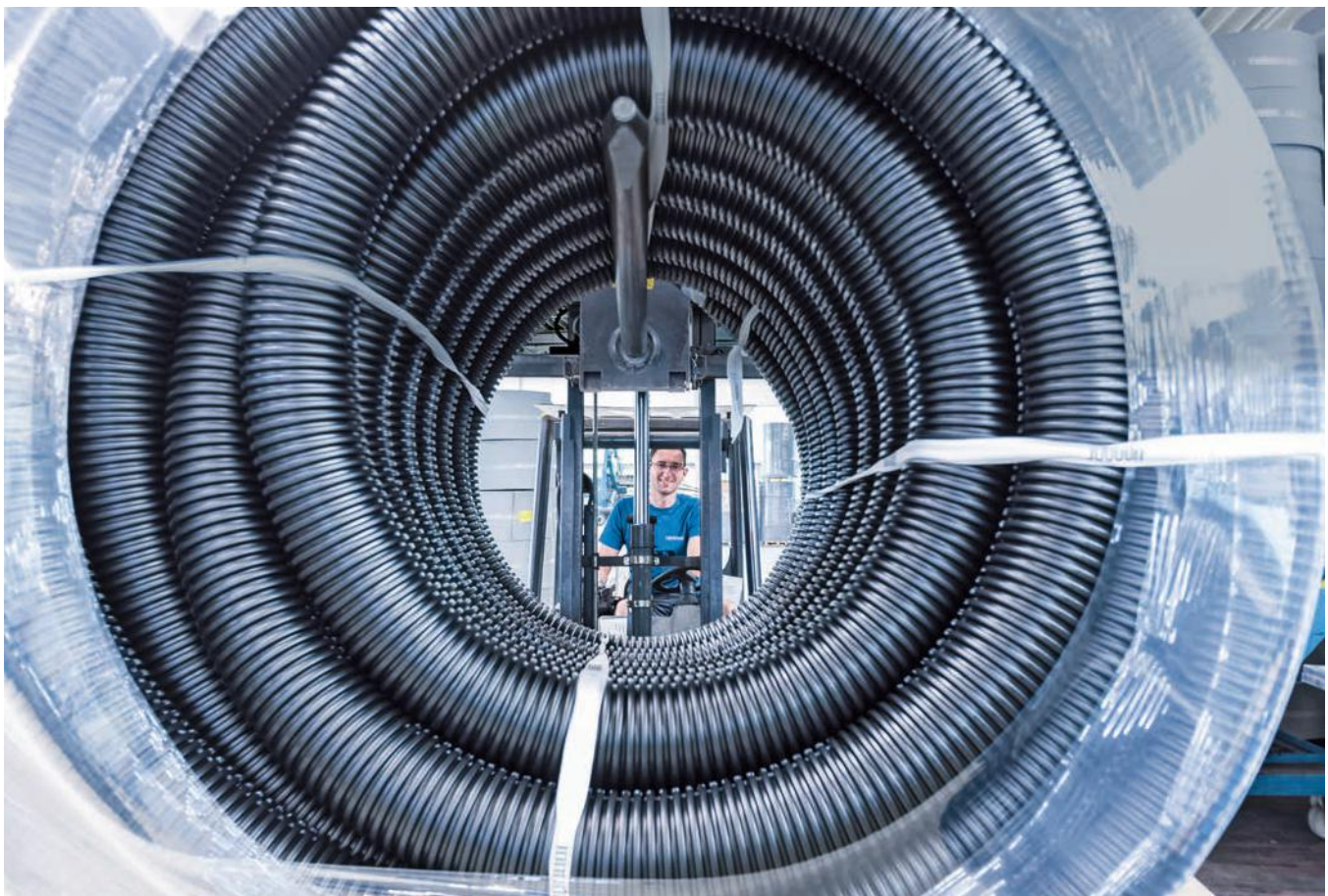
Cooling water	●			
Transport of cold water	●	●	●	
Freeze-protection		●	●	●

### Other Applications

Pressurized waste water	●	●	●	
Foodstuffs	on request	on request	on request	
Chemicals	on request	on request	on request	

### Materials

Medium pipe	PE 100 RC black	PE 100 RC black	PE 100 RC black	
Insulation	PE-X	PE-X	PE-X	PE-X
Jacket pipe	PE-HD	PE-HD	PE-HD	PE-HD
Cable		self-regulating cable	constant resistant cable	self-regulating cable with plug



- ✓ Easy to install
- ✓ Wide range of combinations
- ✓ Reliable and hygienic



## Uponor Wipex – reliable connection without special tools

The Uponor Wipex fittings are specifically designed for connecting PE-Xa pipes for hot and cold water service in domestic and district heating installations. The fitting consists mainly of DR brass and is therefore resistant to dezincification. Uponor Wipex fittings are available in pressure classes PN 6 and PN 10.

The gripping strength Uponor Wipex coupling is higher than the tensile strength of the pipe, and the sealing performance is unaffected by temperature fluctuations.

Uponor Wipex fittings have a robust and simple design. The fittings are easy and efficient to install even in most challenging locations and spaces.



### Uponor Wipex fittings

- Easy to install without hemp and special tools
- Made of high quality DR brass
- Also available fittings for Uponor S-Press and RS connections



- ✓ Corrosion free and calcification free
- ✓ Durable and reliable
- ✓ Quick to install, saves time



## Uponor Q&E – impressively simple and fast connection technology without seals

The Uponor Q&E system is based upon the unique properties of Uponor PE-Xa pipes and the revolutionary Q&E fitting. It enables you to mount a fitting without further tools than the expander tool. Only expand the Uponor PE-Xa pipe together with a Q&E ring and mount it directly onto the brass or PPSU fitting. The pipe will shrink back and the mounting is complete.

The Q&E technique has been patented by Uponor and is designed exclusively for Uponor PE-Xa pipe up to dimension 75 mm in pressure classes PN 6 and PN 10.



### Uponor Q&E connection technology

- Innovative and permanently tight connection technology
- Very high pull-out resistance
- Pipe material is the also sealing material, therefore O-rings not required





- ✓ Full range of components for all installation needs
- ✓ Perfectly matched to the Uponor Ecoflex pipe systems
- ✓ Practical and easy to install without special tools

## Uponor Ecoflex accessories – for finishing high quality installations

The Uponor Ecoflex system includes all accessories for complete heating, cooling and tap water networks. Accessories are designed to complement the Uponor Ecoflex pipes and fittings.

There are accessories available for protecting connections in the ground, seal the house entry and sealing the pipe ends. For heat traced products there are also electrical components for cable connections.



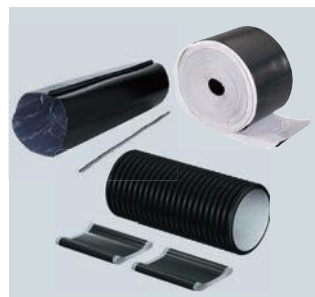
Uponor Ecoflex rubber end caps for Single, Twin and Quattro pipes



Uponor Ecoflex insulation sets



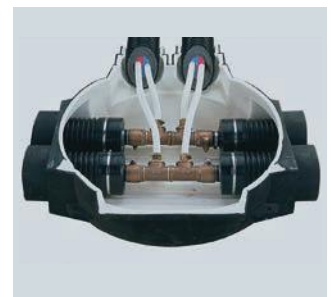
Connection sets and control units for Ecoflex Supra PLUS heating cable



Jacket joint sets, sleeves and tapes for pipe connections and repair



Uponor Ecoflex wall sealings and wall ducts (NPW and PWP)



Uponor Ecoflex chamber





- ✓ Quality management system according to ISO 9001 and 14001
- ✓ Product certification by independent 3rd party organisations
- ✓ Over 30 years track record and experience

# Uponor Ecoflex – made to last

Uponor Ecoflex pre-insulated pipes are manufactured according to European Standard EN15632 under quality management system certified according to ISO 9001 and 14001 standards. On top of that we also use independent 3rd party organisations to certify the quality and performance of our products. As an example, Uponor Ecoflex Thermo pipes, Wipex fittings and Ecoflex accessories are subject to Kiwa Komo approval and certification. The Ecoflex Thermo heat loss values are also covered by the DIN Certco certification.

And it does not stop here: we are also committed to continuously improve our products and operations in order to make them more sustainable in all aspects. You can build on Uponor Ecoflex quality!

-  Pre-cut pipe lengths to the site as needed
-  24 to 96 h delivery service to the site depending on location
-  Comprehensive support from experienced engineers for planning and layout
-  Product training and site support
-  Extensive sales and distribution network
-  Quality management system according to ISO 9001 and 14001



# Leading with Water

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