

The image shows a modern residential building with a mix of light blue, white, and dark wood siding. A cutaway view at the bottom of the image reveals an underground energy distribution system. Two large black corrugated pipes are laid out in a trench, with a white pipe and a blue pipe connected to them. The trench is filled with dark soil and small black pebbles. The sky is bright blue with some clouds.

Uponor

**Build on efficient  
energy distribution  
with Uponor Ecoflex**

# Uponor Ecoflex – the perfect

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. They combine excellent heat loss performance with enhanced flexibility and easy installation, which makes them ideal for complete district heating networks or buildings.

Our product range for district heating networks is based on 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.

A wider range of services support our customers in all project phases from training to design, delivery and site support. With over 30 years of experience and more than 35 million metres of pipes installed worldwide, we believe we are the best partner for our customers.

 Heating water

 Hot tap water  
Cold tap water /  
Frost protection

 Chilled water

 Industrial fluids

District heating

District cooling

Biomass

Power plants

Remote boilers

Heat pumps

# solution for joint free services

MORE THAN  
**35 MILLION METRES**  
OF INSTALLED PIPE WORLD WIDE



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

- Excellent insulation values
- Light weight and easy to lay around corners and obstacles
- Up to 240 metres of joint free pipe
- A heat load capacity of up to 1800 kW
- Self-adjusting pipe structure; no need for expansion allowance
- Easy, reliable jointing method; including installation of connections and branches
- 30 year service life according to BS EN 15632
- Improved flexibility for ease of installation



# Uponor Ecoflex – a complete solution for local distribution networks and residential applications

## Heating and cooling

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

## Warm tap water

Pre-insulated pipes for hot water services

## Cold water supply

For a secure cold water supply in frosty environments



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**Ecoflex Thermo**  
**Ecoflex Thermo PRO**  
**Ecoflex Thermo HP**  
**Ecoflex Thermo Mini**  
**Ecoflex Quattro**

**Ecoflex Aqua**  
**Ecoflex Quattro**

**Ecoflex Supra**  
**Ecoflex Supra PLUS**



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

## Pre-insulated pipes

Learn more about 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 Shrink-Fit fittings



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## Accessories and tools

Accessories and tools for easy installation of the Uponor Ecoflex System



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- 
- ✓ High-quality PE-Xa service pipes with an EVOH oxygen barrier
  - ✓ The thermal insulation is made of PE-X or PUR foam
  - ✓ Single and twin pipe configurations provide an efficient installation and contain a service pipe diameter of up to 125mm

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

With more and more emphasis on reducing CO<sup>2</sup> emissions and the impact of global warming, district heating and the use of renewable energies is gaining importance. Highly flexible, energy efficient district heating networks are essential for utilising renewable energy sources and delivering heating energy.

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

### Fields of use

- Connection to central power plants, woodchip plants and biomass boilers
- Local networks for 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 – a 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 (MTO)

**Insulating material**

- PE-X foam

**Jacket pipe material**

- PE-HD

80°C max.95°C    6 bar or 10 bar    25–125 mm (Single) 25–75 mm (Twin)

Perfectly balances enhanced flexibility with great heat loss performance

## Uponor Ecoflex Thermo PRO



**Primary application**

- Heating water

**Secondary applications**

- Cooling water
- Chemicals (call for confirmation)

**Service pipe**

- PE-Xa with EVOH oxygen barrier, 6 bar

**Option**

- Heating cable (MTO)

**Insulating material**

- PUR foam with PE-X foam

**Jacket pipe material**

- PE-HD

80°C max.95°C    6 bar    40–110 mm (Single) 25–63 mm (Twin)

Best in class flexibility and extremely 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

The perfect fit for cooling water or heat pump connections

## 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    25–32 mm

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

## NEW! 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

An efficient all-in-one solution for heat pump connections

- 
- ✓ Hygienic PE-Xa service pipes, which are resistant to incrustation and corrosion
  - ✓ The fit for purpose thermal insulation is made of PE-X or PUR foam
  - ✓ Comprehensive range of single and twin pipe configurations in sizes of up to 110mm

## 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 resistant and incrustation free. Depending on the application and requirements, Uponor Ecoflex Aqua pipes are pre-insulated with flexible PE-X or PUR foam which protects against heat loss.

With the compact Uponor Aqua Twin pipes, the hot water and circulation pipes are combined in one pipe and only require a small trench. The pipes have a coloured centring profile to clearly identify between flow and circulation pipes.

In addition to drinking water pipes, Uponor Ecoflex Quattro contains 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, hygienic solution

## Uponor Ecoflex Aqua



70°C  
max.95°C

10 bar

25–110 mm  
(Single)  
25–50 mm  
(Twin)

### 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

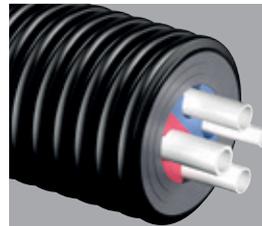
- PE-X foam

### Jacket pipe material

- PE-HD

Simple installation and good quality insulation, makes this the proven choice

## Uponor Ecoflex Quattro



70/80 °C  
max.95°C

6 bar and  
10 bar

25–40 mm  
25–40 mm

### 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

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



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

## Uponor Ecoflex Supra – reliable water distribution in arctic conditions

The Uponor Ecoflex Supra pipes provide energy-efficient and reliable water supply in arctic weather conditions. These pre-insulated and heat traced pipes are delivered in dimensions of 25mm – 110mm. The pipes have several insulation and heat trace cable options.

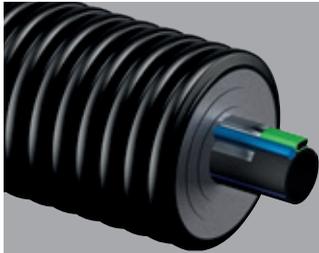
Featuring the same benefits as above, Uponor Ecoflex Supra Plus also offers high protection against frost.

### 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 -25°C
- Transport of cold tap water or cooling water in industrial production plants

# Frost protected cold tap water distribution with Uponor Ecoflex

## Uponor Ecoflex Supra PLUS

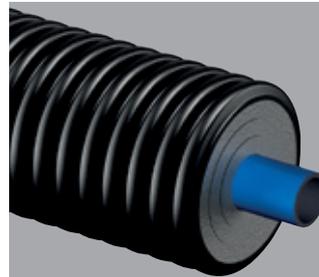


- Main application**
- Transport of cold water
  - Frost-protection
- Service pipe**
- PE-HD
- Cable**
- Self-regulating
- Insulating material**
- PE-X foam
- Jacket pipe material**
- PE-HD



Pre-insulated pipe with self-regulating frost protection

## Uponor Ecoflex Supra



- Main application**
- Cold tap water
  - Cooling water
- Service pipe**
- PE-HD
- 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 Mantle



- Main application**
- Frost-protection for tap water house connections
- Cable**
- Self-regulating with EU plug
- Insulating material**
- PE-X foam
- Jacket pipe material**
- PE-HD



Special insulation with frost protection. Should be used in existing installations

## Uponor Ecoflex Supra PLUS control unit



- Control unit**
- Energy efficient control of heating power, up to 50% energy saving
- Connections**
- Continuous electrical connection of up to 150m
  - Easy electrical connections with clear instructions
- Sensor cable**
- A continuous PE tube along a PE service pipe ensures easy installation of temperature sensor at any cut length

Advanced Supra PLUS controls for energy efficient frost protection

- ✓ Flexible and easy to install
- ✓ Energy efficient insulation
- ✓ Temperature resistant and mechanically robust



## Ecoflex pipes – Fits in the narrowest trenches

### 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

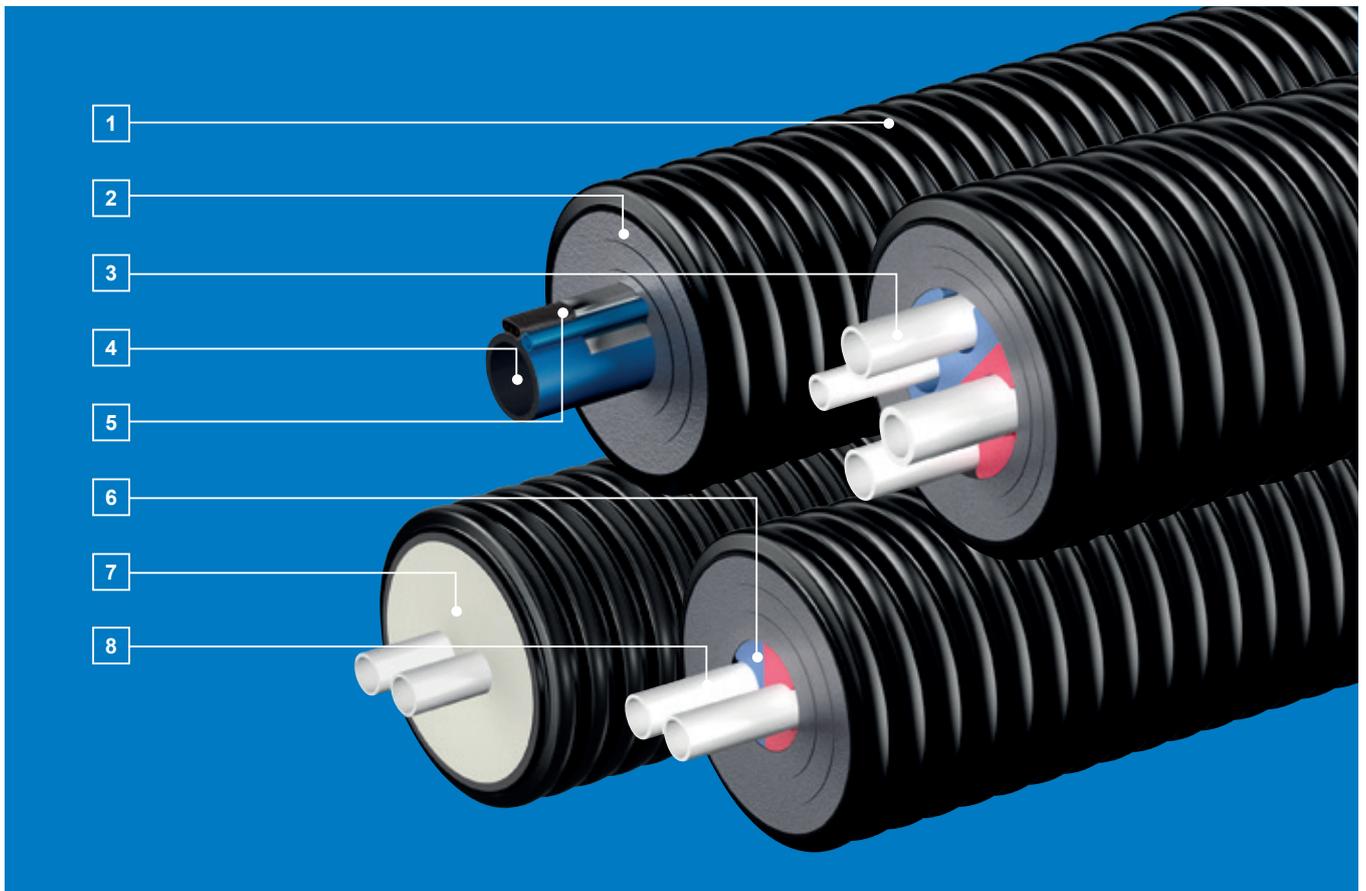
The Uponor Ecoflex pipes are easy and quick to install due to the low-weight and flexibility. Up to 240m of pipe can be delivered without joints.

### High quality insulation for low heat losses

For optimum energy efficiency, Uponor Ecoflex pipes are pre-insulated with flexible PE-X foam or highly efficient PUR foam to guarantee the lowest heat loss.



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



## 1 High mechanical strength

The PE-HD jacket pipe: the special geometry of the jacket makes Ecoflex Pipes extra flexible and highly resistant to static and mechanical loads. It is suitable for traffic loads of up to 60 tons.

## 2 Durable and exceptionally flexible

The insulation is made from cross linked polyethylene foam: This provides ideal insulating properties, ageing-resistance, resistance to moisture and very high flexibility.

## 3 Reliable and hygienic

The PE-Xa service pipe is hygienic, temperature resistant and resistant to build-up and stress cracking. It contains an EVOH oxygen barrier to avoid oxygen migration in the system.

## 4 Designed for cold liquids

The PE-HD service pipes provides maximum safety and a service life in cold water applications of up to 16 bar. It is resistant against many aggressive sources.

## 5 Protects water from freezing

Supra products are equipped with self-regulated cable and an insulation guarantee for reliable water supply in arctic conditions.

## 6 Clear identification of service pipes

The coloured centring profile ensures a clear assignment of the service pipes.

## 7 Fit for purpose insulation

Combined PEX and PUR insulation layers: This innovative combination provides low heat losses and best in class flexibility. The foil barrier limits the degassing of insulation.

## 8 Compact dimensions for narrow trenches

Twin and Quattro service pipes combine several pipes in one to reduce the required trench dimensions and thus the installation effort to limit losses to the ground.

- ✓ 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 Ecoflex pipes in domestic and district heating installations. The fitting body is made of DZR brass and is resistant to dezincification. Uponor Wipex fittings are available in pressure classes PN 6 and PN 10.

The gripping strength of an 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 the most challenging locations and spaces. What's more expensive tooling is not required.

### Uponor Wipex fittings

- Easy to install without sealants or special tools
- Made of high quality DZR brass
- Other available fittings include Uponor S-Press Plus and RS connections
- Estimated 4.5 million fittings installed worldwide
- 25mm – 125mm fitting range



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



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

The Uponor Q&E Shrink-Fit 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. Simply, expand the Uponor PE-Xa pipe together with a Q&E ring and mount it directly onto the over-sized brass or PPSU fitting. The pipe will shrink back using the unique property of PE-Xa and the mounting is complete.

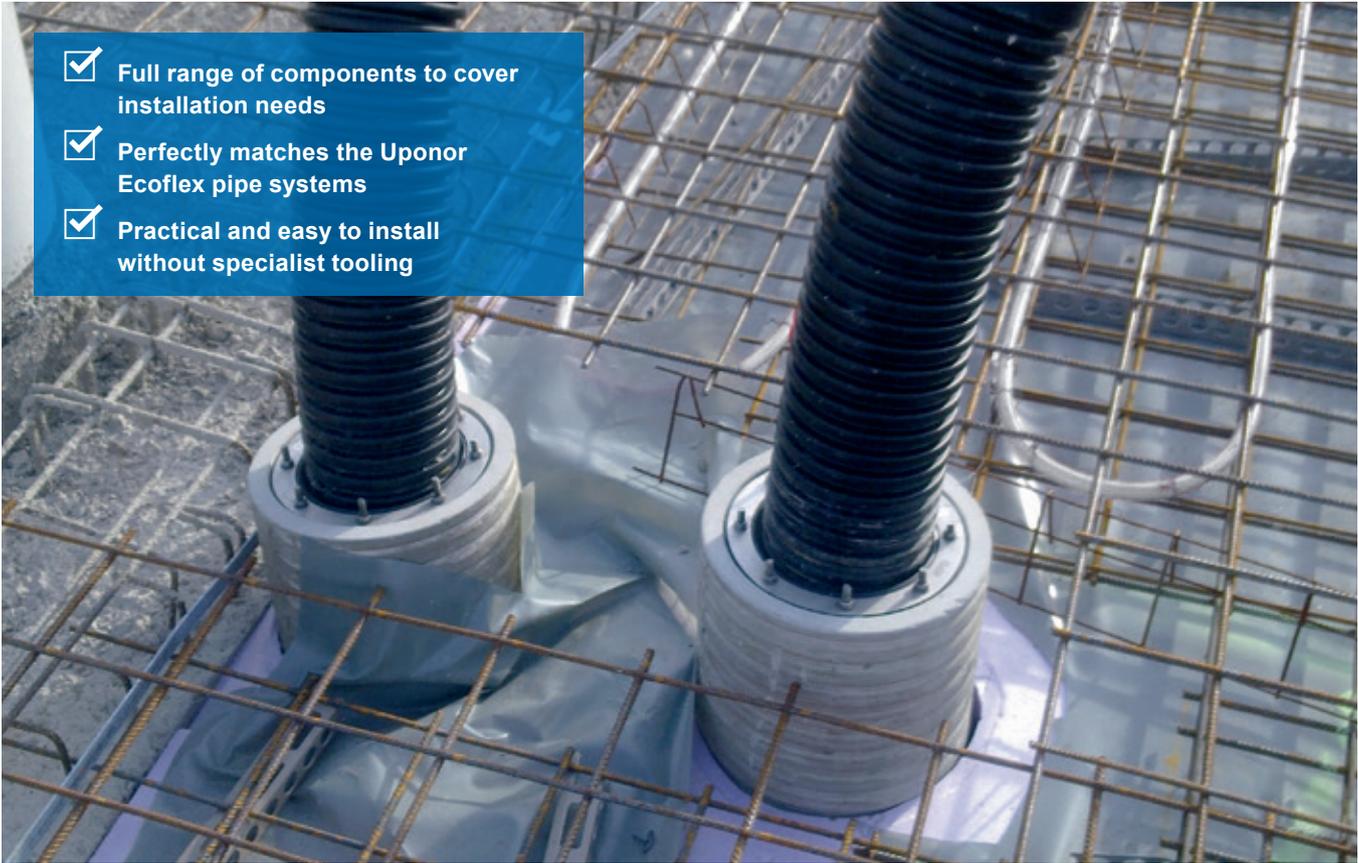
The Q&E Shrink-Fit technique has been patented by Uponor and is designed exclusively for Uponor PE-Xa pipe up to dimension 63 mm in pressure classes PN 6 and PN 10.



### Uponor Q&E Shrink-Fit connection technology

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





- ✓ Full range of components to cover installation needs
- ✓ Perfectly matches the Uponor Ecoflex pipe systems
- ✓ Practical and easy to install without specialist tooling

# Uponor Ecoflex accessories – provides a high quality finish to installations

The Uponor Ecoflex system includes all accessories to complete your 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 and sealing the house entry and pipe ends. For heat traced products there are also electrical components for cable connections.



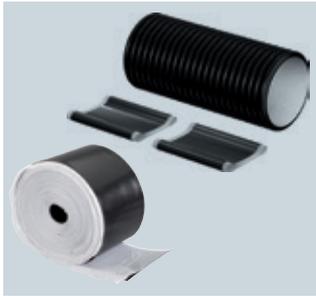
Uponor Ecoflex rubber end caps for Single, Twin and Quattro pipes



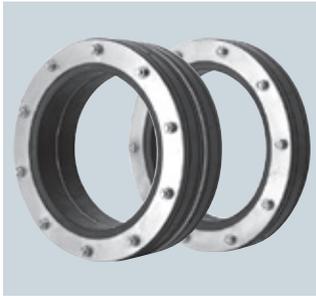
Uponor Ecoflex insulation sets



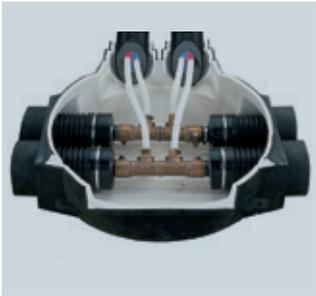
Connection sets and control units for Ecoflex Supra PLUS heating cable



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 experience

## Uponor Ecoflex - made to last

Uponor Ecoflex pre-insulated pipes are manufactured according to European Standard EN15632 and are certified according to ISO9001 and ISO14001 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 improving 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 supplied to the site to minimise waste
-  3-4 day delivery service to the site
-  Comprehensive support including 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



# District Heating Scheme – Scunthorpe



## KEY POINTS:

- The existing steel piping used on the District Heating Scheme in Market Hill, Scunthorpe needed replacing due to excessive corrosion, which has caused pin holing
- Sutcliffe Consulting Engineers turned to Uponor to supply a solution which could overcome the challenges above
- It was decided that Ecoflex was the best solution, with over 1500m installed

## PROJECT DETAILS:

- Product- Ecoflex Thermo PRO
- Quantity supplied- 1,500m of pipework supplied
- Mechanical Engineers- Sutcliffe Consulting Engineers
- Installer- Ignite Gas Services
- Client-Ongo Homes, Installer – Ignite Gas Services

## Background

Originally built in the 1960's, Market Hill housing estate in Scunthorpe is made up of ten maisonette blocks, each home to eight flats, and three high rises with 76 flats in each building. Heating and water was supplied to all the properties by a district heating system, but due to excessive corrosion and leaks, the piping needed replacing. Ongo Homes made the decision to replace the full district heating network. This full system refit had to be undertaken with minimum disruption to the 350 residents and with no relocation into temporary accommodation.

Due to the nature of the project, the existing piping system could not simply be switched off and replaced. This ruled out traditional building materials that are usually time consuming to install and weld, so Sutcliffe Consulting Engineers turned to Uponor, specifying its Ecoflex pre-insulated pipe systems.

## Uponor Involvement

The heating network consisted of a new plant room installation, plant room piping and replacement of the full district heating system. Due to the confined space, K Binks Mechanical Engineers- appointed by Ongo Homes to install the system worked with Uponor to split the pipe order so products were only delivered to site when required.

Overall, pipe connections were minimised across the total pipework run of 1,500m, making the project particularly unique.

The next phase of the project was to completely disconnect the old system, leaving the new system to successfully transport water around the housing. To achieve this, Uponor worked closely with the different contractors involved to provide technical assistance, ensure that the products used were fit for purpose and to oversee the smooth disconnection of the old system.

## BENEFITS:

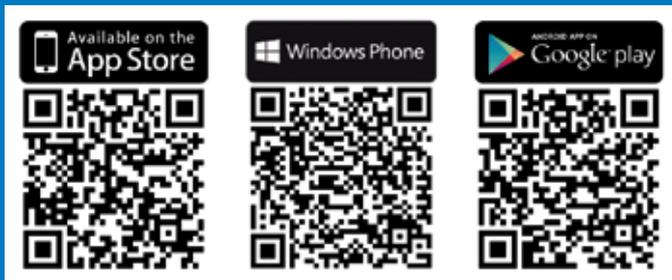
Uponor's Ecoflex pre-insulated pipe system was a perfect fit, due to its increased lifespan and potential for long, joint free runs making it quicker and easier to install. Another reason for choosing Uponor's plastic piping over a steel alternative was that its system could be run alongside the existing mains, and work in tandem with old mains that were still active. This flexibility meant that the building work disruption was kept to a minimum and residents could remain in their properties.

## Reference pictures



# Uponor

## Everything you need in one App: Uponor PRO



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09/2019



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