

# Uponor

HEATING AND COOLING  
SOLUTIONS

UNDERFLOOR HEATING  
HOME COMFORT SYSTEM

Advanced underfloor heating  
solutions – creating comfort  
in your home



# Uponor - partnering with professionals

## Our mission

### Uponor keeps its promises

People care more and more about the environment in which they live and work: whether it is commercial buildings, private residences or open and public spaces. Apart from that, standards and styles change and so do people's expectations. In order to find the right systems and services to meet those demands, it becomes increasingly important to know where to go and whom to trust!

With Uponor, you partner with professionals who know how to satisfy your demands. Because we've always been working closely together with our partners and customers, we know about their needs. We want to give you more and we have to offer something special – everything to help you enjoy more success.

In an increasingly complex world, we shall always be the smarter choice.

### Benefit from our expertise in underfloor heating system solutions

When choosing one of our underfloor heating systems, you profit from convenient and reliable solutions. Being one of the pioneers in this field, we can not only assure you long-term product availability, but also top quality and outstanding services. Our systems consist of in-house produced pipes and fittings that match perfectly. The system is complemented by the necessary accessories and a sophisticated tool program – everything from one source.



### Uponor underfloor heating systems – healthy, comfortable and energy-efficient

Underfloor heating systems have ceased to be luxury, but are nowadays a convenience that you can confidently take for granted.

First of all, underfloor heating is healthy. Hardly raising any dust, it is the perfect heating system for people suffering from allergies. Secondly, the gentle radiant heat provided by Uponor underfloor heating systems acts directly on the body without the intermediate stage of first warming the room air. The result: the same comfort level, but with a 2 °C lower room temperature. And this is beneficial to your health, because warm feet and cool head is exactly what the human body requires.

Regarding the aspects of rising energy costs and the growing importance of environmental sustainability, another advantage of Uponor underfloor heating systems gains particular relevance: underfloor heating reduces energy consumption by up to 12 % and thus not only helps to save costs. Besides, the lower temperatures on the supply side allow the use of more environment-friendly heating system elements.

# Uponor pipe technologies – our-know how for your safety

Uponor plastic and multi layer composite pipes have a high flexibility and a good abrasion resistance to tough onsite conditions. They withstand high pressure and temperature changes. Uponor pipes provide a maximum of safety and reliability and reduce the maintenance costs to a minimum which make it the first choice for radiant heating installations.

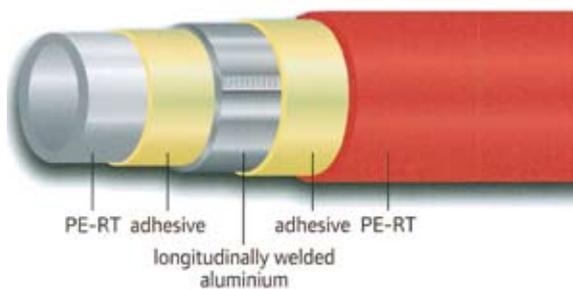
## Uponor pipes

### Uponor multi layer composite pipes (MLCP)

Uponor MLCP pipes consist of an overlapped, longitudinally welded aluminium pipe with an inner and outer layer of high temperature-resistant polyethylene according to German DIN 16833. All layers are permanently bonded together by intermediate adhesive layers. A special welding technique ensures high reliability. The aluminium thickness for Uponor has been specially selected to meet comprehensive and flexural strength requirements.

With our five layer composite pipe, we have developed an advanced product that unites the advantages of metal and plastic pipes and eliminates the disadvantages of both materials at the same time. This offers product advantages that are second to none:

- The aluminium core is diffusion tight
- It prevents the ingress of oxygen
- It compensates snap-back forces
- It reduces length expansion with changes of temperature

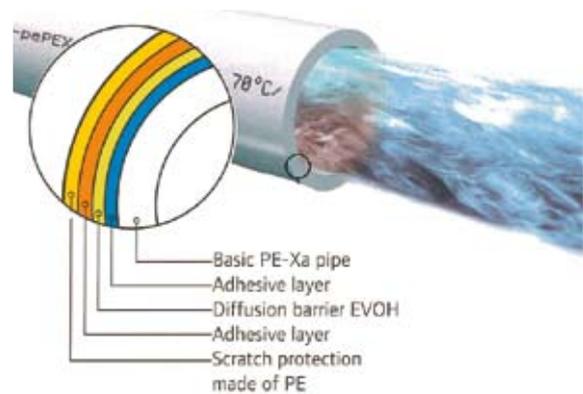


**Your key benefits**

- Combines advantages of metal and plastic pipes
- No incrustation
- Oxygen diffusion tight
- Corrosion resistance
- Heat expansion similar to metal pipes
- Low weight
- High form stability after bending
- Excellent long-run behaviour
- Easy, fast and safe installation

### Uponor PE-Xa pipes

The Uponor PE-Xa pipes are high-pressure crosslinked. During the production process of Uponor PE-Xa pipes molecules with a high density are linked and create a three-dimensional network. Thus it reaches the highest linking factor of all crosslinking methods. Due to this special crosslinking process the Uponor PE-Xa pipes sustain their excellent thermal and mechanical features. The exceptional characteristics of the pipes have been displayed for more than 30 years in a continuously ongoing long-term test and in practice on millions of building sites and thus satisfied customers worldwide. Uponor PE-Xa pipes for heating applications are made with an oxygen diffusion layer (EVOH) according to DIN 4726, excluding the penetration of oxygen into the pipe.



**Your key benefits**

- Outstanding PE-Xa material
- No incrustation
- Oxygen diffusion tight
- Corrosion and abrasion resistance
- Low weight
- Bending flexibility
- Excellent long-run behaviour
- High chemical resistance
- Easy, fast and safe installation

# A complete solution makes the difference – Uponor manifolds and accessories which fit together

## Comprehensive system



Uponor modular plastic manifold and accessories

### Uponor modular plastic manifold

The newly developed manifold is made of PPSU (polyphenylsulfone). It consists of modules with 3, 4 or 6 outlets, which can easily be connected to any needed size. The control possibilities for the default settings have been eased. The design allows lower installation depth compared to standard manifolds and cabinets. For the installation of the pipes with different dimensions  $\frac{3}{4}$ " euro-cone compression adapters are available, thus reducing the number of accessories.

#### Your key benefits

- Available with balancing screw or with flow meter
- Easily extendable to any needed size
- Can be easily connected from below with special connections
- A wide range of accessories is available



Control stations

### Uponor control stations

Our wide range of control stations are used to control water temperature for the underfloor heating system when connected to radiator heating. The underfloor heating system requires higher flow and lower water temperature than the other system. Mixed water is pumped to the upper flow manifold and around the underfloor heating loops. Return water is mixed with warmer water from the primary heat source, which is injected either via the thermostatic valve in case of a constant supply water temperature control or via the actuator in case of an electronically controlled weather compensated supply water temperature.

#### Your key benefits

- Compact design
- Perfectly matching Uponor plastic manifold
- Available for room sizes from 15 up to 300 sqm
- Simple constant or advanced electronically weather compensated water temperature control

### Uponor accessories

As pioneers, we consider also small details. Think about the reliable separation of screed sections (e.g. in doorways or large rooms) and absorption of the expansion of screed. We have edging strips as well as joint profiles with self-adhesive strips. Another factor is to avoid the flow of screed into the insulating layer: use the Uponor PE-foil. To increase the level of heat conductivity, bending strength and crush resistance, just use the screed additive. Our ideas to make installation easy and avoid consequential damages later on.

#### Your key benefits

- Long-term experience reflected in our accessories
- Products from A to Z
- Approved and tested complete systems
- Everything from one source fits together



## Uponor control – feeling the human touch

### Controls

#### Flexible control of living space

The new Uponor individual room control enables temperature control according to the temperature you feel. Thanks to the wireless technology, the radio room thermostat T-75 does not depend on locations.

#### Uponor radio control

The simply and efficiently designed temperature sensor almost comprehends the temperature sensations of a human being: The measuring sensor registers the air temperature as well as the thermal radiation. For the sensor the colour grey has been chosen to correctly measure the sunshine radiation and lighting for the measuring element. When measuring this grey is especially close to the sensations human beings feel from skin and clothing. The thermostat is designed to measure the mean value between air and radiation temperature. The control saves the individually set comfort level for the room temperature and adjusts it to the operative temperature you feel.

The wireless installation is not only for new buildings but can easily be adapted for renovation, in case of emergency of the installation or if retroactive solutions are needed.

Optimal control: The room thermostat T-75 with table stand allows individual adjustment of the temperature.



#### Uponor wired control

The wired solution is the standard solution for new buildings. It is an efficient way for installation if you have planned the system from A to Z.

#### Control technology that looks into the future

The new control offers the same reliable options and easy installation as before. However, there is one major and distinctive difference – Uponor control has been developed with an eye to the future. The new Uponor wireless control is based on KNX, which is the leading open standard for home and building automation for electronic systems. This means that several of the home's functions can be integrated. With Uponor control, you have the ability to benefit from this new technology.

#### Your key benefits

- Flexible positioning of the room thermostat as required
- Control according to the temperature felt – feels nearly like a human being
- Adjustment of room temperature modes in 5 time zones
- Vacation mode
- Room thermostat with temperature indication
- Central operating module indicates sensor settings
- Safe transmission frequency, 868 MHz, KNX standard
- Wireless: no planning expenses for electrical wiring and conduits
- Operation with standard batteries
- Retrofitting available
- Also available for radiant cooling
- Perfectly matching components
- Modern design

# Modular installation system by Uponor – the smarter way of underfloor heating

## Modular principle

Different homes come up with different conditions and requirements for the installation of underfloor heating systems. To make sure that you will find the right solution for any kind of requirement, we have invented our modular system.

The principle behind that system is simple but ingenious: We offer you a kind of basic construction kit of comprehensive pipe systems, fittings, manifolds, controls, etc. This basic construction kit can be perfectly completed according to your wishes and requirements.

Whether you choose our lightweight panels or clamp track, whether you want to equip a newly built house or renovate an existing one – be sure that you will find a solution that perfectly fits the preferences or specific requirements you have.



### Your key benefits

- The right kind of installation for any demand and condition
- For new houses or renovation
- Easy and quick installation
- Comprehensive solution – all out of one hand



# Uponor clamp track and tying wires— two fixing solutions for ultimate peace of mind



## Pipe fixation

### Cable ties and tying wires

The fixing with cable ties or tying wires is perfectly suitable for new buildings. The pipe is directly installed on the steel mesh, which is already part of the building structure as reinforcement of the concrete or screed floor. As the most universal of all fixing solutions, the cable ties or tying wires can be used with all types and sizes of Uponor underfloor heating pipes. The pipe fixing with the tying wires and the special twisting tool is unbeaten in terms of speed of installation. The cable ties with their well-proven fastening technique don't require any tools. This construction also guarantees high surface loads. Thus it is the ideal solution for time-saving and cost-effective installation under special conditions.

### Clamp track

Clamp tracks are the flexible pioneer solution for underfloor heating installation. With only two components needed, they are an attractive choice for installers.

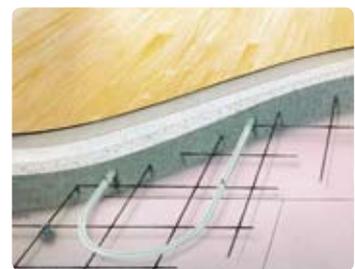
The tracks have a self-adhesive strip on the back side of the U-profile for the tight and permanent connection of the clamp track to the multilayer foil. The integrated pipe holders can be used for pipe dimension 14 up to 20 mm. The tracks are available for pipe dimension 16 or multi-functional for pipe dimension 14 up to 20 mm. They come in length of 1000 mm and have rated breaking points every 100 mm, thus can be used for all room geometries. The Uponor pipes can easily be clicked into the tracks. Environmental friendliness is not only an integral part of our companies philosophy, but also reflected in our products. Therefore the clamp tracks are of course made of recycled material.

### Multi layer foil

The multi-layer foil with integrated air cushions guarantees the reflection of the heat to the room and acts parallel as sound insulation layer. The basic idea of the design is having improved heat insulation and excellent heat distribution. The foil operates also as moisture barrier. Printed-on grid pattern allow easy installation of the clamp tracks.



Uponor clamp track



Uponor cable ties

#### Your key benefits

- One-man installation when using Uponor uncoiler
- Can also be used for wall heating
- Meander and bifilar laying possible
- Fits all room geometries
- Simple and quick installation

#### Your key benefits

- Installed directly on steel mesh
- Only few components
- Very simple installation
- Meander and bifilar laying possible

# Uponor pipe positioning panel without insulation – for fast and safe installation

## Pipe fixation



Uponor pipe positioning panel



Naps of the Uponor pipe positioning panel

### Fast and safe installation

The Uponor pipe positioning panel is made of polystyrene, supplied in black and can be used for pipe dimension 14 up to 16 mm. The elaborate system can be installed by one person only. Simply overlap the panels and press them on the protrusions of the neighbouring element. This stands for an exact and safe connection. The panel size of 1.140 x 720 mm assures a high installation performance. The panel raster facilitates exact cutting with hardly any waste.

### Outstanding technical features and details

The panel does not include insulation. Therefore insulation supplied on-site can be used. Together with the Uponor edging strip with adhesive strip the entire installation is suitable for liquid screed. Further on the Uponor pipe positioning panel can carry high loads, depending on the covering. The uniqueness of the panel are the naps. The insulation foil warrants on the one hand a clean and simple installation via naps and offers on the

other hand the optimal tightness via overlapping. Even with complex room geometry 45° installation becomes a matter of routine with Uponor clip for diagonal installation. The diagonal fixation of the pipe is simply inserted onto the naps and provides exact pipe fixation. Transitions between rooms are quickly effected with Uponor PE-foil. It is also used to prevent screed from flowing down into the insulating layer.

### Your key benefits

- Easy one-man-installation
- Panel element size (1.140 x 720 mm) for fast installation
- High load factor
- Can be used with Uponor pipe dimension 14 up to 16 mm
- Easy bendability



# Uponor lightweight panel with insulation – for fast reaction/without screed

## Pipe fixation



Uponor lightweight panel with emission plates



Uponor lightweight panel



Also suitable for wall heating

Only a few items are required: lightweight panel, heat emission plates and Uponor PE-Xa pipes 14 x 2.0 mm. The installation is covered by screed boards on which tiles, marble or carpets can be laid, resulting in short construction times. The light weight of the complete construction allows faster temperature adjustment compared to conventional radiant heating systems.

For vertical or level installation use the boards or wall heating clamp tracks. With this lightweight construction system inner and outer walls can be heated or cooled. The heat emission plates provide an equal heat emission on the complete wall surface. The plates can easily be shortened to the required length by predetermined break points.

After the installation of the pipes gypsum plaster boards are easily fixed and provide an even surface. These surfaces can be covered with tiles and other coatings. No radiators interfere with the design of the room. Wall heating can be combined with traditional underfloor heating systems, making it the ideal choice for bathrooms.

### Your key benefits

- Easy installation
- Short heating-up times
- Bifilar and meander laying possible
- No waiting period due to drying of screed



# Uponor heat emission plates – especially suitable for timber suspended floors

## Pipe fixation

### Ideal for houses with natural materials

Of course, Uponor underfloor heating is suitable for use in timber suspended floors, too. This system incorporates a thin aluminium heat emission plate with pre-formed grooves running down the length of the plate.

Because joist spacings often vary in existing buildings, the preferred method is to use cross batten or to 'saddle' the floor at 300 mm centres. The plates are scored and are easily split along these score lines. Furthermore, they are easily fixed to the timber construction by means of a conventional staple gun or tacks. The floor void must be insulated, either with mineral wool insulation or with solid insulation, for maximum heating efficiency. Standard tongue and groove floor deck is then laid before the final floor covering.

This solution is designed for the use with Uponor PE-Xa pipe 20 mm. The maximum heat output from a timber flooring is 70W/sqm with a room temperature of 20 °C and a floor temperature of 27 °C.



Uponor heat emission plates

### Your key benefits

- Special solution for timber suspended floors
- Easy to install and quickly laid
- For building, renovating or modernising



# The Uponor promise ...

## Your benefit



### Service, support and success

At Uponor, we are convinced that sharing our expertise with our partners is the best way to achieve our core purpose – to create better human environments.

Partnership is one of our key values, and our notion of cooperation is to jointly work at eye level. Thus, we assure that our success is your success, too. We offer our customers a wide range of superior solutions. But apart from that, it is this kind of partnership-approach that has already convinced installers and specifiers in more than 100 countries all over the world to work with us. Because Uponor is simply more.

Whether you are in the plumbing-business or a specifier in the status of a professional: Being a partner of Uponor will pay off for you – reliably.

### Advantages for installers and specifiers

- One product specification for one system
- Fast installation, lower labour costs and earlier completion of the building
- Your ideas can be realised with the wide range of items
- Tried and tested systems help to reliably realise your ideas
- Cheap systems often lead to leakages. Thus high costs for renovation and consequential damages arise for tiles, marble and bathroom accessories

### Advantages for contractors and construction companies

- Once installed, tight and safe with a service life of at least 50 years
- Reduction of total project costs through reduced maintenance costs
- No renovation costs because of corroded and/or blocked pipes
- Long term reliability increases the resale value
- 10 year warranty stands for high product quality

### The Uponor way to success – your benefits at a glance

- Comprehensive commercial and technical support and literature
- Uponor Academy training programmes
- Technical services for installers and specifiers
- Back up for swift calculation, material selection and bill of quantities
- Uponor software HSE 4.5 for planning, layout and calculation
- A one-stop-shop for complete solutions
- Certification and warranty



## **Uponor – partnering with professionals**

Uponor is a leading supplier of plumbing and heating systems for the residential and commercial building markets across Europe and North America, and a prominent supplier of municipal infrastructure pipe systems in Europe. Uponor's key applications are radiant heating, tap water systems and infrastructure solutions. The Group employs 4,500 people globally. In 2007, Uponor's net sales totalled 1.2 billion euros. Uponor Corporation is listed on the Nordic Exchange in Helsinki, Finland.

Uponor International Sales takes care of all business activities in Western Asia, Far East, Africa and Latin America.

**Uponor. Simply more.**

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