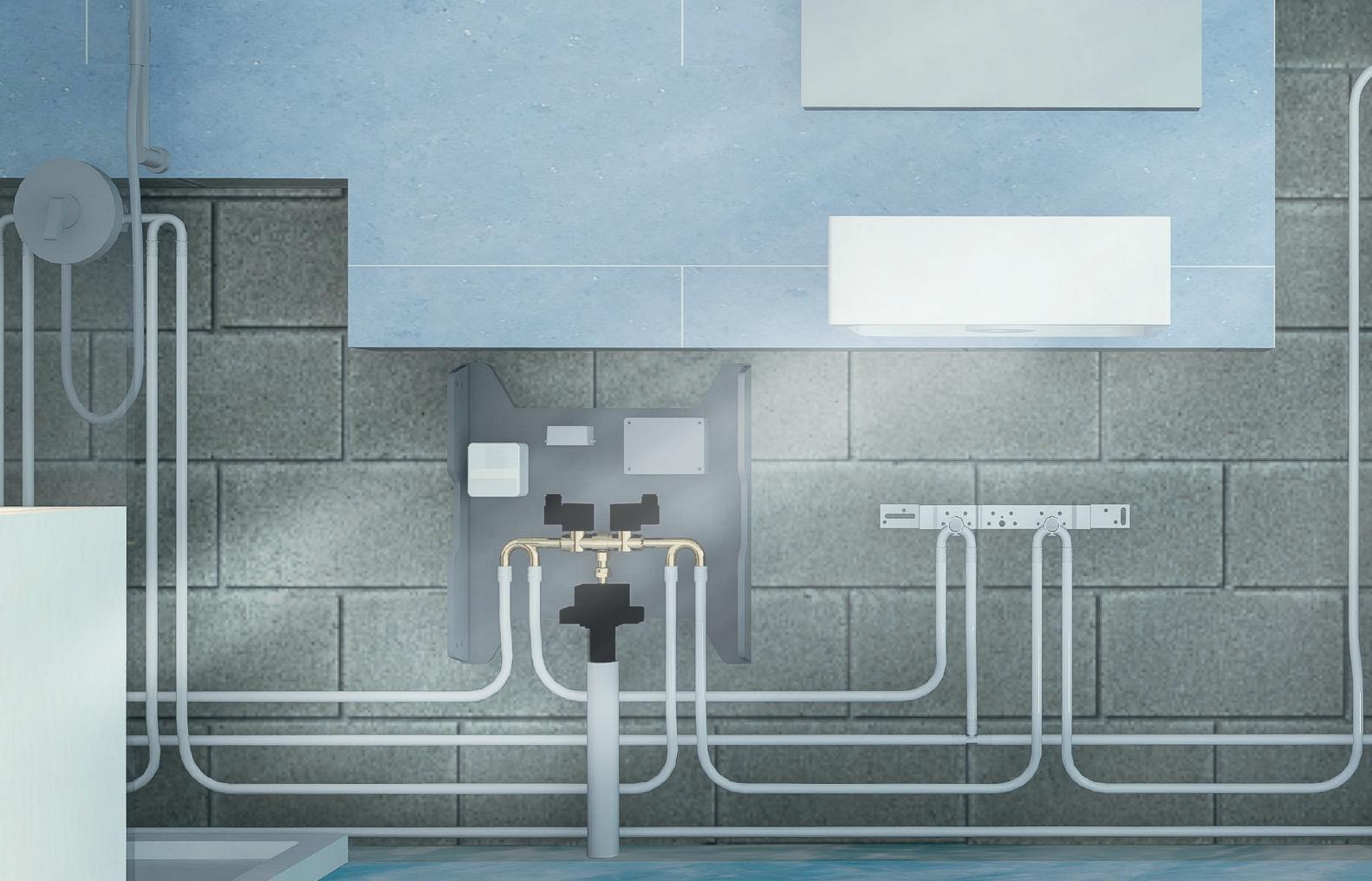


**uponor**

**Build on hygiene  
with Uponor plumbing  
systems**





## Installation worlds from Uponor

### Composite pipe installation



Page 4



Page 10



### Hygiene flushing stations and monitoring



Page 18

#### Composite pipes

**Uponor Uni Pipe PLUS**  
The world's first multilayer composite pipe with a seamless, extruded aluminium layer

#### Uponor MLC

The composite pipe for drinking water and heating

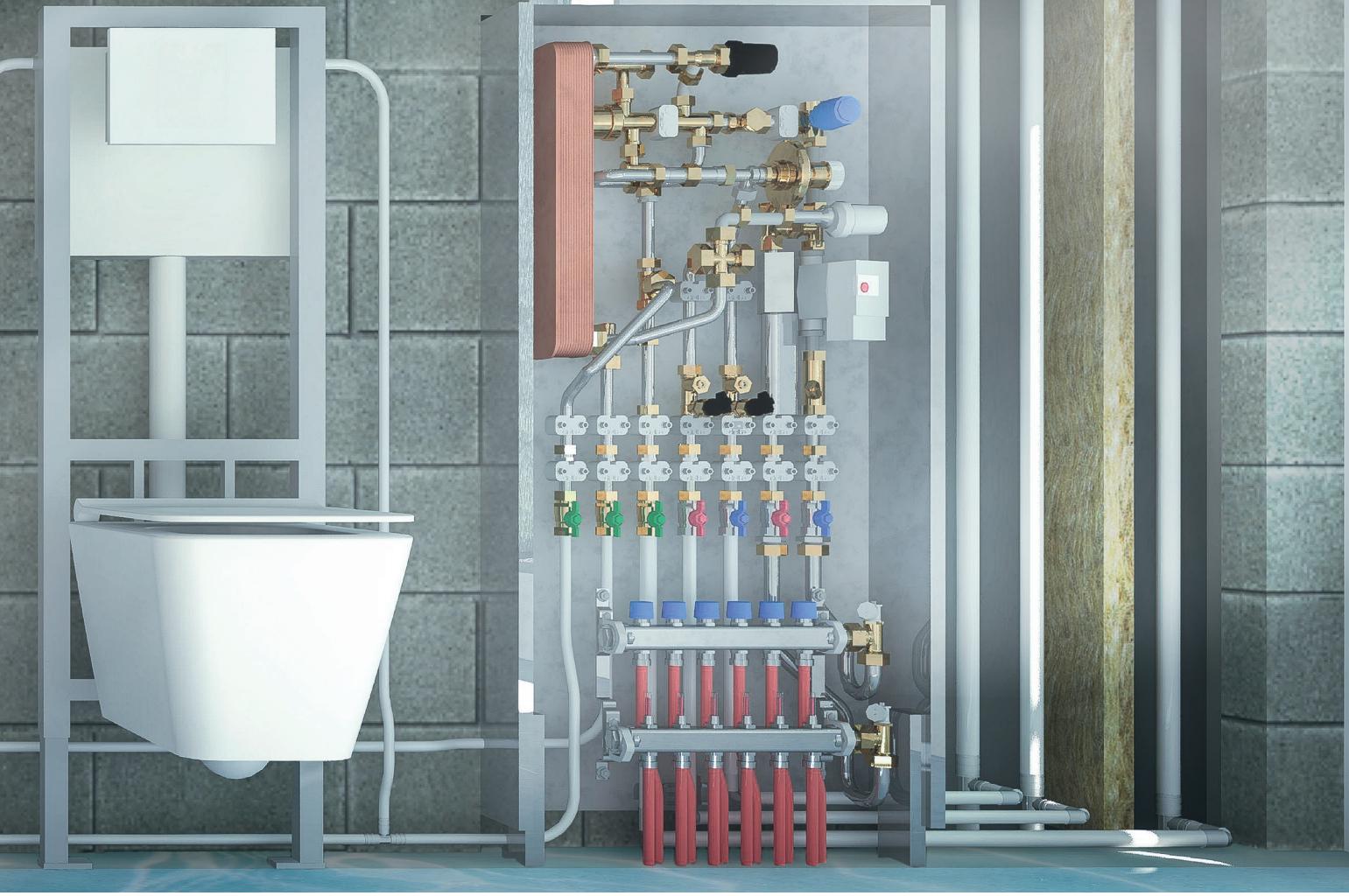
#### Fitting systems

**Uponor S-Press PLUS**  
Press technology

**Uponor RTM**  
Tool-free press technology

#### Uponor Hygiene Logic

**Uponor Smatrix Aqua PLUS**  
Hygiene flushing stations



## For residential and commercial buildings

**PE-Xa installation**



Page 20

**Waste water installation**



Page 26

**PE-Xa pipes**

**Competence from the  
pioneers of plastic**

With over 4 billion metres of PE-Xa pipe for drinking water and heating installed around the world since 1972, Uponor has set a record that is unrivalled in the industry.

**Fitting systems**

**Quick & Easy jointing  
technology**

Complete installation system with Quick & Easy fittings made of brass and PPSU for easy installation

**Waste water pipe system**

**Uponor Decibel**

Our waste water pipes fulfil the highest standards in sound insulation



## Ahead of time – Uni Pipe PLUS for fast installation

With our innovative SACP (seamless aluminium composite pipe) technology, we have created a completely new product category: the world's first multilayer composite pipe with a seamless, extruded aluminium layer. It sets new standards in performance and functionality, and it is clearly a step up from the technology to date.

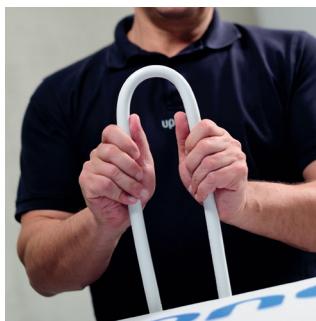
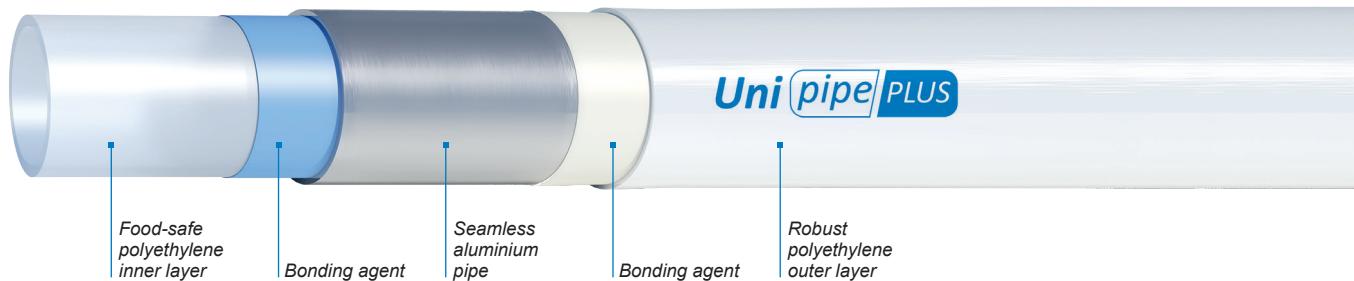
### Enhanced performance and safety

We offer Uni Pipe PLUS in two variants: as straight lengths and coils. Both provide extraordinary advantages. Uni Pipe PLUS coils are significantly more flexible and bendable than current multilayer composite pipes. This enables you to not only save time during installation, but also save costs caused by extra installation components, which are now no longer needed. In contrast, Uni Pipe PLUS straight lengths feature a special aluminium layer that is more rigid than conventional multilayer composite pipes. So you can provide a visually attractive, on-wall mounting solution which optimally caters to today's modern installation technology. Whichever variant you need, you are guaranteed the highest safety possible, as the pipe is seamless.

### Uponor Uni Pipe PLUS

- Complies with guidelines for the new drinking water directive
- Provides highest stability and bendability
- Features the best surface finish for preventing the build-up of deposits
- Is absolutely oxygen tight and corrosion resistant
- Ensures low linear expansion
- Delivers outstanding strength against ruptures
- Has been certified by the German Technical and Scientific Association for Gas and Water (DVGW) and complies with the Guideline for the Hygienic Assessment of Organic Materials in Contact with Drinking Water (KTW)

# Uni Pipe PLUS – built for the future



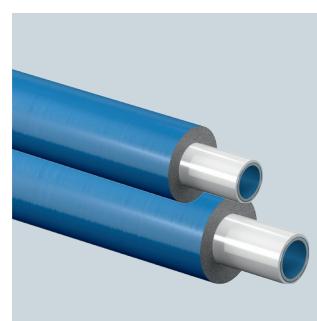
**Uni Pipe PLUS is the up-to-date evolution of multilayer composite pipes. And it makes sure you are always one step ahead.**

Uni Pipe PLUS consists of a seamless aluminium pipe which not only prevents oxygen from entering, but also compensates for restoring forces and linear expansion caused by changes in temperature. To achieve this, the thickness of the aluminium has been optimally adjusted for the high pressure resistance and bendability needed. Both the inside and the outside of the pipe have been equipped with a layer of polyethylene which is resistant to high temperatures (complying with DIN 16833). All the layers are then permanently joined to one another thanks to the use of a bonding agent applied between the layers.

- Up to 40% narrower bending radius, compared to conventional multilayer pipes
- 0% readjustment, pipe stays perfectly in shape after bending
- Up to 15% less fittings, due to the better bendability
- 100% backwards compatibility with Uponor leading multi-layer pipes & press fittings



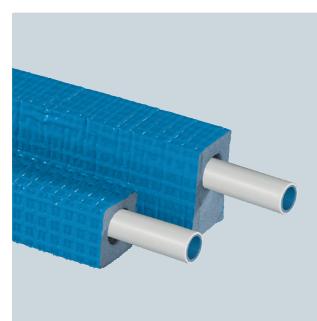
Uni Pipe PLUS pipes are available to you in the standard dimensions 16, 20, 25 and 32 mm.



You can choose just the right Uni Pipe PLUS composite pipe variant for your precise needs on site – as straight lengths or coils, pre-insulated or pipe-in-pipe.



Uni Pipe PLUS is also available in a pre-insulated or pipe-in-pipe version.



All Uni Pipe PLUS pipes can be installed easily, quickly and safely thanks to the tried-and-tested Uponor press-fitting technology. What's more, they are fully compatible with all the current Uponor systems and solutions.

- A system with multiple benefits
- Designed to deliver fast and clean installations
- Designed for fewer connections



## Uponor MLC – the multi-layer composite pipe system

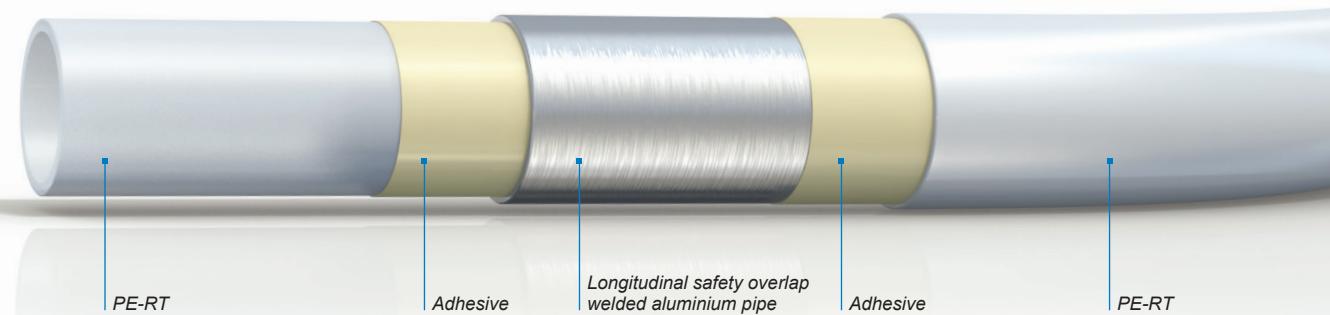
The Uponor MLC pipe consists of a longitudinal safety overlap welded aluminium pipe, to which an inner and outer layer of high temperature resistant polyethylene is applied (in accordance with DIN 16833). All layers are permanently bounded together by means of an intermediate adhesive layer.

A special welding technique guarantees a maximum of safety. The thickness of the aluminium selected for the Uponor MLC pipe is exactly adapted to the compressive strength requirements as well as the bending capability confident that you're installing tried and tested, certified quality. Our system technology is safe and long lasting, certified by numerous tests and licenses.

### Uponor MLC

- Absolutely oxygen diffusion tight multi-layer composite pipe
- Available in dimensions 16 – 110 mm
- Easy handling
- Low weight
- High inherent stability and bend flexibility
- Low linear expansion
- Excellent hydrostatic stress performance
- Corrosion resistance
- Press fittings and compression fittings (¾" Eurocone) with reliable test safety
- Colour coding of fittings and pressing jaws for fast and safe allocation of each dimension from 14 to 32 mm
- Pressing sleeve with pressing jaw guide grooves
- Connection adjustable until final tightening

# Uponor MLC pipe – a system with multiple benefits

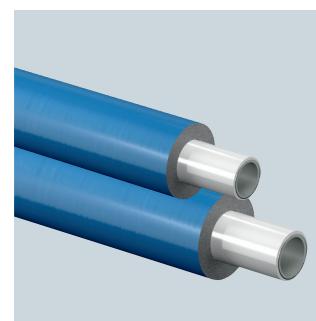


The Uponor MLC pipe for tap water installation, radiator and fan-coil connection can also be ordered pre-insulated (up to 25 mm). You have an assortment available in sizes from 16 – 110 mm. The pre-insulated pipes save installation time because the time intensive insulation of the mounted pipes and the resulting gluing of joints are eliminated.

With our 5 layer composite pipe we developed a product with a future, which combines the benefits of both metal and plastic pipes. Product benefits are obtained that cannot be surpassed: The inner aluminium layer provides a 100% oxygen-proof barrier. It compensates for the snap-back forces and the linear expansion caused by temperature changes. The basis of the system is simple, safe and fast pipe installation: simply bend by hand, cut to length, bevel, join together, press – done!



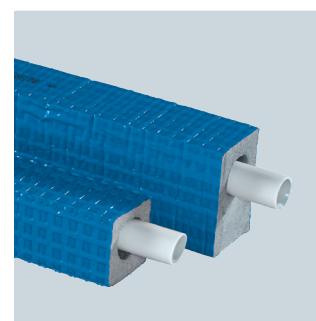
Uponor MLC Pipes – Easy to bend, eliminating elbows. Just cut to length and press to fit a guaranteed, secure connection.



Uponor MLC pipes are available as pre-insulated versions.



The inherent stability of the pipe and the low linear expansion, only a few fixing points are necessary. This provides a highly practical advantage for safe and fast installation.



Uponor MLC pre-insulated for heating installation.

- Metallic look and feel
- Light weight easier to handle and install
- Material and cost savings



## Uponor Metallic Pipe PLUS – designed to deliver fast and clean installations

Our SKZ-tested multi-layer composite pipe, the Uponor Metallic Pipe PLUS, combines the advantages of a metal and a plastic pipe in one excellent and future-oriented solution.

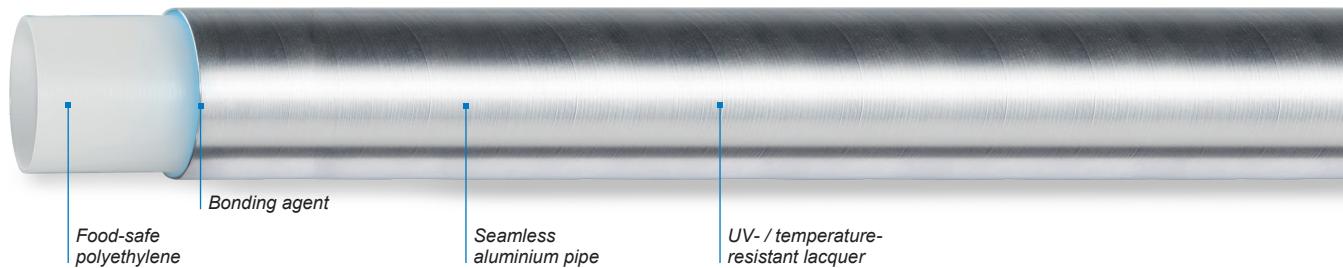
### Analysed and evaluated layer by layer

The Uponor Metallic Pipe PLUS is a seamless aluminium pipe. This prevents oxygen penetration and compensates for the restoring forces and linear expansion caused by changes in temperature. The thickness of the aluminium is optimally adapted to the required compressive strength and flexibility. A layer of high-temperature-resistant polyethylene has been applied inside and the outside is coated with a UV-/temperature-resistant lacquer. All layers are permanently joined by an intermediate bonding layer.

### Uponor Metallic Pipe PLUS

- Adheres to the guidelines laid down in the German Drinking Water Ordinance
- Maximum form stability and bending flexibility
- Optimum surface finish to prevent deposits
- Absolutely impermeable to oxygen and corrosion-resistant
- Low linear expansion
- Excellent creep strength
- SKZ-tested

# Uponor SACP technology – we develop perspectives



**Uponor Metallic Pipe PLUS is available in the standard dimensions 16 and 20 mm. Therefore you simply take advantage of the world's first seamlessly manufactured multi-layer composite pipe with metallic look and feel and at the same time be assured that Metallic Pipe PLUS is fully compatible with Uponor's press systems and tools.**

Uponor Metallic Pipe PLUS has a special aluminium layer which is more rigid. This lets you create an attractive surface mounting that is optimally adapted to current installation techniques. You are guaranteed a seamless product and the highest possible safety level.

## Simple mounting using tried-and-trusted techniques

All Uponor Metallic Pipe PLUS can be mounted simply, securely and quickly using our long-established Uponor compression joining techniques. They are also fully compatible with all current Uponor press systems and solutions.

- Available in the dimensions 16 and 20 mm
- Comprehensive delivery programme and mounting-friendly fitting technologies
- Attractive on-wall mounting of extremely rigid straight lengths
- Low weight due to optimal material distribution
- Higher profits due to time and cost savings during mounting



## Uponor S-Press PLUS – the new generation of press fittings for composite pipes

S-Press PLUS is the perfect solution for ensuring permanently tight pipe connections. It's 100 % backward compatible with current Uponor composite pipes and tools. Available in dimensions from 16 to 32 mm in both metal and plastic, S-Press PLUS is the fitting that knows no compromise: tough, safe, easy and smart.

### Color code / Tool concept

The bright colour coding on the press indicator are easy to recognise even from far distances. The matching colour coding on the pressing jaws tells you which tool to use.



**32** uponor **32**

**25** uponor **25**

**20** uponor **20**

**16** uponor **16**

# THE ONE without compromise – S-Press PLUS

## TOUGH

### WITHSTANDING THE HARSH CONDITIONS

- ✓ Improved connection between new designed stop ring and fitting body for more load and shock resistance.
- ✓ New body design and stainless steel sleeve for great stability under heavy mechanical forces.
- ✓ The new brass alloy for Uponor S-Press PLUS and with more than 20 years proven PPSU material for Uponor S-Press PLUS composite makes the fitting stronger against soft water, as well as low concentrations of calcium and magnesium ions
- ✓ Water tangent material is listed on the positive list of the 4MS. Approved material to be in contact with water for human consumption.
- ✓ All raw materials used for S-Press PLUS are highly resistant to corrosion.

## SAFE

### ENSURING YOUR PERFECT PRESSING RESULT

- ✓ New sleeve design made of stainless steel ensures the Uponor U-profile jaws can be fixed more precisely than ever.  
It is impossible to press the fitting in the wrong position.
- ✓ Fast diameter recognition  
Even in dark and difficult conditions on the construction site, you will be able to easily and quickly pick the correct fitting dimension. The bright colour coding and big dimension numbers on the press indicator are easy to recognise even from far distances. The matching colour coding on the pressing jaws tells you which tool to use.
- ✓ Unique press indicator on the stainless steel sleeve  
It enables a secure check if pressed or not. The press indicator (foil) is removable as soon as the connection is safe.
- ✓ Accurate test safety function  
The fitting will leak immediately if it hasn't been pressed properly, even at a very low pressure level.



## EASY

### SIMPLIFYING PLANNING AND INSTALLATION

- ✓ New digital engineered body design
  - Decreased pressure loss by up to 60%.
  - Fast 3-step installation speeds up installation because no beveling or calibration is required.
  - 100 % backward compatible with existing Uponor components.

## SMART

### ANSWERING ALL YOUR QUESTIONS ON SITE

- ✓ Innovative QR code  
For immediate access to:
  - 24/7 tutorial and installation support
  - Your individual project database
  - Item list and online ordering.

- Integrated press function
- Ideal for connection points that are difficult to access
- Installed with one click



## Uponor RTM – Click. Pressing without a tool

Like all our products the Uponor RTM fitting was subjected to demanding tests and extreme working conditions. Uponor RTM fulfils all the current test standards of the drinking water and heating installation. And furthermore also withstands extraordinary stresses such as pressure surges and length expansions in the pipe through temperature changes.

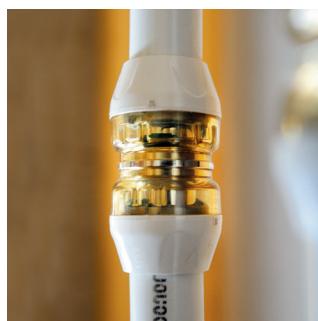
### Integrated press function

The memory effect of this pretensioned ring makes it an integrated pressing tool and furthermore ensures stable denseness of the connection. Thanks to the constant pressing pressure that acts completely circumferentially on the pipe, length expansions in the pipe are compensated. The RTM technology with the TOOL-INSIDE concept is DVGW certified. No additional pressing tool is required thanks to the integrated pressing function.

### Uponor RTM

- Integrated press function
- Dimension-specific colour coding
- No special tools required
- Visual and acoustical connection check
- Rapid and simple to process

# Uponor RTM – fitting technology with integrated pressing function



**Uponor RTM contains an extensive range of fittings for selected Uponor pipes so that no mounting tools are required in order to establish the pipe connection. RTM fittings can be mounted rapidly and provide a high degree of reliability and durability in both drinking water installation and heating / cooling applications.**

The materials used for Uponor RTM combine ultralight plastic with the best mechanical properties of metal and guarantee extraordinary performance. The pressing ring consists of high-strength special-coated carbon steel.

During manufacturing of the RTM fittings with integrated pressing function, technologies and materials are used that are also used in the automobile industry, for example for ABS disks. The revolutionary RTM technology offers the advantages of the tried-and-tested pressing technology combined with the novel TOOL-INSIDE concept. Thanks to the integrated pressing function this results in a perfect and permanent connection.

## Colour code dimension

	16		20
	25		32



*Uponor RTM tee PPSU – with integrated pressing function, pressed state identification and colour coding.*



*Uponor RTM tee – with inner thread, – with integrated pressing function, pressed state identification and colour coding, cylindrical inner thread to ISO.*



*Uponor RTM coupling PPSU – with integrated pressing function, pressed state identification and colour coding.*



*Uponor RTM transition Cu and stainless steel*

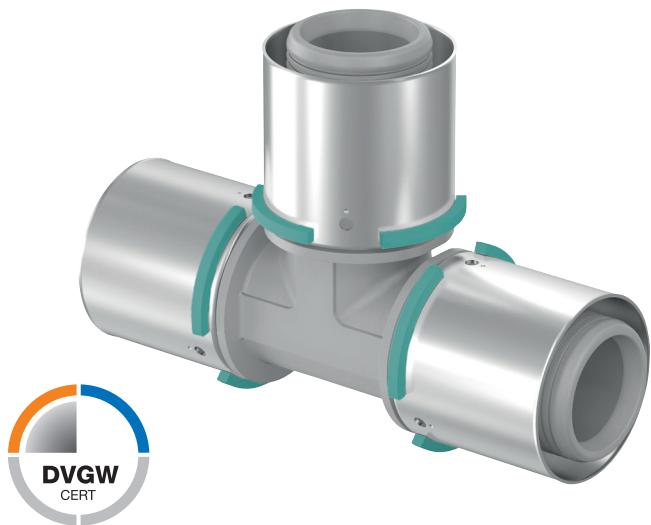
- Approved lead-free material
- Easy installation without calibration
- Fully compatible to current pipes and tools



## S-Press in dimension 40-75

**Build to make your riser installation fast and reliable under attractive terms**

- ✓ Big dimension from 40-75 with PPSU body
- ✓ S-Press 40-75 material is listed on the 4MS positive list of the as approved **lead-free** material to be in contact with water for human consumption
- ✓ Fast installation with easy bevelling and without calibration
- ✓ Compatibility to current pipes and tools
- ✓ Free choice between Uponor RS portfolio and S-Press composite portfolio 40-75
- ✓ Colour coding
- ✓ Test safety function
- ✓ Stop ring segments for easy and precise jaw fixation

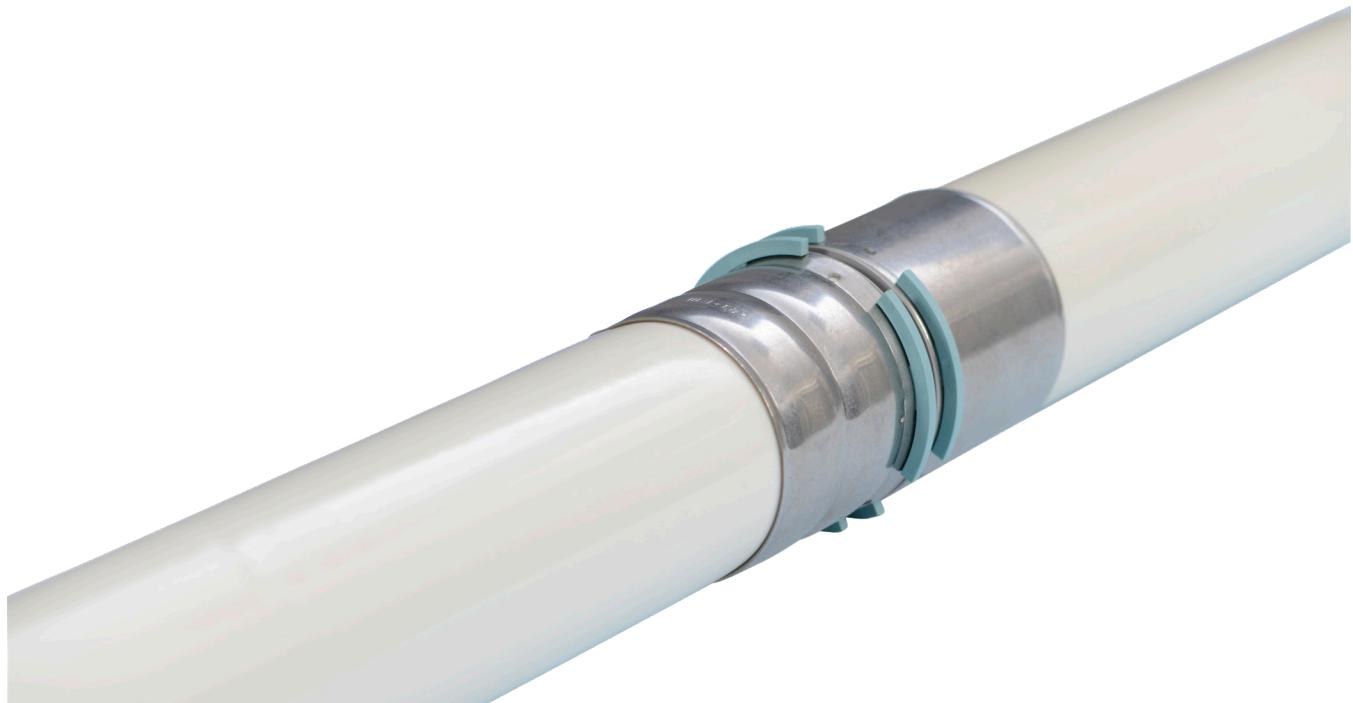


# Fields of application

The Uponor S-Press fitting 40-75 is applicable for all sanitary facilities as well as for heating and cooling, e.g. for house construction and for public and commercial buildings. Together with the Uponor MLC it has system approvals all over Europe for drinking water incl. hygiene approvals. S-Press 40-75 is also applicable for heating and cooling.

**Tap water:** The permanent operating temperature ranges from 0°C to 70°C at a maximum permanent operating pressure of 10 bar. The short-term malfunction temperature is 95°C for a period of 100 hours in the operating life time.

**Heating:** The permanent operating temperature ranges up to 80°C at a maximum permanent operating pressure of 10 bar. The short-term malfunction temperature is 100°C for a period of 100 hours in the operating life time.





## Uponor RS – the press fitting modular system for distribution lines and risers

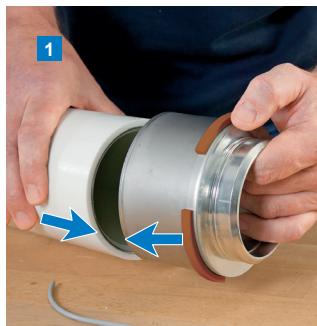
Thanks to the Uponor RS modular system for distribution lines and risers, all the required press connections can be done easily and safely on the workbench. Only here are heavy tools required. When on site the pre-mounted composite-pipe units then simply have to be inserted into the fittings and locked. This ensures rapid high-quality installation even under difficult spatial conditions.

Awkward working conditions with heavy pressing tools in cramped corners or over-head positions are a thing of the past. Thanks to the modular system design of Uponor RS all the connections are created with same procedure. Tools are only required for the pressing process – and this step can be carried out directly at the workbench.

### Uponor RS

- Connection concept consisting of base parts and matching adapter inserts made of brass
- Innovative fitting connection between base part and adapter
- Higher flexibility and less logistics thanks to minimal number of system components
- Optimal availability at low storage space and investment requirements
- Rapid mounting through pressing on the workbench and tool-free connecting on site
- Optional usage of the pressing machines UP 75 or UP 110 (cordless)
- Simple correction possibilities when plan changes occur during the installation phase

# Flexible planning, reliable procurement, simple mounting for large dimensions



Thanks to the modular system all the connections are established in the same four steps. Tools are only required for the pressing process – and this step can be carried out conveniently at the workbench.

- 1 Simply insert the deburred composite pipe into the pressing adapter.
- 2 Press the connection.
- 3 Insert the pressing adapter into the base part.
- 4 Slide the lock pin into the opening of the fitting body and click it into place.

Uponor RS is the press modular fitting range for distribution lines and risers: Flexible planning, reliable procurement, simple mounting.

## Colour code dimension

63	75
90	110



Flexible realisation of main distributors – thanks to the modular fitting system and the associated spacing adapters, distributors of different sizes can be realised flexibly and in just a few steps.



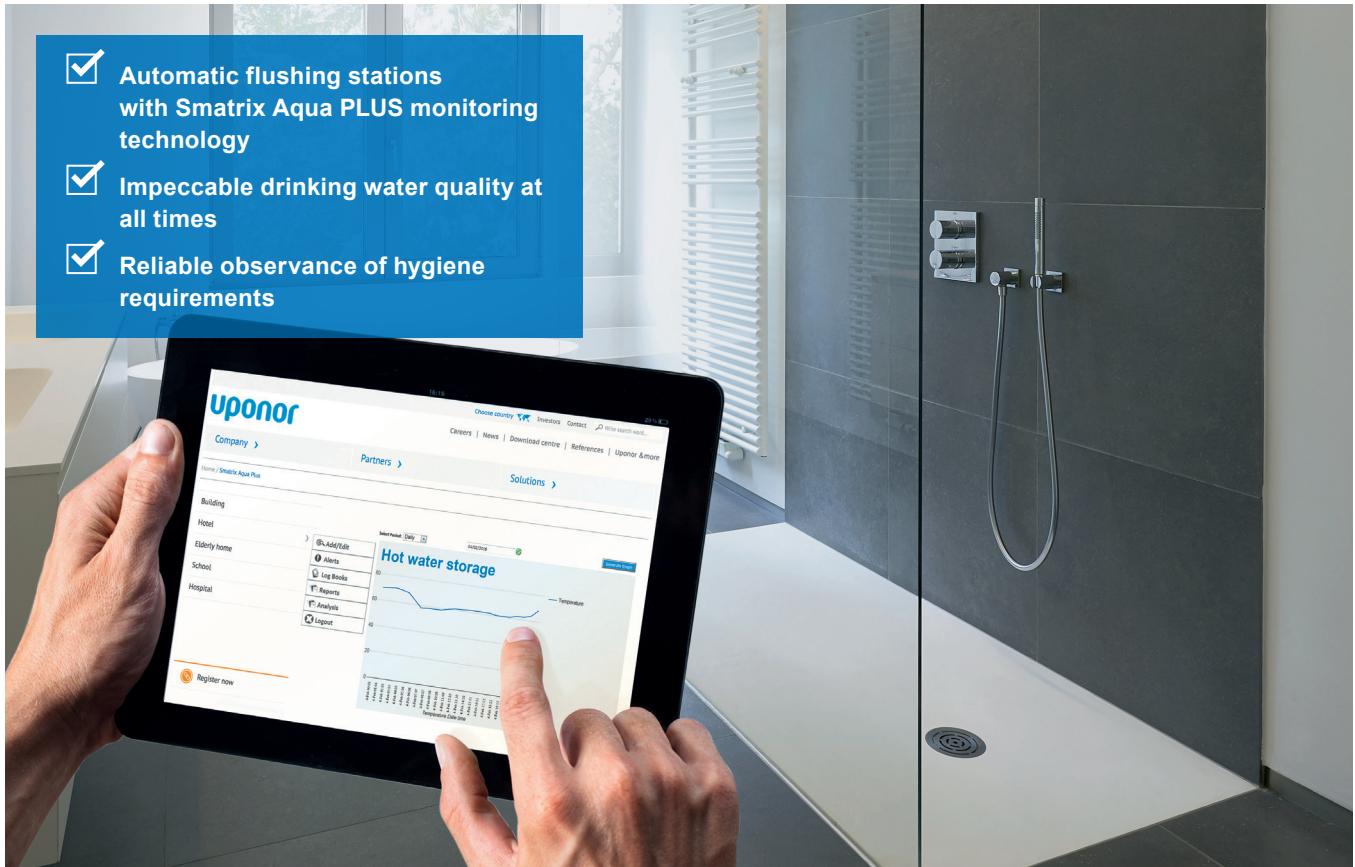
Faster planning with just 40 components – conventional 63 – 110 mm installation systems require up to 300 different components. The composite pipe system for distribution lines and risers need just 40 components – a significant facilitation in planning. Despite the low number of components the system covers almost any conceivable task and opens up new room for creativity.



Flexible angles – particularly in old buildings walls and ceilings are often not really at right angles to each other. The short spacers (5 mm) in combination with two 45° elbows allow almost any desired angle to be realised by rotating the components.



Simple and faster changing of piping levels – thanks to the space adapters in combination with 45° elbows, level jumps with only minimal height differences are possible.



## Uponor Smatrix Aqua PLUS – drinking water hygiene

The differing usage of sanitary installations in building can result in the water stagnating piping sections that are rarely used. This results in contamination of the drinking water with bacteria and thus in hygiene problems. The Uponor Smatrix Aqua PLUS flushing system is the optimal solution for hygiene problems in particular in nursing homes, clinics, sports facilities and hotels.

Thanks to the smart monitoring technology the flow of water in several buildings can be monitored and regulated – simply on a PC or mobile. Uponor Smatrix Aqua PLUS can also be retrofitted in older buildings. All requirements of the drinking water ordinance are fulfilled with only low costs and time requirements from the planning through to operation.

### Uponor Smatrix Aqua PLUS – drinking water hygiene

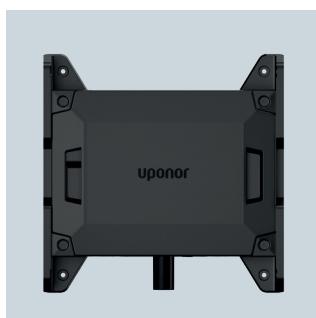
- Reliable observance of hygiene requirements and statutory standards
- Continuous monitoring and documentation of the complete drinking water installation, also of several buildings
- Immediate notification via e-mail when required
- Does not require any additional software or expensive inclusion in the building control technology
- Allows rapid and simple installation and commissioning and ensures proper operation already in the shell building phase

# Uponor Smatrix Aqua PLUS is the smart hygiene flushing system of Uponor



**How Uponor Smatrix Aqua PLUS functions:** The flushing stations are installed in the bathrooms. The temperature sensors monitor the risers, the drinking water heating units as well as the circulation system.

The Data Hub is installed centrally in the building and permanently receives data from the flushing stations and temperature sensors. If required, targeted flushings are triggered. Through the Uponor Smatrix Aqua PLUS online portal setpoints can be configured as well as actual values displayed and documented. This results in permanent and centralized monitoring of the complete drinking water installation.



Uponor Smatrix Aqua PLUS flushing station S-Press – for the automatic hygiene flushing of loop installations, waste water connection DN 40, configurable via wireless connection with USB receiver or Data Hub



Uponor Smatrix Aqua PLUS Data LAN – wireless configuration and data exchange of flushing stations and temperature sensors



Uponor Smatrix Aqua PLUS USB receiver – wireless configuration of flushing stations via PC



Uponor Smatrix Aqua PLUS temperature sensor – for temperature measuring as important points in the drinking water installation

- Lightweight and flexible
- Food-safe
- Practical dimensions



## Uponor PE-Xa system – the world's first, best and most widely used

Competence from the pioneers of plastic – the results of more than 4 decades of experience

Entirely designed to make the installation work as easy as possible, the flexible Uponor PE-Xa system is the ideal solution for installation tasks in the field of potable water and heating installation systems.

Uponor's PE-Xa system features PE-Xa pipes in coils or straight length, pipes in conduits, fittings made of PPSU, thread fittings made of brass, manifolds and an extensive range of accessories. Moreover, a tool which will become your secret weapon on the building site.

With over 4 billion meters of Uponor PE-Xa pipe installed in the world since 1972, Uponor has set a record that tells its own tale.

### Uponor PE-Xa system

- Perfect for modern building designs such as shear-walls
- No corrosion or sediment build-up
- Good resistance to chemical-dissolving agents
- Low pipe roughness meaning less friction and pressure loss
- Shock-absorbing reducing water hammer by 30%
- Durable material which is not affected by high flow velocities or low pH-valued water
- Largely resistant to stress crack formation
- Resists condensation on cold-water lines
- Life expectancy well over 50 years\*
- Available in coils for easy transportation and handling or straight lengths in dimensions up to 110 mm, optionally in PN6 or PN10
- Available as pipe in conduit

\* Acc. to long-term tests run by Studvik in Sweden and BASF in Germany from 1973 to 2009 at 95 °C / 12 bar.



- Ideal for drinking water
- Long term performance
- Compatible with Uponor Q&E joint technique

## Uponor Aqua Pipe - certified quality

Uponor Aqua Pipe, demonstrate its quality for safe and long term durable performances. and proven responsibility for maintain the tap water quality in independent test performed by RI.SE, Research Institutes of Sweden on the basis of the ISO standards and state of the art test methods.

The cross-linked polyethylene pipe (PE-Xa) Uponor Aqua, produced with a minimum of 70% cross-linking, in accordance with the DIN 16892/93 and EN standards ISO 15875 is the ideal solution for drinking water installation with flexible pipes. Available in dimensions from 16 to 110 mm, as coils or straight bar with possibility to choose between PN6 and PN10 pressure rating



- Ideal for heating connection
- Easy and fast installation
- Compatible with Uponor Q&E joint technique



## Uponor Radi pipe for heating installation

For the connection of heating and cooling elements such as radiators or water based fan-coils Uponor Radi pipe is the perfect selection. The oxygen barrier fulfills the requirements for oxygen diffusion resistance as per DIN 4726 and the system flexibility allowed an easy and efficient installation both in new building and in renovation Uponor Radi pipe is complemented by all needed accessories for radiators and cooling elements connection e.g. as tee or manifold installation.

Available in dimensions from 16 to 110 mm, as coils or straight bar with possibility to choose between PN6 and PN10 pressure rating.



**Uponor flexible plumbing systems can be installed using conventional T-fitting, serial- or manifold installation method. No matter the installation method, with our extensive range of manifolds and other accessories, Uponor always provides you the best solutions to save on installation time and costs.**



## Uponor Combi Pipe – one pipe all applications

Uponor Combi pipe is the perfect solution to optimize time and cost on the building side as it can be used both for drinking water delivery and for the connection of heating or cooling elements such as radiators or water-based fan-coils. The pipe is thanks to the innovative heat treatment in production is certified for drinking water application and the oxygen barrier fulfills the requirements for oxygen diffusion resistance needed for heating and cooling systems.

The cross-linked polyethylene pipes (PE-Xa) Uponor Combi pipe is available in coils and straight lengths, as naked and insulated version and in a protective tube, to offer always the perfect fit to the installation needs.



*Uponor U-tap connections for inwall mixer and cisterns*



*PEX Clamp connection WIPEX™ – for dimensions up to 110 mm*

- Fast and secure connection
- Unique fitting design
- Available up to dimension 75 mm



## The Uponor PE-Xa installation system with unique Quick & Easy jointing technology

The Uponor Q&E fitting is a tried-and-tested concept with over 500 million fittings already sold worldwide. The jointing concept relies on the unique elastic features of Uponor PE-Xa pipe to give a joint that is stronger than the pipe itself.

Uponor Q&E cold-expansion fittings make solid, permanent, manufactured connections without the need for torches, glues, solder, flux or gauges. The unique shape memory of Uponor PE-Xa piping forms a tight seal around the fitting creating a strong reliable connection within seconds!

Uponor Q&E fittings are available in a range of high-performance plastic polyphenylsulfone (PPSU) and threaded brass fittings for pipe dimensions up to 75 mm. Uponor PE-Xa pipe may also be used with Uponor's range of compression fittings.

### Uponor Quick & Easy

- Reliable connections can be made within seconds, saving time and installation cost
- No solder, torches or messy fluxes and solvents required
- No scale or corrosion build up means clear and clean water
- Flexible piping manifold options for optimised material usage and fewer connections reducing potential leak liability, system and maintenance costs
- All installations feature low pipe noise and water hammer
- Uponor Q&E is a watertight jointing system that only gets tighter with time minimising the cost of re-work or maintenance
- Unique fitting design provides 30% higher flow rates throughout the system and reduces pressure drop.
- 10 year system warranty
- Plastic material eliminates theft concerns

# Connect in seconds in three simple steps. Fast. Simple. Secure.



**16 mm**



**32 mm**



**$\geq 40 \text{ mm}$**

**1** Cut the pipe edge vertically.

**2** Expand the pipe end.  
To ensure a uniform expansion,  
the expander rotates according  
to the integrated auto rotate  
function.

**3** Push the expanded pipe end in  
quickly until it stops on the fitting  
nipple. Hold until the pipe has  
been shrunk. Ready!

- Quick and innovative jointing with minimal effort even in cramped conditions such as niches or shafts, reducing workmanship fault
- 100% permanent and leak-proof joint if properly installed
- Q&E evolution ring with stop edge for accurate positioning on pipe
- Internal jointing ensures joint integrity even in case of external pipe damages on site

- No O-rings or other movable parts, reducing chances of leakages
- Visual connection
- No fire or other hazardous risks since no solder, torches, fluxes or solvents required for installation
- Possibility of full plastic system
- No pitting, scaling or corrosion ensuring clear, clean and healthy water



## Uponor Decibel pipe system

Uponor Decibel is a complete soil and waste pipe system with pipes and parts available in dimensions from 50 to 160 mm. It's suitable for new buildings, as well as renovations. Mineral-reinforced polypropylene, a multi-layered structure and a high specific gravity help keep the Decibel system quiet. Decibel is well suited to acoustically demanding buildings.

The system is designed for max allowed temperatures 85 °C which can temporarily increase up to 100 °C. Max allowed temperatures are continuous 85 °C, temporarily 100 °C, and is resistant to detergents and sewage. The smooth inside resists grooving and minimises the risk of blockage. The system is dimensioned according to and complies with all requirements within European Standard EN 1451. Each pipe is traceable and all parts are individually tested to guarantee a long, maintenance-free life. Impact on the environment is low, and all plastic components are 100% recyclable.

### Uponor Decibel soil and waste pipes

- Suitable for new buildings and renovations
- Easy to install without special tools
- Available in sizes: ø 50, 75, 110 and 160 mm
- Temperature range: 85 – 100 °C
- Compliant with all requirements within European Standard EN 1451

# Uponor Decibel – no noise from soil and waste water

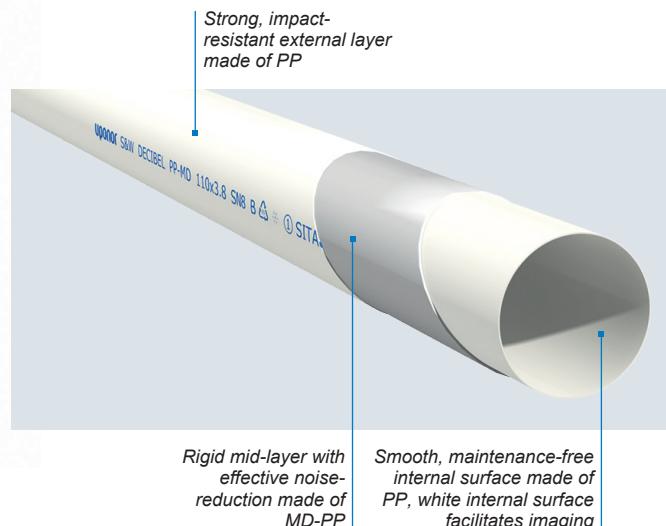


Uponor Decibel is the newest and most advanced noise-suppressing indoor soil and waste pipe, created after extensive research and development. It has resulted in excellent performance for acoustic damping, function, installation and environmental protection.

The key to a quiet soil and waste pipe is unhindered flow. Uponor Decibel not only achieves that, but also features a totally new solution with an efficient noise-suppressing intermediate layer consisting of a high-density mineral.

Certain noises are airborne, i.e. they are generated in the pipe and are carried to the outside air. Uponor Decibel's multi-layer construction with a mineral intermediate layer dampens vibrations. Other noises are structure-borne, i.e. carried from the pipe into the structure of the building via its fastenings, creating a resonant vibration. One way of avoiding that is to use noise-suppressing fastenings.

Uponor Decibel is light and easily workable. Compared with a traditional cast iron sewer system, installation can be up to twice as fast. Pipes can be cut off with a saw or pipe cutter, and sleeve couplings make installation quick and easy, even in tight spaces. No hot work is required for installation, so there is no risk of fire. The Decibel angled ground connector is ready to install, making work faster.

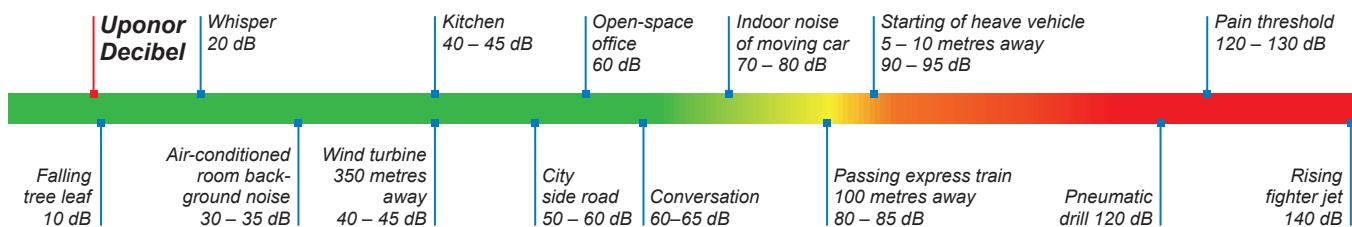


Acoustically tested – the Decibel system has been tested in accordance with the EN 14366 standard. The standard includes laboratory measurements of the noise generated by the sewer system.

Flow rate [l/s]	Sound level L <sub>sc, A</sub> [dB (A)]
0,5	< 10
1,0	< 10
2,0	< 10
4,0	14

Measurement results for the Decibel system in accordance with the EN 14366 standard (Fraunhofer Institute). The test differs significantly from practical installation sites and conditions. However, standardised test conditions enable noise-reducing sewer systems to be compared.

When the noise level is below 10 dB (A), the result is marked on the test report as <10 dB (A). Noise levels below 10 dB are undetectable in a normal residential environment.



# uponor

## Everything you need in one App: Uponor PRO



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