

Uponor



Optimal Productivity and Performance



Self Attaching System Success

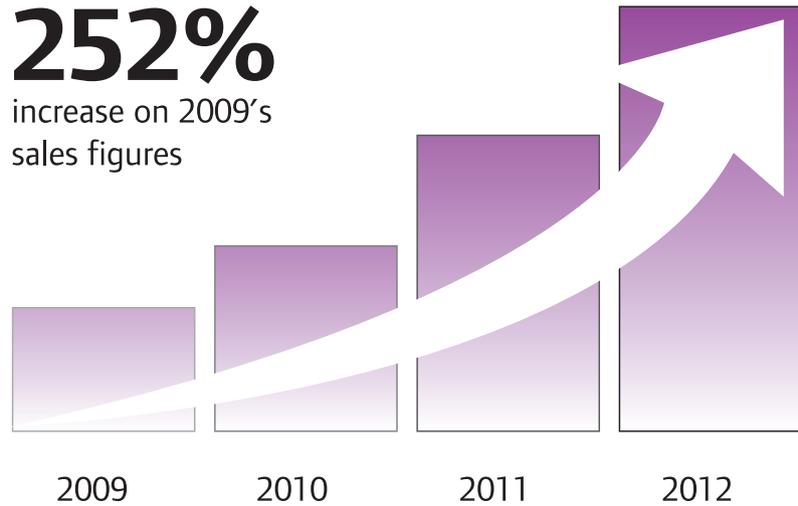
Sales in Germany

Self attaching system in Germany has seen strong sales growth since it's launch in 2009. Architects and specifiers are able to reduce the overall build programme, in turn reducing the cost of the project.

Installers love the ease and simplicity of laying the pipes and the speed at which the system enables them to complete the job.

A true evolution in underfloor heating installation...

252%
increase on 2009's
sales figures



Project data: BMW World

- 7,800m² of Uponor underfloor heating and cooling cover the basic loads.
- Architect: COOPHIMMELB(L)AU
Wolf D. Prix/W. Dreibholz &
Partner ZT GmbH, Vienna, Austria

Contents

Product Introduction.....	3
Features and Benefits.....	5
Ground Floor Insulation.....	7
Intermediate Floor Insulation.....	9
Products and Accessories.....	10
Installation Overview.....	11
Roll Insulation.....	12
Pipe Leading Tool.....	13
Compression Adapter.....	15
Heat Output Table.....	16
Uponor Controls at a Glance.....	17

Uponor Self Attaching System: revolutionary fixing

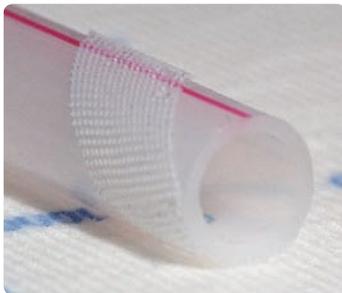
Uponor Self Attaching System; the Revolutionary Fixing System

With over 40 years of plastic pipe manufacturing experience, Uponor's new innovative self attaching system can cut the time to install underfloor heating systems by 50 per cent, whilst reducing installer's overheads in the process.

Using its 'hook and loop' technology the system offers a tool-free and hassle-free fixing method that can be laid in half the time of a traditional system.

The key element to the Self Attaching System is a unique band which is wound in a spiral around Uponor's oxygen tight PEXa pipe. This band contains thousands of micro teeth which allow one installer to quickly, safely and securely fix the pipe to the systems laminated insulation boards.

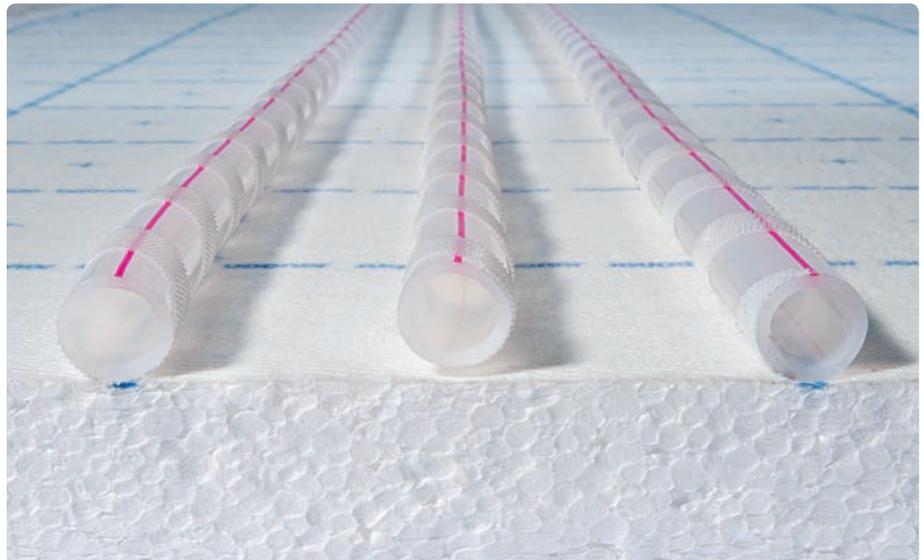
Unique attachment technology



Hook and loop retention fixing



Freedom of pipe layout for simple or complex designs



Uniform, secure and reliable pipe placement

Some of the additional advantages include reduced system components, no special fixing tools are required, insulation membrane integrity is maintained, simple and quick pipe layout adjustments, no fixing restrictions found with pre-formed insulation panels, minimised insulation panel wastage and reduced build programs.

At a glance

- **Cost effective** – reduced installation time and overall project costs
- **Fast** – reduced project build program
- **Easy** – one person installation
- **Flexible** – simple or complex pipe layouts without compromise
- **Versatile** – heating or cooling, domestic or commercial
- **Secure** – high retention force
- **Simple** – no special fixing tools required
- **Integrity** – no fixing damage to insulation membrane

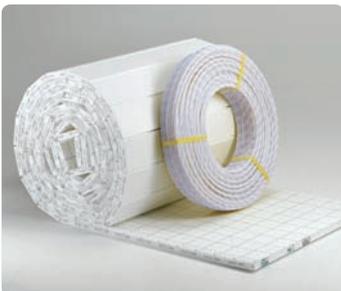
Uponor Self Attaching System: flexible, fast and secure

Using its high retention force fixing method, the Self Attaching System offers installers complete flexibility to install the pipe in any loop shape or pattern to optimise performance every time regardless of the room layout. The result is a fast, easy to lay, pipe fixing method that can be installed from start to finish by just one person saving labour time and money.

The self attaching system offers many practical advantages with every component of the system designed to make installation easier, quicker and more profitable. Pipe with 'hook and loop' technology that requires no additional fixing components. Insulation panels available in board or roll form to suit your project and preference with pre-applied membrane and grid markings for accurate and uniform positioning. Plus, a fixing method that even performs in dirty site conditions.



Fit for the building site - optimal hold on dirty insulating boards



The two main components for a quick and easy installation across any surface



Simply tread on the pipe as you lay it in front of you. The pressure from your foot securely fixes the pipe in place



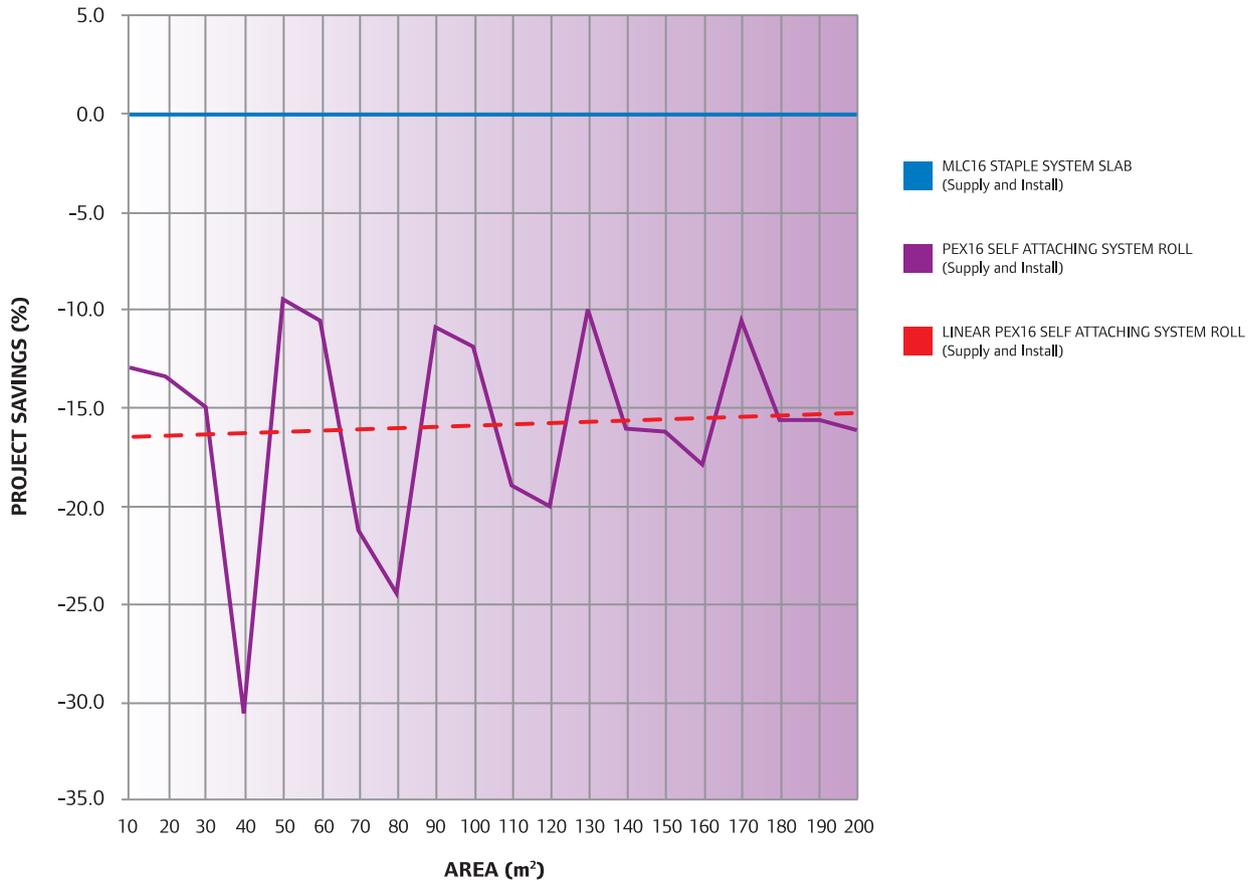
In case of misplacement, or if you want to straighten a line or tidy up just pull the pipe back up



Reposition the pipe and secure in place by simply treading on it again. You can also lift and refix using your hands

Features and Benefits: optimal productivity

COMBINED PRODUCT AND LABOUR SAVING



At a glance

PROJECT SAVINGS

- **Remove work steps**
28db impact noise reduction can remove the need for installing a resilient acoustic layer
Built in membrane removes the need for installing a polythene layer above the insulation
- **Reduce overall build programme**
- **Save on cost of supplying and installing a resilient acoustic layer**
- **Halve the time of installing an UFH system or halve the installation cost**

ACOUSTIC & INSULATION QUALITIES

- **28db impact noise reduction**
Tested to DIN4109
Identical laboratory methods to BSEN ISO 140-8:1998
- **Better than some of the leading acoustic underlay products**
- **Potential for significant savings on supply and installation costs**
- **Meets BSEN 1264 insulation requirements for floors with heated rooms below**



PEX-a 16x1.8mm UFH PIPE

- **25 year manufacturing defect warranty**
- **Design life in excess of 50 years in accordance with DIN 16892**
- **Design pressure of 6 bar at 70°C**
- **Available in coil sizes up to 640m**
- **Oxygen diffusion barrier conforming to DIN 4726**
- **Manufactured to ISO 9001 & 14001**
- **3.3 billion metres of pipe sold since 1972**
- **Conforms to EN ISO 15875**

Project Savings

By specifying and installing self attaching system you can benefit from overall project savings, 15% on average.

Savings are made by removing work steps and a reduction in labour and installation time which in turn reduces the overall build programme.

Acoustic & Insulation Qualities

With the self attaching system insulation roll you also get the combined benefit of thermal insulation and acoustic qualities.

This is better than some of the leading acoustic underlay products available on the market today. This can help you reduce your overall build programme and may also provide sufficient sound insulation that satisfies building regulations for the passage of sound.

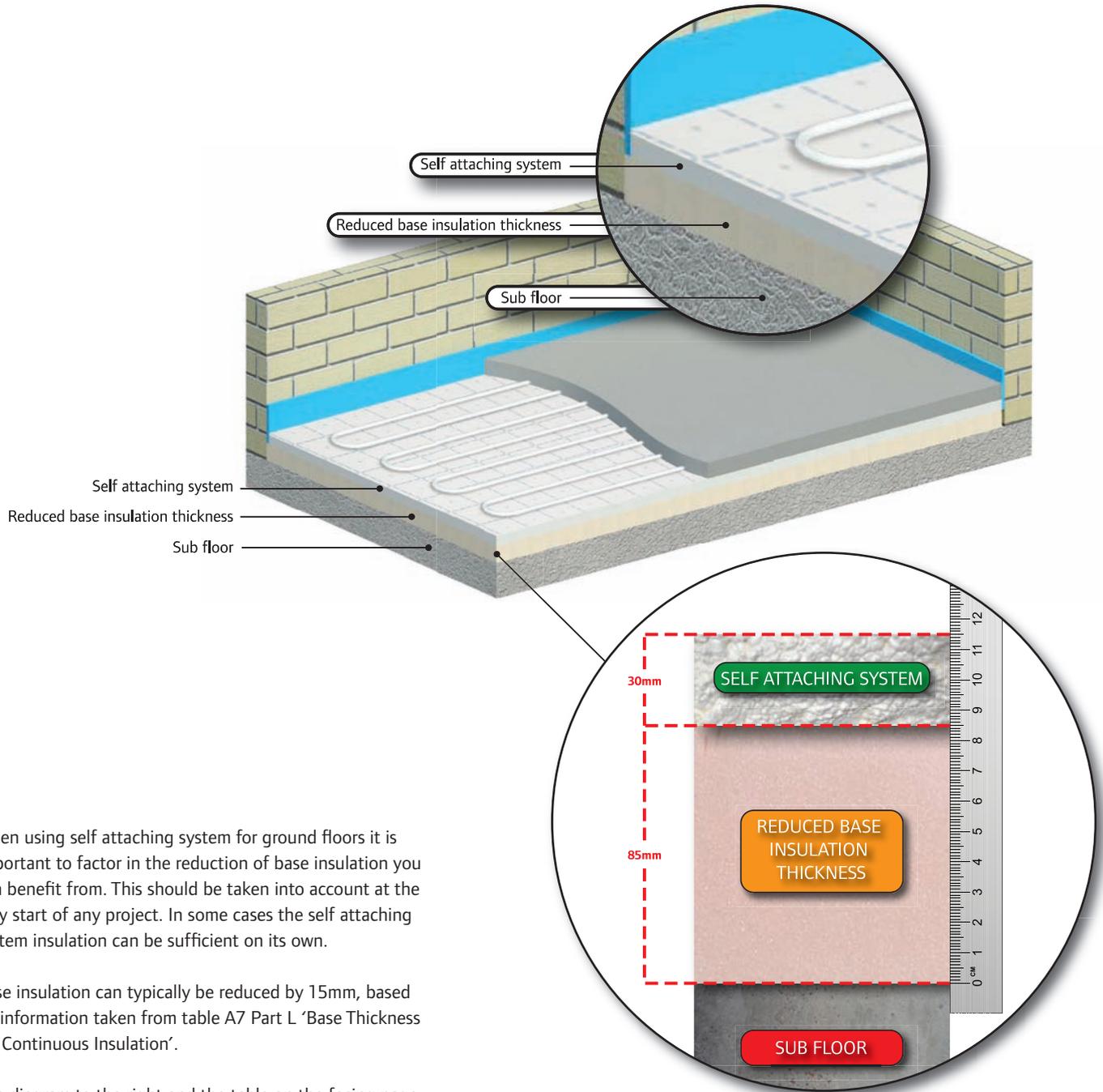
PEX-a 16x1.8mm UFH Pipe

Uponor was the first company in the world to produce, sell and install PEX pipes and we have been manufacturing them for over 40 years.

PEX-a 16x1.8mm comes in a range of coil sizes, up to 640m and is sold worldwide in over 60 countries.



Ground Floor Insulation



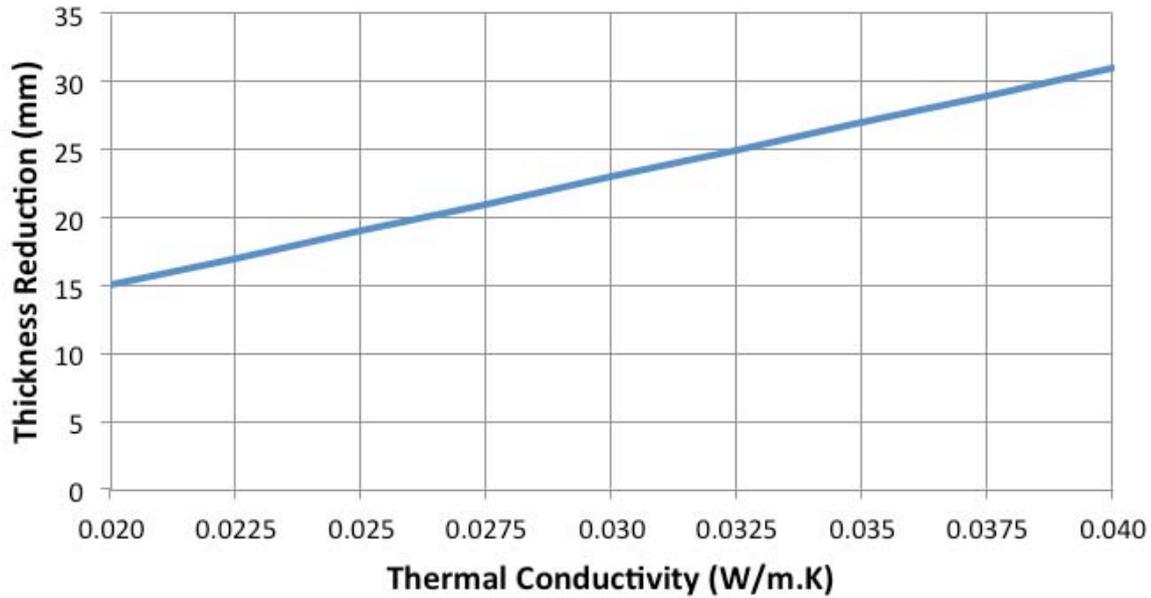
When using self attaching system for ground floors it is important to factor in the reduction of base insulation you can benefit from. This should be taken into account at the very start of any project. In some cases the self attaching system insulation can be sufficient on its own.

Base insulation can typically be reduced by 15mm, based on information taken from table A7 Part L 'Base Thickness for Continuous Insulation'.

The diagram to the right and the table on the facing page show the adjusted base thickness of specified insulation when used with self attaching system. The table is based on insulation increments of 5mm.

Graph showing calculated thickness reduction of base insulation layer when using self attaching system

Base Insulation Thickness Reduction



Original thickness of Specified Insulation (mm)	Thermal Conductivity of Specified Base Insulation (W/m.K)								
	0.020	0.022	0.025	0.027	0.030	0.032	0.035	0.037	0.040
	Adjusted Base Thickness of Specified Base Insulation (mm) when used in conjunction with Self Attaching System								
50	35	35	35	30	30	25	25	25	20
60	45	45	45	40	40	35	35	35	30
70	55	55	55	50	50	45	45	45	40
80	65	65	65	60	60	55	55	55	50
90	75	75	75	70	70	65	65	65	60
100	85	85	85	80	80	75	75	75	70
110	95	95	95	90	90	85	85	85	80
120	105	105	105	100	100	95	95	95	90

Based on insulation increments of 5mm

Uponor self attaching system roll insulation heat and sound qualities

DIN 4109

SELF ATTACHING SYSTEM

28 dB noise impact reduction

SELF ATTACHING SYSTEM

$\lambda_R = 0,045 \frac{W}{mK}$

$R = 0,75 \frac{m^2K}{W}$

EN 13501-1

SELF ATTACHING SYSTEM

Class E

EN 1991-1-1

SELF ATTACHING SYSTEM

5 kN/m² Traffic Load

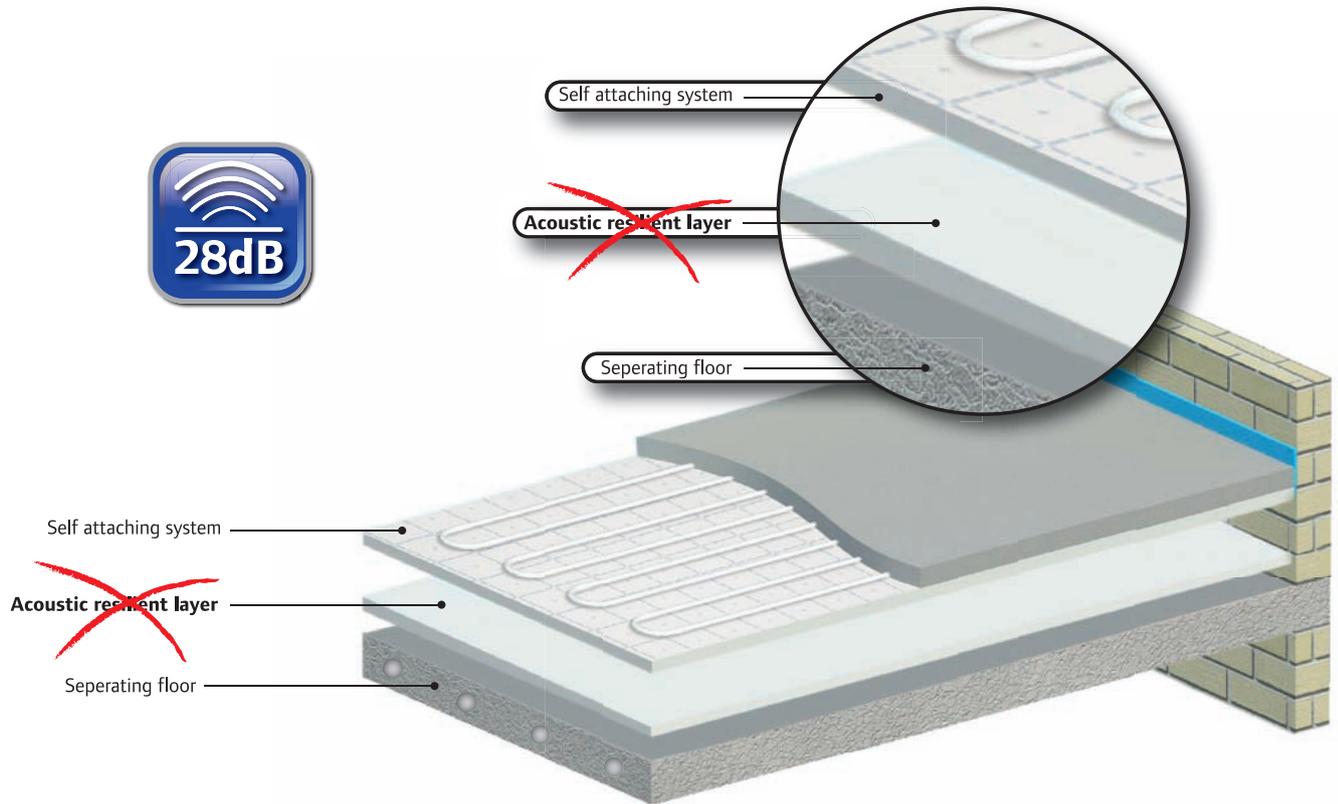
10 kN/m² Total Load

In addition to the roll insulation Uponor also manufacture a self attaching system EPS100 insulation panel designed for higher loads - 30kN/m² maximum distributed load. The panel measures 2000mm x 1000mm and has the same thermal and fire ratings as the roll.

N.B. Self attaching system insulation slab does not have an acoustic rating.

Email us: enquiries.uk@uponor.com

Intermediate Floor Insulation



The acoustic properties of self attaching system insulation may allow for the removal of an acoustic resilient layer used in some separating floor constructions.

A huge savings potential in both supply and labour cost can be realised through this 28db acoustic feature. Not only that but the removed workstep will result in a reduction of the overall project timeline.

Furthermore, no polythene membrane needs to be installed as it is already built-in to the insulation ready to accept the screed pour. Another time, labour and material cost saving.

At a glance

- **28db impact noise reduction**
Tested to DIN4109
Identical laboratory methods to
BSEN ISO 140-8:1998
- **Better than some of the leading acoustic underlay products**
- **Potential for significant savings on supply and installation costs**
- **Meets BSEN 1264 insulation requirements for floors with heated rooms below**

Please consult your acoustic specialist before finalising the design of your floor construction.

Self Attaching System Products & Accessories

Item Code	Pack Qty
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Self Attach. Heat/Sound Insulation Roll



EPS 70 heat and sound insulation roll laminated with SAS hook and loop technology and pre-printed grid for easy laying of pipes. 28dB Impact noise reduction. Thermal Resistance 0.75m²K/W. Rolls are 1m x 12m.

30-2	1007227	12 m ²
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Self Attach. Heat Insulation Slab



EPS 100 insulation slab with increased compressive strength for higher loadings. Laminated with SAS hook and loop technology and pre-printed grid for easy laying of pipes. Thermal Resistance 0.75m²K/W. Bi-folded slabs are 1m x 2m.

30	1048807	10 m ²
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PEX Self Attaching Pipe



Polyethylene cross linked pipe with oxygen diffusion barrier spiralled with SAS hook and loop technology.

16x1.8mm SAS Coil	1047624	240m
16x1.8mm SAS Coil	1047625	640m

Pipe Leading Tool



Can be fitted between doorways so as to elevate SAS pipe from the ground during installation.

	1007179	1
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De-coiler



Suitable for both PEX and MLCP pipes. Includes coil retention arms and de-coiling eyelet.

	1058662	1
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Mobile De-coiler



Suitable for both PEX and MLCP pipes. Includes coil retention arms and de-coiling eyelet.

	1058663	1
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Edging strip



For use on solid screed floors as perimeter wall insulation, to reduce thermal bridging. Made of polyethylene with self adhesive backing and PE skirt providing tight seal between edge strip and insulation. Thermal resistance 0.22m²K/W. Supplied in 50m rolls, 150 x 10mm HxD.

50m Roll	1000080	50m
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Item Code	Pack Qty
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Uponor Tape



Wide tape for sealed joining of SAS insulation roll or slab. Roll width: 50mm Roll Length: 66m

Width 50mm x Length 66m	1000012	1
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Uponor Tape Dispenser



For taping of insulation sections and edges (roll or slab). For use with tape 1000012

	1000142	1
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Eurocone Compression adapter (PEX Pipe)



Made of plated brass 3/4" FT Eurocone thread for connection to 3/4" MT outlets of NV/LS/TM Manifolds.

16x1.8mm	1057441	10
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Compression Coupling



Made of plated brass 3/4" MT x 3/4" MT for repair to damaged sections of SAS 16 x 1.8mm pipe.

3/4" MT x 3/4" MT	1006641	1
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Gloves



Uponor gloves recommended for use when handling self attaching pipe.

	1048675	1
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PEX Pipe bend supports



These should be used for all pipe and pipe-in-pipe bends. Use the correct bend support to match the outer diameter of the pipe or the conduit.

Metal 15/16mm	1009004	1
Plastic 15/16mm	1002038	1

Did you know...

Visit our Uponor youtube channel to watch the latest Self Attaching System video. www.youtube.com/user/UponorUK
Uponor Self Attaching System Challenge



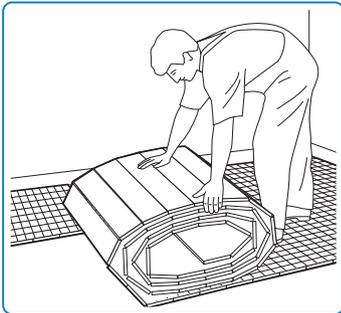
Installation Overview

Uponor Self-Attaching-System installation

The edging strip must be fitted before the Uponor self-attaching system insulation is laid.

Laying the Uponor self-attaching- system insulation

The Uponor self-attaching-system insulation is to be preferably laid in continuous strips in the room's longitudinal direction. For easier distribution of the heating loops, the marking grid should match the parallel insulating strips. Remaining surfaces in recesses, door opening and strips remaining along the walls are to be subsequently filled in with the remaining insulation. Always place the "free-hand" cut sides of the boards against the edging strip to eliminate gaps in the insulation.



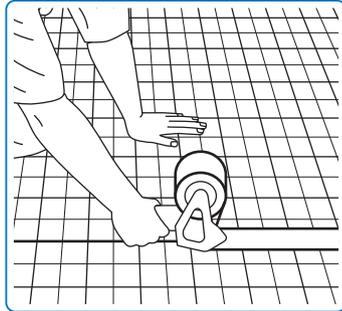
Additional insulation

Additional heat insulation may be needed to comply with BS EN 1264-4 and building regulation requirements*

Masking the self-attaching-system insulation joints

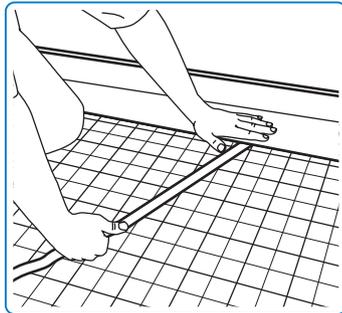
Masking all insulating strips joints (together with the bonded edging strip apron) creates a sealed trough ready to accept the heating screed. Precise masking stops any screed or

screed water from penetrating the insulation as well as stopping acoustical bridges from being formed.



Sealing the edging strip

To eliminate all gaps or cavities the edging strip foil apron must be bonded to the insulation boards. This keeps the foil from ripping and

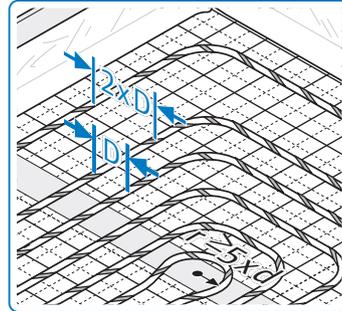


prevents the penetration of screed or screed water.

Pipe laying

The heating pipes are laid on the boards at the predetermined distance without using tools. The microscopic hooks meshing with the looped sheets are sufficient to ensure that the pipes are fixed to the boards. No additional fixing is required. The minimum allowed bending radii of the pipes are maintained. All known methods of

pipe laying are possible. It is good practice to mark the supply and return of the heating loops to ensure correct distributor connection.



Other notes

The radiant heating pipe is to be protected with Uponor protective sleeves in the area of the expansion joints. Before pouring the screed a pressure test is to be made in accordance with BS EN 1264-4. A test report is to be prepared.

The exposed parts of the edging strip may only be removed after completion of the flooring or when laying textiles and flexible coverings only after the hardening of the filler at the predetermined breaking points.

Before any floor covering is laid the screed must be heated up in accordance with BS EN 1264 part 4. For proprietary screeds please consult with the manufacturer for curing times and heat climatisation procedures.

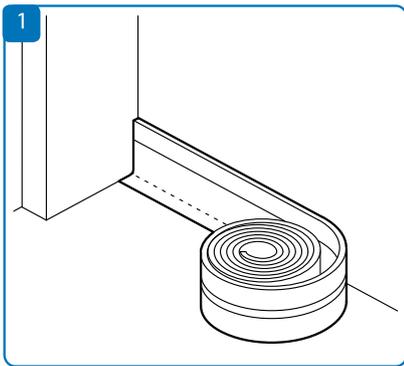
* Please see page 8 for more information.

Roll Insulation

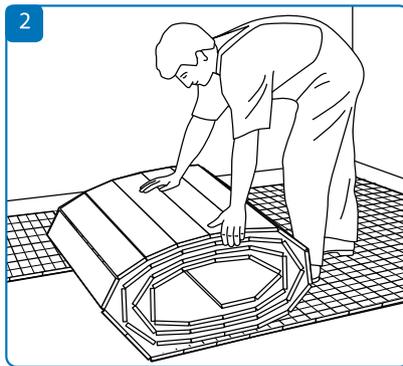
The following pages are intended as a quick reference guide where you can see the main steps of installing self attaching system.

For more details please refer to the installation manuals that can be found inside the packaging of the products.

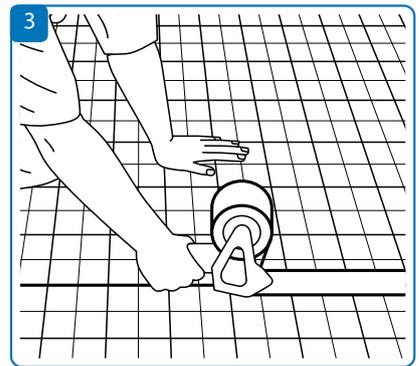
Floor installation main steps



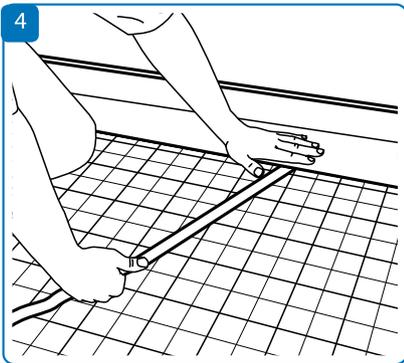
1
The edging strip should be installed prior to the insulation



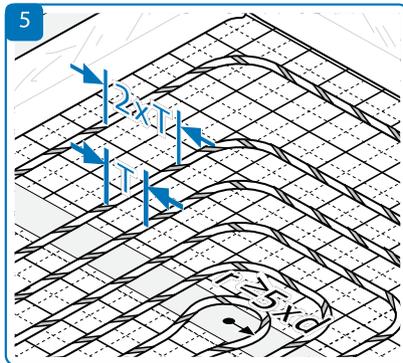
2
Lay the insulation roll length ways in the room and by matching the pre-printed grid



3
Seal the panels side by side using tape

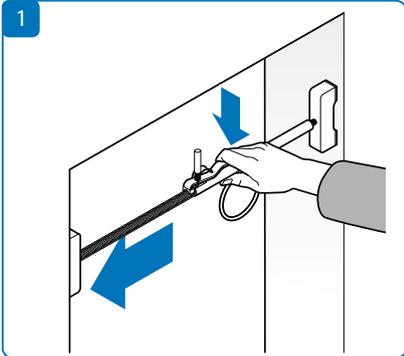


4
Seal the edging strip along the perimeter of the insulation

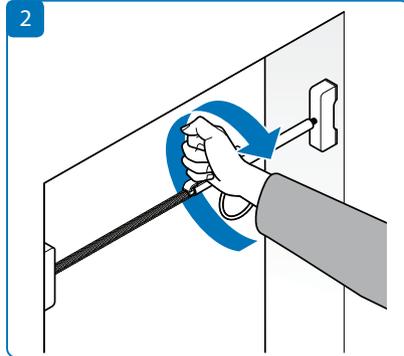


5
Lay the pipe by applying pressure with your foot to attach it to the insulation panel

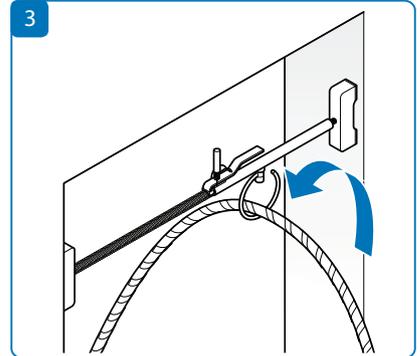
Pipe Leading Tool



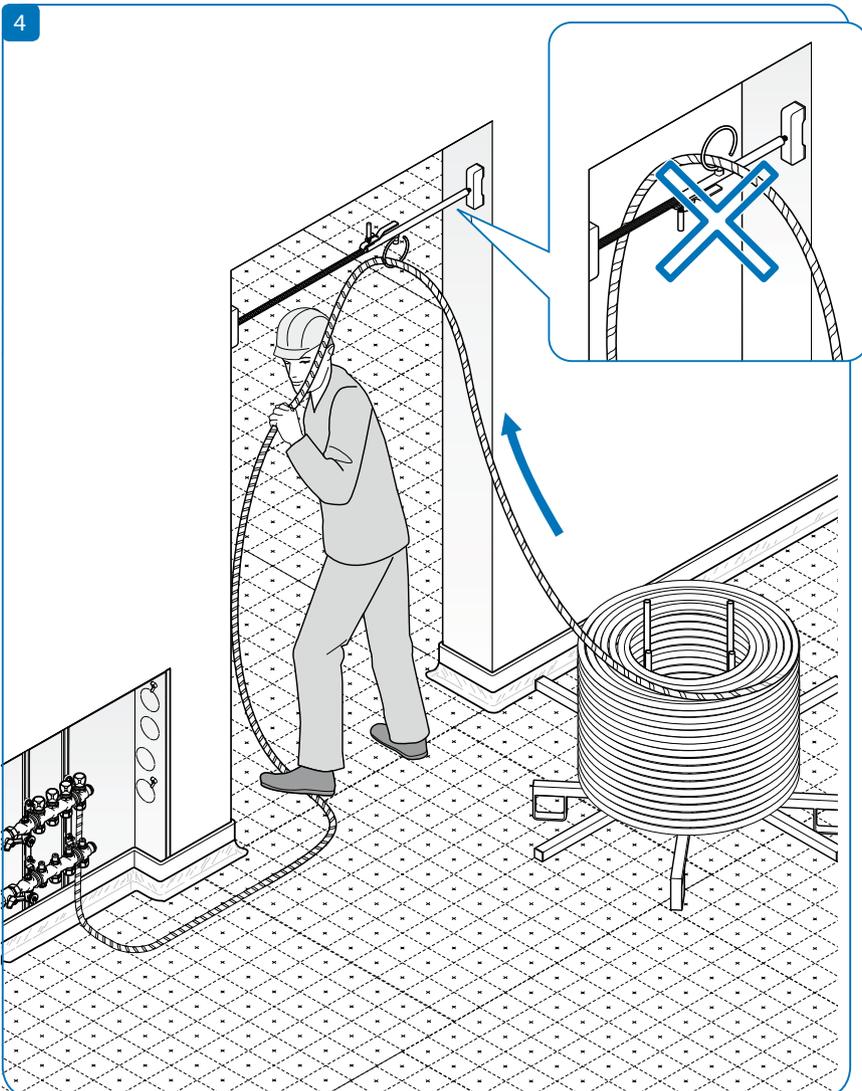
1 Position the pipe leading tool within the door frame, close to the top



2 When you are happy with the position, and the ring is on the underside, then lock the tool in place

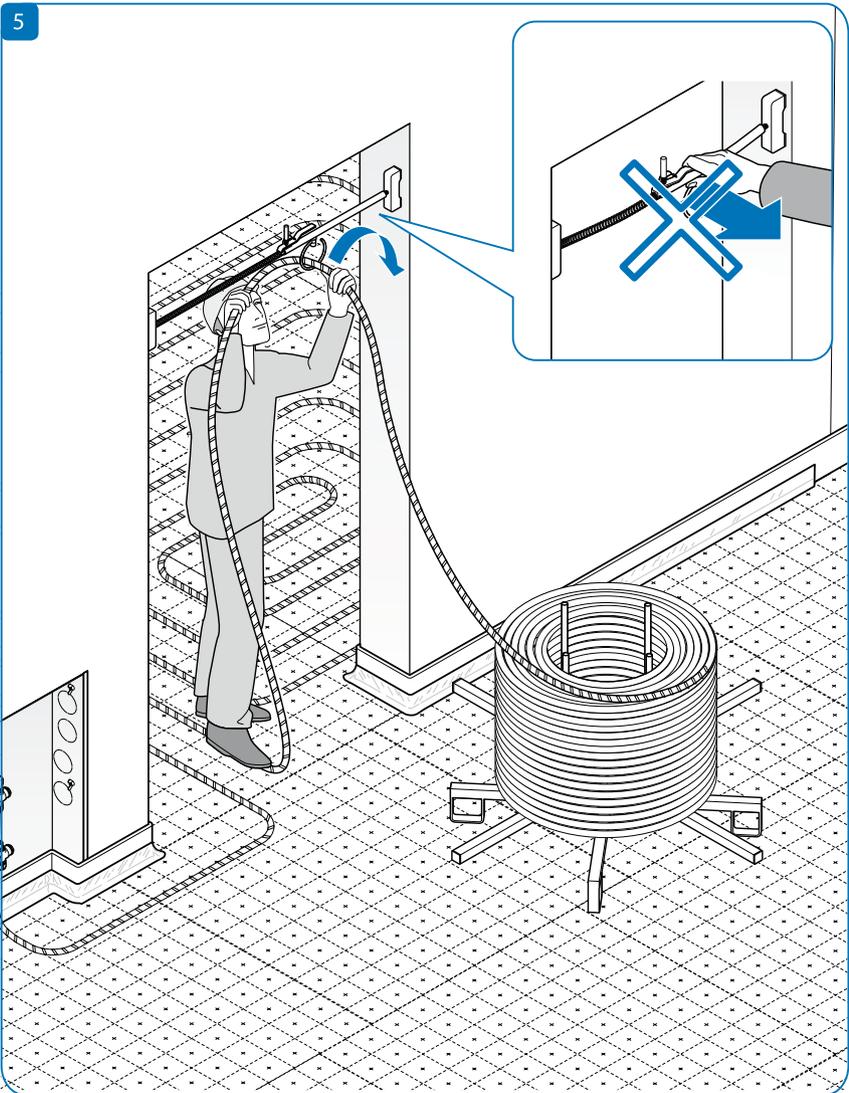


3 Insert the self attaching system pipe through the ring

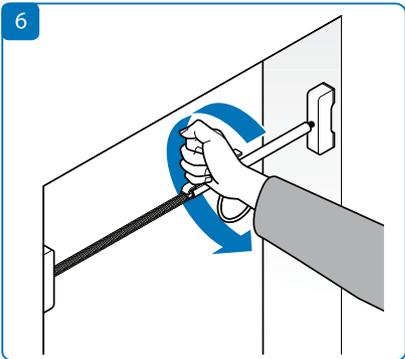


4 Start laying the self attaching system pipe having previously positioned the de-coiler in an adjacent room

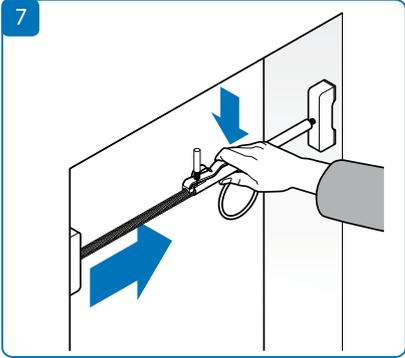
Pipe Leading Tool



Remove the self attaching system pipe from the pipe leading tool but do not try to remove the tool itself

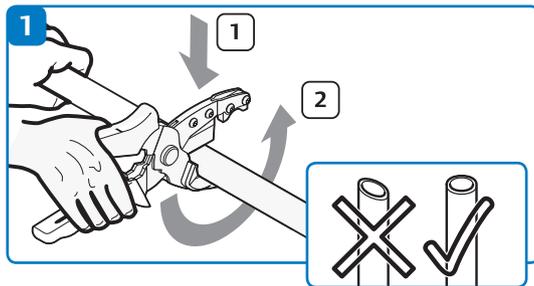


Unlock the pipe leading tool



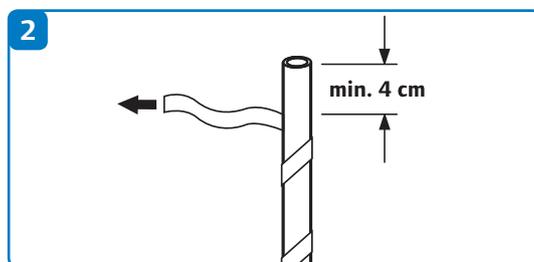
You can now remove the pipe leading tool

Compression Adapter



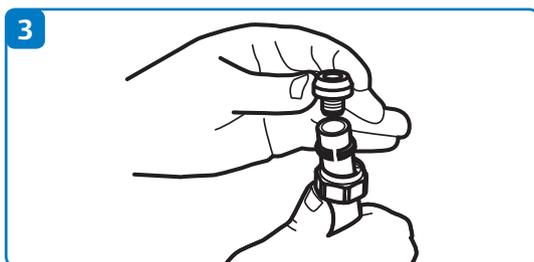
1. Cutting to length

Cut the pipe to length at right angles with a pipe cutter. The edges must be straight and burr-free.



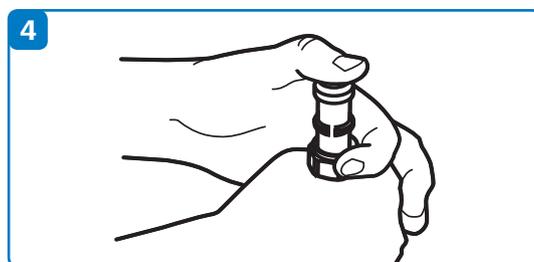
2. Removing the self-attaching-system strip

Loosen and cut off at least 4 cm of the self-attaching system strip from the end of the pipe.



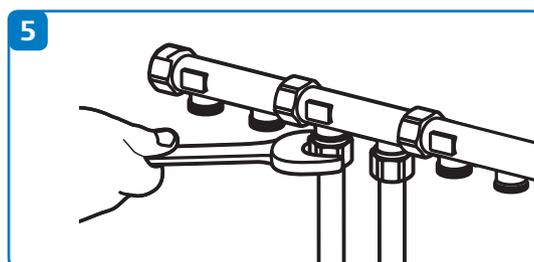
3. Installation of the union nut and locking ring

First push the union nut and then the locking ring onto the end of pipe.



4. Installation of the pipe inset (support sleeves)

Push the pipe inset (support sleeves) by hand into the pipe until the positive stop is reached. If manual force is not sufficient, it is possible to use a plastic hammer.



5. Connection to the distributor

Attach the pipe to the distributor and secure the nut by hand. Then tighten the nut with a wrench until the torque noticeably increases.

Please note

With threaded locking ring connectors you must always use pipe inserts (support sleeves). If the compression adapter is loosened a new locking ring must be used. The reuse of a locking ring is not allowed.

Heat Output Table

Pipe specification:
 16mm O/D PEX
 Solid Floor
 Floor construction:
 45 mm above UFH pipes
 Screed depth:
 1.2 W/mK
 Water temperature drop [K]:
 5

Suitable for occupied zone
Suitable for perimeter zone only

Mean water temperature [°C]	Pipe pitch, Vz [mm]											
	150	200									300	
Design room temperature [°C]	Pipe requirement, L [m/m ²]											
	5											
MWT [°C]	Floor covering resistance, R [m ² K/W]											
	5											
30	2. Average floor surface temperature, AFST											
	0.01	0.05	0.1	0.15	0.01	0.05	0.1	0.15	0.01	0.05	0.1	0.15
35	1. Heat emission, q											
	1	2	1	2	1	2	1	2	1	2	1	2
40	W/m ²	°C	W/m ²	°C	W/m ²	°C	W/m ²	°C	W/m ²	°C	W/m ²	°C
	78.5	23.2	58.3	21.5	46.7	20.5	39.3	19.9	27.8	20.5	22.3	19.6
45	67.0	24.3	49.8	22.8	39.9	21.9	33.6	21.3	27.8	22.3	21.1	19.6
	55.5	25.3	41.2	24.0	33.0	23.3	27.8	22.8	24.6	23.6	22.6	21.4
50	43.8	26.2	32.5	25.2	26.1	24.7	22.0	24.3	37.8	24.9	24.1	23.8
	32.0	27.2	23.7	26.4	19.0	26.0	16.0	25.7	27.6	26.8	20.9	25.6
16	107.1	25.6	79.5	23.3	63.7	22.0	53.7	21.1	92.4	24.4	70.1	22.5
	95.7	26.6	71.0	24.6	56.9	23.4	47.9	22.6	82.6	25.6	62.6	23.9
18	84.3	27.7	62.5	25.9	50.1	24.8	42.2	24.1	72.7	26.7	55.1	25.2
	72.8	28.7	54.0	27.1	43.3	26.2	36.5	25.6	62.8	27.9	47.6	26.6
20	61.3	29.8	45.5	28.4	36.5	27.6	30.7	27.1	52.9	29.0	40.1	27.9
	50.0	30.2	37.2	29.1	30.2	29.1	28.4	28.4	45.1	29.6	31.1	28.1
22	40.0	31.1	29.0	30.2	27.7	29.0	27.7	27.7	37.3	28.7	28.7	26.9
	32.0	32.2	23.7	30.2	26.8	29.1	26.8	26.8	48.6	28.7	42.1	26.9
24	25.0	32.2	19.0	30.2	26.0	29.0	26.0	26.0	61.3	28.7	55.1	26.9
	15.0	32.2	13.0	30.2	26.0	29.0	26.0	26.0	73.3	28.7	67.3	26.9
16	135.6	27.9	100.6	25.0	80.7	23.4	67.9	22.3	117.0	26.4	88.7	24.1
	124.2	29.0	92.2	26.4	73.9	24.8	62.2	23.8	107.2	27.6	81.3	25.5
18	112.8	30.0	83.7	27.7	67.1	26.3	56.5	25.4	97.3	28.8	73.8	26.8
	101.4	31.1	75.3	29.0	60.3	27.7	50.8	26.9	87.5	30.0	66.4	28.2
20	90.0	32.2	66.8	30.2	53.5	29.1	45.1	28.4	77.6	31.1	58.9	29.6
	80.0	32.2	58.4	30.2	46.1	29.1	40.1	28.4	69.6	31.1	51.5	29.6
22	70.0	32.2	50.0	30.2	39.0	29.1	35.0	28.4	61.3	31.1	44.1	28.1
	60.0	32.2	42.0	30.2	32.0	29.1	30.0	28.4	53.0	31.1	37.0	27.0
24	50.0	32.2	34.0	30.2	25.0	29.1	25.0	28.4	44.7	31.1	30.0	26.0
	40.0	32.2	26.0	30.2	18.0	29.1	18.0	28.4	36.3	31.1	23.0	25.0
16	164.0	30.1	121.7	26.8	97.6	24.8	82.2	23.5	141.5	28.3	107.4	25.6
	152.7	31.2	113.3	28.1	90.8	26.2	76.5	25.1	131.7	29.6	99.9	27.0
18	141.3	32.3	104.8	29.4	84.1	27.7	70.8	26.6	121.9	30.8	92.5	28.4
	129.9	33.4	96.4	30.7	77.3	29.1	65.1	28.1	112.1	32.0	85.0	29.8
20	118.5	34.5	87.9	32.0	70.5	30.5	59.4	29.6	102.2	33.2	77.6	31.1
	107.1	34.5	79.5	32.0	63.7	30.5	53.7	29.6	92.4	33.2	70.1	30.5
22	95.7	35.6	71.0	33.3	56.9	31.9	47.9	30.1	82.6	34.4	62.6	31.5
	84.3	36.7	62.5	35.6	50.1	34.0	42.2	32.8	72.7	36.7	55.1	33.6
24	72.8	37.8	54.0	37.8	43.3	36.2	36.5	35.6	62.8	39.8	47.6	36.6
	61.3	38.9	45.5	40.9	36.5	39.9	30.7	39.9	52.9	42.9	40.1	39.9
16	192.4	32.3	142.8	28.4	114.5	26.2	96.4	24.7	166.0	30.3	126.9	27.1
	181.1	33.4	134.4	29.8	107.7	27.6	90.7	26.2	156.2	31.5	118.5	28.5
18	169.7	34.6	125.9	31.1	101.0	29.1	85.0	27.8	146.4	32.7	111.1	29.9
	158.3	35.7	117.5	32.4	94.2	30.5	79.3	29.3	136.6	33.9	103.6	31.3
20	147.0	36.8	109.1	33.7	87.5	32.0	73.6	30.8	126.8	35.2	96.2	32.7
	135.6	37.9	100.6	35.0	80.7	33.4	67.9	32.1	117.0	36.4	88.7	34.1
22	124.2	39.0	92.2	36.3	73.9	34.8	62.2	33.8	107.2	37.6	81.3	35.5
	112.8	40.1	83.7	37.7	67.1	36.3	56.5	35.4	97.3	38.8	73.8	36.8
24	101.4	41.2	75.3	39.0	60.3	37.7	50.8	36.9	87.5	40.0	66.4	38.2
	90.0	42.3	66.8	40.2	53.5	39.1	45.1	38.4	77.6	41.1	58.9	39.5
16	200.0	30.1	147.0	28.4	118.5	26.2	98.4	24.7	174.6	30.3	131.7	27.1
	188.7	31.2	138.6	29.8	110.7	27.6	91.7	26.2	164.8	31.5	123.9	28.5
18	197.3	32.3	130.1	31.1	103.0	29.1	86.0	27.8	155.0	32.7	115.1	29.9
	185.9	33.4	121.7	32.4	95.3	30.5	80.3	29.3	145.2	33.9	106.3	31.3
20	174.6	34.5	113.3	33.7	88.5	32.0	74.6	30.8	135.4	35.2	97.5	32.7
	163.2	35.6	104.8	35.0	81.7	33.4	68.9	32.1	125.6	36.4	88.7	34.1
22	151.9	36.7	96.4	36.3	74.9	34.8	63.2	33.8	115.8	37.6	80.0	35.5
	140.5	37.8	87.9	37.6	68.1	36.3	57.5	35.1	106.0	38.8	71.2	36.9
24	129.1	38.9	79.5	38.9	61.3	37.7	51.8	36.4	96.2	40.0	62.6	38.1
	117.7	40.0	71.0	40.2	54.5	39.1	46.1	37.7	86.4	41.1	53.8	39.5
16	216.0	30.1	156.0	28.4	123.9	26.2	100.6	24.7	182.4	30.3	141.5	27.1
	204.6	31.2	147.6	29.8	116.1	27.6	93.9	26.2	172.6	31.5	132.7	28.5
18	193.2	32.3	139.1	31.1	108.3	29.1	88.0	27.8	162.8	32.7	123.9	29.9
	181.8	33.4	130.7	32.4	100.6	30.5	82.3	29.3	153.0	33.9	115.1	31.3
20	170.5	34.5	122.3	33.7	92.9	32.0	76.6	30.8	143.2	35.2	106.3	32.7
	159.1	35.6	113.9	35.0	86.1	33.4	70.9	32.1	133.4	36.4	97.5	34.1
22	147.7	36.7	105.5	36.3	79.3	34.8	65.2	33.8	123.6	37.6	88.7	35.5
	136.3	37.8	97.1	37.6	72.5	36.3	59.5	35.1	113.8	38.8	80.0	36.9
24	124.9	38.9	88.7	38.9	65.7	37.7	53.8	36.4	104.0	40.0	71.2	38.1
	113.5	40.0	80.3	40.2	58.9	39.1	48.1	37.7	94.2	41.1	62.6	39.5
16	224.0	30.1	164.0	28.4	129.1	26.2	104.0	24.7	192.4	30.3	147.0	27.1
	212.6	31.2	155.6	29.8	121.3	27.6	97.3	26.2	182.6	31.5	139.1	28.5
18	201.2	32.3	147.1	31.1	113.5	29.1	91.4	27.8	172.8	32.7	131.7	29.9
	189.8	33.4	138.7	32.4	105.8	30.5	85.7	29.3	163.0	33.9	123.9	31.3
20	178.5	34.5	130.1	33.7	98.1	32.0	80.0	30.8	153.2	35.2	115.1	32.7
	167.1	35.6	121.7	35.0	91.3	33.4	74.3	32.1	143.4	36.4	106.3	34.1
22	155.9	36.7	113.3	36.3	83.5	34.8	68.6	33.8	133.6	37.6	97.5	35.5
	144.5	37.8	104.9	37.6	76.7	36.3	62.9	35.1	123.8	38.8	88.7	36.9
24	133.1	38.9	96.4	38.9	69.9	37.7	57.2	36.4	114.0	40.0	78.8	38.1
	121.7	40.0	88.0	40.2	63.1	39.1	51.5	37.7	104.2	41.1	70.2	39.5
16	232.0	30.1	172.0	28.4	137.1	26.2	108.0	24.7	201.6	30.3	151.9	27.1
	220.6	31.2	163.6	29.8	129.3	27.6	101.3	26.2	191.8	31.5	143.1	28.5
18	209.2	32.3	155.1	31.1	121.5	29.1	95.4	27.8	182.0	32.7	135.3	29.9
	197.8	33.4	146.7	32.4	113.7	30.5	89.7	29.3	172.2	33.9	127.5	31.3
20	176.5	34.5	137.1	33.7	106.1	32.0	84.0	30.8	162.4	35.2	118.7	32.7
	165.1	35.6	128.7	35.0	98.3	33.4	78.3	32.1	152.6	36.4	110.9	34.1
22	153.9	36.7	120.3	36.3	90.5	34.8	72.6	33.8	142.8	37.6	102.1	35.5
	142.5	37.8	111.9	37.6	83.7	36.3	66.9	35.1	133.0	38.8	93.3	36.9
24	131.1	38.9	98.1	38.9	75.9	37.7	61.2	36.4	123.2	40.0	83.5	38.1
	119.7	40.0	90.7	40.2	69.1	39.1	55.5	37.7	113.4	41.1	74.8	39

Uponor controls at a glance

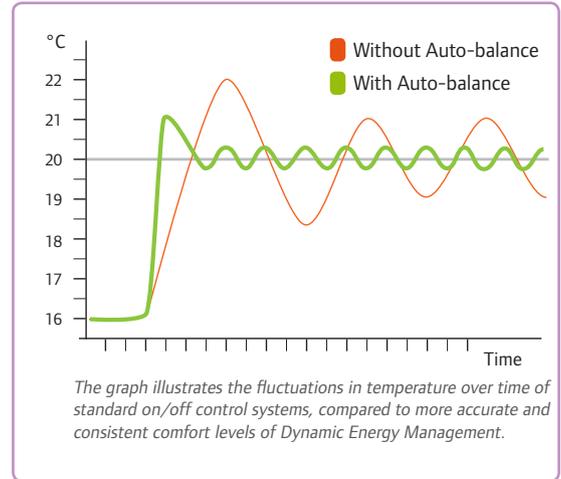
Auto Balance Technology



Auto Balance Technology (ABT) is patented technology unique to Uponor and only exists in our system. The function replaces the need for manual balancing of the loops. Instead of balancing the system for one peak load, the system calculates the actual energy needs in the single rooms over the heating season and adapts to those needs.

This gives more even floor temperatures, faster system reactions with lower energy consumption than any standard on/off system. You can save up to 12% on energy usage with ABT.

It goes on balancing through the changing seasons and throughout the household's changing lifestyle and usage patterns. Most of all, you will love the true radiant comfort only Uponor radiant thermostats provide!



Features	Wireless	Wired 12V	Wired 230V
Wireless	✓		
Radiant thermostat technology	✓		
Auto Balance Technology	✓	✓	
Comfort Setting	✓		
Diagnostics	✓		
Room Check	✓		
Room Bypass	✓		
Heating and Cooling Mode	✓	✓	
Set Back/Eco mode	✓	✓	✓
Floor Sensor	✓	✓	✓
Quick Connectors	✓	✓	
Auto Channel Linking	✓	✓	
Digital Display	✓	✓	✓
Public Thermostat	✓	✓	✓
Programmable Thermostat	✓	✓	✓

- Wireless**
- Control up to 36 zones through one interface
 - Up to 12% energy saving due to better efficiency
 - No manual balancing
 - More accurate control
 - Improved heat distribution
 - Easy to operate
 - Auto-balancing, no recalculation required
 - Easy trouble shooting
 - Changing the floor covering will not affect the system

- Wired 12V**
- Can control up to 12 zones
 - Economical and secure low voltage thermostat cabling
 - No manual balancing
 - Range of thermostats to choose from
 - Thermostats can be connected to a floor sensor
 - Auto-balancing, no recalculation required. Digital Thermostats only.
 - Setpoint values can be limited

- Wired 230V**
- Surface or flush mounted thermostats available
 - Controls up to 8 zones and 16 thermal actuators
 - 2 Channel set back time control
 - Choice of programmable or non programmable thermostats
 - Thermostats can be connected to floor sensors

Radiant Thermostats

Uponor thermostats are radiant thermostats designed specifically for radiant floor heating. The dynamics of a radiant heating system differ from typical baseboard or warm air heating systems. Radiant systems always heat objects and mass, and need to be addressed differently than conventional thermostat logic. These thermostats also feature digital filtering – they measure the room temperature continuously.

The thermostat’s sensor detects even the smallest change, making it better able to react to a room’s changing conditions. If all the room’s temperatures were displayed as they are sensed, the temperatures shown would appear erratic and inconsistent. Filtering works by averaging the sensed values to ensure a smooth operation and display.

Uponor radiant thermostats feature special built-in software that provides the ultimate control that standard thermostats, when used with radiant heat simply cannot. No overshoot, no undershoot – just constant, even comfort. Most of all, you will love the true radiant comfort that only Uponor radiant thermostats provide!



Easy control for individual comfort

Ideal room temperatures every month of the year

Everyone perceives temperature differently. During summer and winter, maximum thermal comfort can only be reached if the environmental temperatures satisfy the needs of the user and not the other way round.

This requires a flexible and sensitive control system. Uponor offers exactly this, ranging from room thermostats to controllers and heating manifolds, all from one source.

A feeling of well-being in our surroundings can only be achieved when all components fit perfectly with each other.

The innovative systems from Uponor for individual room and supply temperature control, combined with Uponor radiant heating and cooling solutions, provide comfortable ambient temperatures all year round, together with ease of use.



Control your individual comfort

Uponor Limited ("Uponor") guarantees [to the original purchaser/customer] that pipes and fittings sold by it are free of defects in materials or manufacture under normal conditions of use for a period of 25 years and in case of electrical and mechanical products for 2 years from the date of installation. This guarantee only applies to the products stored, installed, tested and operated in accordance with the fitting instructions issued by Uponor and valid at the time the products were installed.

Where a claim is made during the guarantee period and products are proven to be defective in materials and/or manufacture at the time of delivery, Uponor will supply replacement products free of charge. This is the exclusive remedy under this guarantee.

Uponor disclaims any warranty or guarantee not expressly provided for herein, including any implied warranties of merchantability or fitness for a particular purpose. Uponor further disclaims any and all responsibility or liability for losses, damages and expenses, including special, direct, indirect, incidental and consequential damages, whether foreseeable or not, including without limitation any loss of time or use or any inconvenience arising from the ownership, installation or use of the products sold hereunder.

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Uponor reserves the right to alter specifications and operating parameters for all their Underfloor Heating and Plumbing & Heating Systems at any time as part of its policy of continuous product development.

Care has been taken to ensure that the information in this publication is correct at the time of going to press.



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