

## Uponor Tignum 17

EN Technical information



# Table of contents

<b>1</b>	<b>System description.....</b>	<b>3</b>
1.1	Components.....	3
1.2	Functions.....	3
<b>2</b>	<b>Planning/design.....</b>	<b>4</b>
2.1	Dimensioning diagram heating/cooling.....	4
2.2	Time planning.....	5
2.3	Technical data.....	5
2.4	Service and support.....	5
<b>3</b>	<b>Installation and operation.....</b>	<b>6</b>
3.1	Installation example.....	6
3.2	Installation procedure.....	6
3.3	Floor covering.....	7

# 1 System description

Uponor Tignum 17 is an energy-efficient underfloor heating system for dry construction. As the emitting PE-Xa pipes are very near to the surface, it is perfect to combine with low flow temperature heating sources e.g. heat pumps. No drying time and no other trades are to be involved in mounting process. One professional installer can provide full solution in one step at best schedule.

Technically, Uponor Tignum 17 is based on wooden chipboard 22 mm (class P6 according to EN 312) to be installable applied on wooden joists with a c/c of maximum 600 mm or on suspended metal framework.

## 1.1 Components

Uponor Tignum 17 essentially consists of three different components: Uponor Comfort Pipe PLUS 17 mm, panel and heat emission plate.

### Underfloor heating pipe



RP0000077

**Uponor Comfort Pipe PLUS 17x2.0 mm** is made of our robust PE-Xa (cross-linked polyethylene), proven in underfloor heating installations worldwide.

### Panel elements

#### Straight panel



RP0000079

**Uponor Tignum 17 straight panel** is a chip-board based installation panel, pre-grooved in c/c 200 mm, in length with tongue and groove at four sides. The panel (class P6 according to EN 312) is available in dimension 1800 x 600 x 22 mm (length x width x height).

#### Turning panel



RP0000080

**Uponor Tignum 17 turning panel** is a fast prefabricated option to conventional milling of pipe bends to the straight panel, size 1220 x 595 x 22 mm (length x width x height).

### Heat emission plate



RP0000078

**Uponor Multi heat emission plate 17** is a full-metal aluminum heat spreader of 0.45 mm thickness, optimized to smooth installation process and powerful heat transmission. Total dimension 1152 mm can be divided without tools in 4 segments.

The aluminium plates also serve as fixture for the heating pipe.

## 1.2 Functions

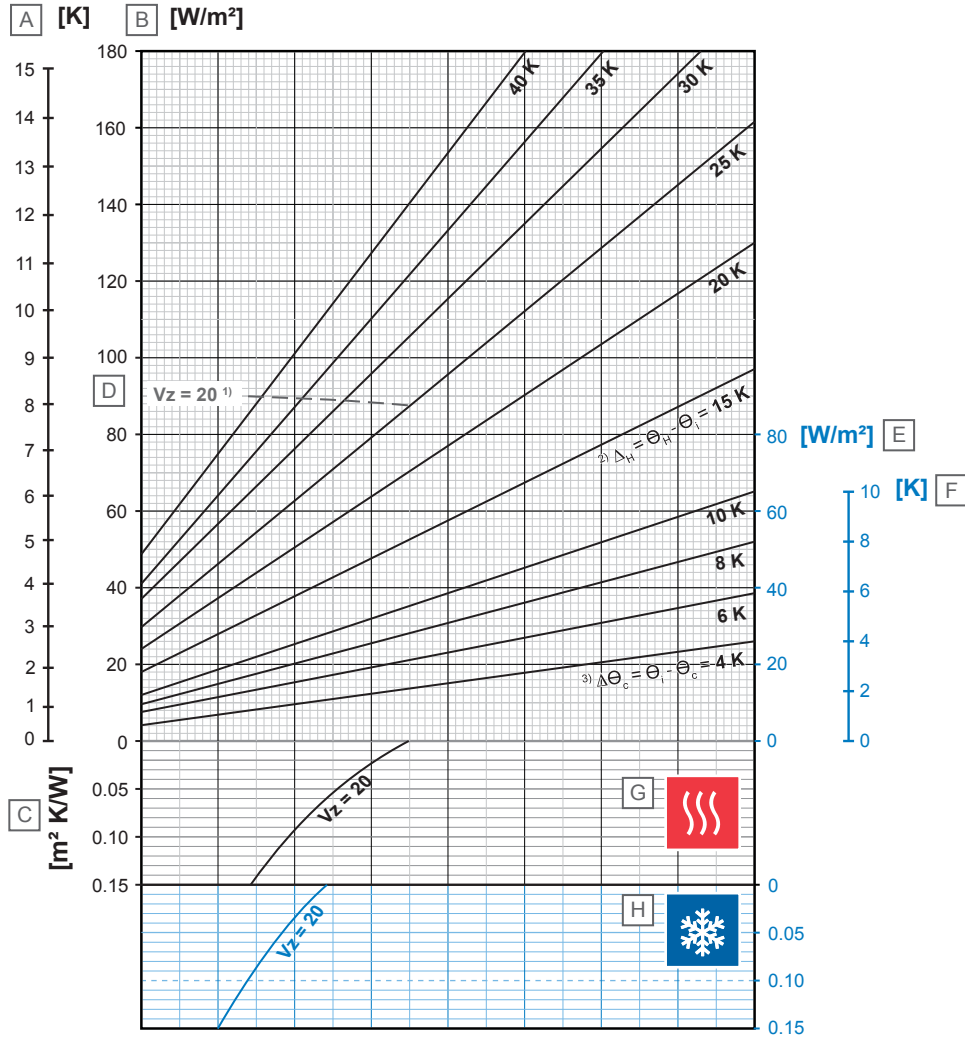
Uponor Tignum 17 is a robust and universal product for professionals. It is easy and fast to install and enables a 1-step installation thus the installer can leave the site ready for final flooring in short time.

Uponor Tignum 17 has no impact on the floor construction or home interior. The system is suitable for very common installation technology that every professional is familiar with. The panels match with wooden joist construction. The system normally does not need any extra construction height. Underfloor heating installation with Uponor Tignum 17 in a bathroom is one of the exceptions as extra construction height for tiling is required.

# 2 Planning/design

## 2.1 Dimensioning diagram heating/cooling

Uponor Tignum 17 with heat emission plate, 17x2.0 mm pipe and 22 mm parquet



D0000075

Item	Description
A	Surface differentiation temperature ( $\theta_{s,m} - \theta_i$ ) [K]
B	Thermal output heating $q_H$ [W/m <sup>2</sup> ]
C	Thermal resistance $R_{\lambda,B}$ [m <sup>2</sup> K/W]
D	Limit curve for pipe c/c 200 mm
E	Thermal output cooling $q_C$ [W/m <sup>2</sup> ]
F	Surface differentiation temperature ( $\theta_i - \theta_{s,m}$ ) [K]

### G Heating values

Vz	$q_H$	$\Delta\theta_{H,N}$
[cm]	[W/m <sup>2</sup> ]	[K]
20	86.9	25.3

### H Cooling values

Vz	$q_C$	$\Delta\theta_{C,N}$
[cm]	[W/m <sup>2</sup> ]	[K]
20	22.0	8

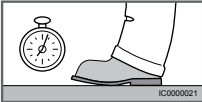
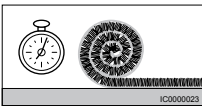

1) Limit curve valid for  $\theta_i = 20$  °C and  $\theta_{s,max} = 29$  °C

2) Temperature differentiation between heating medium and room

3) Temperature differentiation between room and cooling medium

The supply temperature should be controlled by dew point temperature, via humidity sensor(s), when used for cooling.

## 2.2 Time planning

	Activity	Time
	Accessibility (ready to walk on)	Immediately
	Readiness for covering	1 day
	Total period (without covering)	1 day









## 2.3 Technical data

### Technical specifications

Description	Value
Product name	Uponor Tignum 17
Application	Underfloor heating
System type	Dry underfloor heating installation
System thickness	22 mm
System weight	approximately 18 kg/m <sup>2</sup>
Pipe type	Uponor Comfort Pipe PLUS
Pipe dimension	17 x 2.0 mm
Panel material	Chipboard, 22 mm, (class P6 according to EN 312) with grooves for underfloor heating installation, tongue and groove at edges  Aluminium heat emission plates for even heat distribution
Panel dimension	Straight panel, 1800 x 600 x 22 mm  Turning panel, 1220 x 595 x 22 mm
Panel weight	Straight panel, 17.4 kg/pcs  Turning panel, 11.2 kg/pcs
Aluminium heat emission plates for even heat distribution	3.8 pcs/m <sup>2</sup>
Pipe distance (grooves)	200 mm
Design pressure	6 bar at 70 °C
Imposed loads	2 kN/m <sup>2</sup> as per EN 1991-1-1:2010-12

## 2.4 Service and support

Uponor offers various service and support during the planning process of a new underfloor heating system.

	Service and support
	<b>Design software and individual planning support for radiant heating and cooling applications</b>
	<b>Planning manuals and information brochures</b>
	<b>Tendering support</b>
	<b>Declaration of Performance (DoP) online</b>  <a href="http://www.uponor.com/services/download-centre">www.uponor.com/services/download-centre</a> <small>IC0000060</small>
	<b>BIM database for Revit</b>
	<b>Download center with documentation</b>  <a href="http://www.uponor.com/services/download-centre">www.uponor.com/services/download-centre</a> <small>IC0000060</small>

# 3 Installation and operation

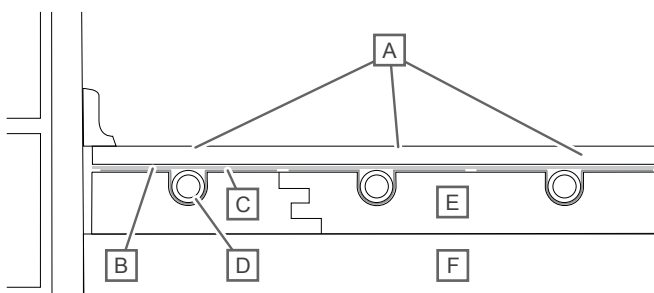
**Note**  
The installation must be carried out in accordance with current local standards and regulations!

Uponor Tignum 17 provides sufficient load-bearing capacity on wooden joists with c/c 600 mm together with parquet or laminate floor, and replacing hence the usual sub-floor.

The c/c distance between the wooden beams must not exceed 300 mm to obtain full supportability to install ceramic floors.

The floor is simple and quick to lay, which helps to reduce overall installation costs.

## 3.1 Installation example



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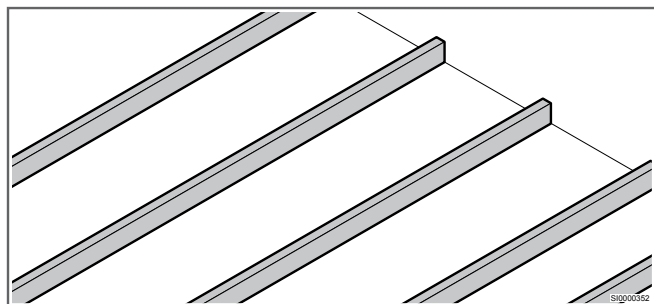
Item	Description
A	Laminate, wooden parquet
B	Vapour barrier foil
C	Heat emission plate
D	Uponor Comfort Pipe PLUS 17 mm
E	Uponor Tignum 17 panel, 22 mm
F	Floor joist

## 3.2 Installation procedure

Uponor Tignum 17 is developed for quick installation on wooden or metal joists.

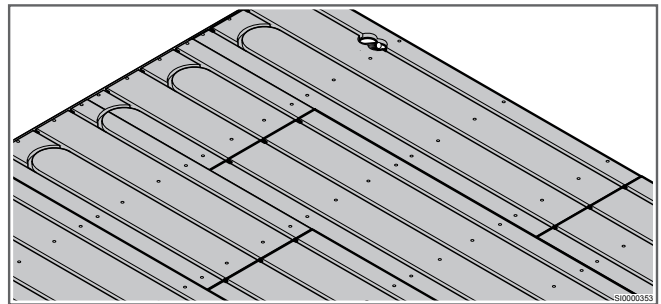
Use either a milling machine to curve the panels close to the wall or use specially made pre-grooved turn panels.

### Installation in brief



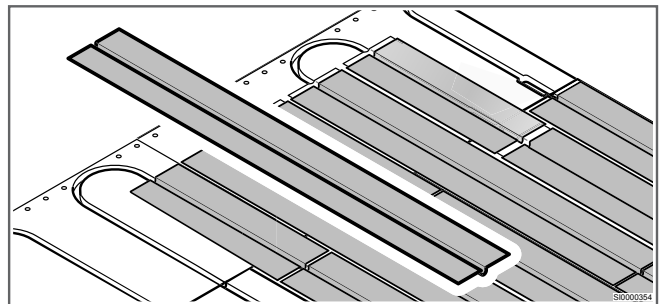
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Wooden joists prepared for the floor installation.



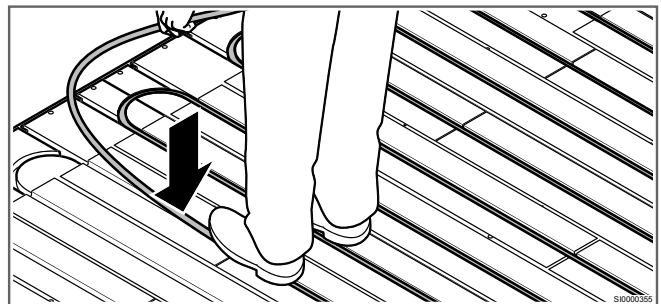
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Install the underfloor heating panels, 22 mm chipboard, directly on the joists.



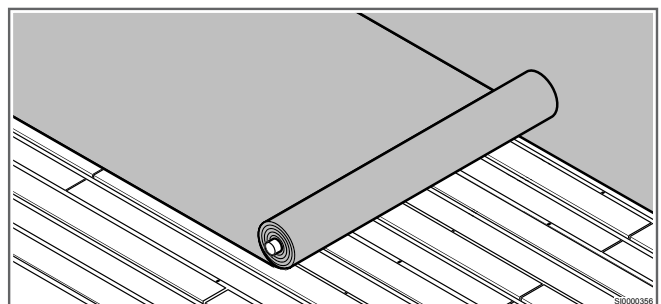
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Push the heat emission plates down into the straight grooves.



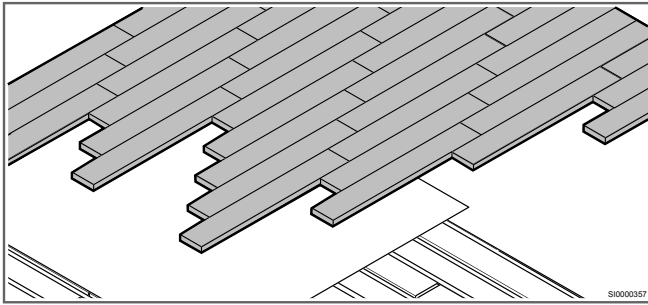
SD0000355

Install the underfloor heating pipe as per prepared loop drawing.



SD0000356

Roll out the vapour barrier if recommended by the floor manufacturer.



Lay the floor across the loops.

## 3.3 Floor covering



### Note

Always read the installation manual and recommendations from the manufacturer before installing the floor!

Different floor coverings can be installed on Uponor Tignum 17, provided that they are approved by the manufacturer for use with underfloor heating installations.

### Parquet and laminate

Laminate or parquet 12 mm can be applied directly on the Uponor Tignum 17 panels. The floor is laid across the loops.

This type of floor should be laid floating, and fully glued in groove and spring along short and long sides. See the installation manual for details.

### Tiles

Ceramic tiles can be applied on the Uponor Tignum 17 panels.

Start with adding a 22 mm chipboard on top of the panels and screw them together. Then add 2 x 12.5 mm layers of water-resistant "green" gypsum cardboard on top, screwed together. Finally lay the tiles on the cardboard.

# Uponor

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Uponor reserves the right to make changes, without prior notification, to the specification of incorporated components in line with its policy of continuous improvement and development.



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