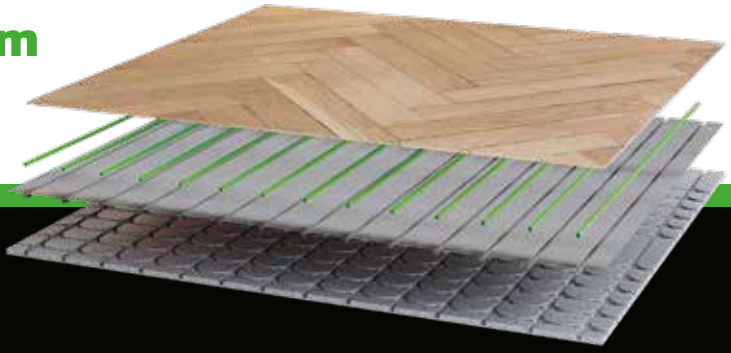
WARP SYSTEMS

# TECHNICAL PRODUCT INFORMATION

UNDERFLOOR HEATING | WALL HEATING | CEILING HEATING

## SpeeTile

## SpeeTherm



**The most versatile and complete system for heating and cooling any room**

THIN QUICK LIGHT WATER SUSTAINABLE

# SpeeTile10

## PRODUCT DESCRIPTION

The 120x75cm mats are 12.75mm thin and consist of 40 modular tiles measuring 15x15cm, which are made of recycled polypropylene and have an open structure. With the patented click-break-slide system, the tiles are extendible in length and width. Pre-measuring is no longer necessary, and you always achieve a perfect fit quickly and easily without cutting or trimming. That means you eliminate waste and save time! Each tile is fitted with a break-out masonry anchor to secure the system to the substrate.

| **SpeeTile10 mat** | |
|---|---|
| material and colour | polypropylene recycled black |
| length x width | 120x75cm |
| height | 12.75mm |
| surface area | 0,9m² |
| SpeeTile components in one mat | 8 x 5 = 40 (15x15cm) pcs |
| extendibility | 130mm over 4 metres |
| pipe | Ø10x1.3mm (WARP SpeeTube10) |
| C-to-C distance between pipes | 75mm |
| installation height including mortar | 15 - 20mm total |
| weight mat, pipe, water, mortar | from 30kg/m² |
| **Group** | |
| pipe length per group | maximum 80 metres |
| surface area per group | maximum 5m² |
| pattern | double-meander or spiral |
| **Masonry anchor** | |
| hole size | Ø5.0mm (depending on substrate) |
| diameter masonry anchor | Ø7.0mm |
| **SpeeTile component** | |
| length x width | 15x15cm |
| extendibility | 5mm per component |
| **Final flooring** | |
| floor | SpeeTop mortar |
| wall / ceiling | plaster or cob |

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# Heat emission table

## HEATING

| **Heat emission table** WARP SpeeTile system finished with SpeeTop mortar * SpeeTube Ø10x1.3mm pipe at maximum flow rate of 75 l/h and 75mm C-to-C distance between pipes | | | | | | |
|---|---|---|---|---|---|---|
| Average temperature of supply water °C | Room temperature °C | | | | | Floor/wall temperature °C |
| | 24°C | 22°C | 20°C | 18°C | 15°C | |
| 27.5 | 0 W/m² | 24 W/m² | 51 W/m² | 72 W/m² | 108 W/m² | 24 |
| 30 | 10 W/m² | 35 W/m² | 58 W/m² | 82 W/m² | 117 W/m² | 24.8 |
| 32.5 | 24 W/m² | 48 W/m² | 73 W/m² | 96 W/m² | 132 W/m² | 26 |
| 35 | 33 W/m² | 56 W/m² | 80 W/m² | 104 W/m² | 140 W/m² | 26.7 |
| 37.5 | 40 W/m² | 64 W/m² | 88 W/m² | 112 W/m² | 147 W/m² | 27.3 |
| 40 | 48 W/m² | 72 W/m² | 95 W/m² | 120 W/m² | 156 W/m² | 28 |

## COOLING

| **Heat absorption table** (cooling) with WARP SpeeTile system without final flooring.* SpeeTube Ø10x1.3mm pipe at maximum flow rate of 75 l/h and 75mm C-to-C distance between pipes | | | | | | |
|---|---|---|---|---|---|---|
| Average temperature of supply water °C | Room temperature °C | | | | | Floor/wall temperature °C |
| | 22°C | 24°C | 26°C | 28°C | 30°C | |
| 22 | - | 3 W/m² | 15 W/m² | 27 W/m² | 39 W/m² | 23.5 |
| 20.75 | - | 6 W/m² | 18 W/m² | 30 W/m² | 42 W/m² | 23 |
| 19.5 | - | 12 W/m² | 24 W/m² | 36 W/m² | 48 W/m² | 22 |
| 18.25 | 3 W/m² | 15 W/m² | 27 W/m² | 39 W/m² | 51 W/m² | 21.5 |
| 17 | 6 W/m² | 18 W/m² | 30 W/m² | 42 W/m² | 54 W/m² | 21 |
| 15.75 | 9 W/m² | 21 W/m² | 33 W/m² | 45 W/m² | 57 W/m² | 20.5 |

| Correction factors * | | | |
|---|---|---|---|
| Tiles 5mm thick | 0.99 | Tiles 10mm thick | 0.95 |
| Linoleum 2.5mm thick | 0.87 | | |
| Laminate 10mm thick | 0.82 | Parquet 15mm thick | 0.77 |
| Carpet 5mm thick | 0.75 | Carpet 10mm thick | 0.61 |

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# SpeeTherm15

## PRODUCT DESCRIPTION

The **SpeeTherm** 14mm boards consist of EPS (Expanded PolyStyrene) with a compressive strength of 200 kPa. The SpeeTherm boards are 80x60cm with a height of 14mm and are sold in packages of 11 boards. This equates to 5m² per box. The preformed EPS boards (10cm C-to-C) have an insulation value of 0.48 Rd and are designed for use with AluTherm heat conduction profiles and SpeeTube Ø10mm heating pipe. The EPS boards are laid (floating) on a completely flat subfloor (it does not have to be level) with a 3mm gap at the walls.

| **SpeeTherm15 dry construction board** | | | |
|---|---|---|---|
| material and colour | | EPS (Expanded PolyStyrene) 200 grey | |
| length x width | | 80x60cm | |
| height | | 14mm | |
| surface area | | 0.48m² | |
| compressive strength (BRL 1306) | | 200 kPa | |
| pipe | | Ø10x1.3mm (WARP SpeeTube10) | |
| C-to-C distance between pipes | | 100mm | |
| thermal coefficient (λ) | | 0.030 W/mk | |
| thermal resistance (Rd) | | 0.47 m²K/W | |
| installation | | floating, 3mm gap from walls | |
| **Box contents** | | **Group** | |
| number of boards in box | 11 pieces | Pipe length per group | maximum 80 metres |
| number of m² in box | 5.28m² | Surface area per group | maximum 7m² |
| box dimensions | 80.5x60.5x16.2cm | Pattern | double-meander |
| **In combination with** | | | |
| dry | | AluTherm profile (0.5mm thick) | |
| pipe | | Ø10x1.3mm (WARP SpeeTube10) | |
| pipe connection at manifold via | | ¾" Ø10mm PushFit connectors | |
| total system installation height | | 15mm | |
| total system weight<br>EPS, AluTherm, SpeeTube pipe and water | | 2.8 kg/m² | |
| **Final flooring** | | | |
| • Option: sound-insulating, vapour-inhibiting foam film suitable for underfloor heating (e.g. heat foil).*<br>• Rigid, non-resilient, floating final floors (e.g. laminate, parquet).*<br>* For installation of the final floor, follow the instructions from the supplier of the final floor. | | | |

No rights can be derived from this product sheet.

# Heat emission table

Before commissioning the underfloor heating, first install your floating final flooring with self-supporting pressure-distributing underlay and then commission the system.

## HEATING

**Heat emission table** WARP SpeeTherm system*
SpeeTube Ø10x1.3mm pipe at maximum flow rate of 75 l/h and 100mm C-to-C distance between pipes

| Average temperature of supply water °C | Room temperature °C | | | | | Floor/wall temperature °C |
|---|---|---|---|---|---|---|
| | 24°C | 22°C | 20°C | 18°C | 15°C | |
| 27.5 | 7 W/m² | 31 W/m² | 55 W/m² | 79 W/m² | 115 W/m² | 24.6 |
| 30 | 18 W/m² | 42 W/m² | 66 W/m² | 90 W/m² | 126 W/m² | 25.5 |
| 32.5 | 29 W/m² | 53 W/m² | 77 W/m² | 101 W/m² | 137 W/m² | 26.4 |
| 35 | 40 W/m² | 66 W/m² | 88 W/m² | 112 W/m² | 148 W/m² | 27.3 |
| 37.5 | 50 W/m² | 75 W/m² | 98 W/m² | 122 W/m² | 158 W/m² | 28.2 |
| 40 | 62 W/m² | 86 W/m² | 110 W/m² | 134 W/m² | 170 W/m² | 29.2 |

## COOLING

**Heat absorption table** (cooling) with WARP SpeeTherm system.*
SpeeTube Ø10x1.3mm pipe at maximum flow rate of 75 l/h and 100mm C-to-C distance between pipes

| Average temperature of supply water °C | Room temperature °C | | | | | Floor/wall temperature °C |
|---|---|---|---|---|---|---|
| | 22°C | 24°C | 26°C | 28°C | 30°C | |
| 22 | - | 6 W/m² | 12 W/m² | 30 W/m² | 42 W/m² | 23 |
| 20.75 | 1.5 W/m² | 14 W/m² | 26 W/m² | 38 W/m² | 50 W/m² | 21.75 |
| 19.5 | 9 W/m² | 21 W/m² | 33 W/m² | 45 W/m² | 57 W/m² | 20.5 |
| 18.25 | 17 W/m² | 29 W/m² | 41 W/m² | 53 W/m² | 65 W/m² | 19.25 |
| 17 | 24 W/m² | 36 W/m² | 48 W/m² | 60 W/m² | 72 W/m² | 18 |
| 15.75 | 32 W/m² | 44 W/m² | 56 W/m² | 68 W/m² | 80 W/m² | 16.75 |

| Correction factors * | | | |
|---|---|---|---|
| Laminate 10mm thick | 0.82 | Parquet 15mm thick | 0.77 |

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# SpeeTile12

## PRODUCT DESCRIPTION

The 120x80cm mats are just 15mm thin and consist of 24 modular tiles measuring 20x20cm, which are made of recycled polypropylene and have an open structure. With the patented click-break-slide system, the tiles are extendible in length and width. Pre-measuring is no longer necessary, and you always achieve a perfect fit quickly and easily without cutting or trimming. That means you eliminate waste and save time! Each tile is fitted with a break-out masonry anchor to secure the system to the substrate.

| **SpeeTile12 mat** | |
|---|---|
| material and colour | polypropylene recycled black |
| length x width | 120x80cm |
| height | 15mm |
| surface area | 0,96m² |
| SpeeTile components in one mat | 6 x 4 = 24 (20x20cm) pcs |
| extendibility | 200mm over 4 metres |
| pipe | Ø12x1.5mm (WARP SpeeTube12) |
| C-to-C distance between pipes | 100mm |
| installation height including mortar | from 35mm, depending on the final flooring |
| weight mat, pipe, water, mortar | from 75kg/m² |
| **Group** | |
| pipe length per group | maximum 100 metres |
| surface area per group | maximum 10m² |
| pattern | double-meander or spiral |
| **Masonry anchor** | |
| hole size | Ø5.0mm (depending on substrate) |
| diameter masonry anchor | Ø7.0mm |
| **SpeeTile component** | |
| length x width | 20x20cm |
| extendibility | 10mm per component |
| **Final flooring** | |
| floor | cement or anhydrite |
| wall / ceiling | plaster or cob |

No rights can be derived from this product sheet.

# Heat emission table

Plastic mats measuring 120x80cm with a height of 15mm. Fitted with SpeeTube 12mm underfloor heating pipe with a 100mm C-to-C distance between pipes.

## HEATING

**Heat emission table** WARP SpeeTile12 system without final flooring.*
SpeeTube Ø12x1.5mm pipe at maximum flow rate of 75 l/h and 100mm C-to-C distance between pipes

| Average temperature of supply water °C | Room temperature °C | | | | | Floor/wall temperature °C |
|---|---|---|---|---|---|---|
| | 24°C | 22°C | 20°C | 18°C | 15°C | |
| 27.5 | 0 W/m² | 24 W/m² | 51 W/m² | 72 W/m² | 108 W/m² | 24 |
| 30 | 10 W/m² | 35 W/m² | 58 W/m² | 82 W/m² | 117 W/m² | 24.8 |
| 32.5 | 24 W/m² | 48 W/m² | 73 W/m² | 96 W/m² | 132 W/m² | 26 |
| 35 | 33 W/m² | 56 W/m² | 80 W/m² | 104 W/m² | 140 W/m² | 26.7 |
| 37.5 | 40 W/m² | 64 W/m² | 88 W/m² | 112 W/m² | 147 W/m² | 27.3 |
| 40 | 48 W/m² | 72 W/m² | 95 W/m² | 120 W/m² | 156 W/m² | 28 |

## COOLING

**Heat absorption table** (cooling) with WARP SpeeTile12 system without final flooring.*
SpeeTube Ø12x1.5mm pipe at maximum flow rate of 75 l/h and 100mm C-to-C distance between pipes

| Average temperature of supply water °C | Room temperatur °C | | | | | Floor/wall temperature °C |
|---|---|---|---|---|---|---|
| | 22°C | 24°C | 26°C | 28°C | 30°C | |
| 22 | - | 3 W/m² | 15 W/m² | 27 W/m² | 39 W/m² | 23.5 |
| 20.75 | - | 6 W/m² | 18 W/m² | 30 W/m² | 42 W/m² | 23 |
| 19.5 | - | 12 W/m² | 24 W/m² | 36 W/m² | 48 W/m² | 22 |
| 18.25 | 3 W/m² | 15 W/m² | 27 W/m² | 39 W/m² | 51 W/m² | 21.5 |
| 17 | 6 W/m² | 18 W/m² | 30 W/m² | 42 W/m² | 54 W/m² | 21 |
| 15.75 | 9 W/m² | 21 W/m² | 33 W/m² | 45 W/m² | 57 W/m² | 20.5 |

| Correction factors * | | | |
|---|---|---|---|
| Tiles 5mm thick | 0.99 | Tiles 10mm thick | 0.95 |
| Linoleum 2.5mm thick | 0.87 | | |
| Laminate 10mm thick | 0.82 | Parquet 15mm thick | 0.77 |
| Carpet 5mm thick | 0.75 | Carpet 10mm thick | 0.61 |

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# SpeeTherm30

## PRODUCT DESCRIPTION

The **SpeeTherm** 29mm boards consist of EPS (Expanded PolyStyrene) with a compressive strength of 200 kPa. The SpeeTherm boards are 80x60cm with a height of 29mm and are sold in packages of 11 boards. This equates to 5m² per box. The preformed EPS boards (10cm C-to-C) have an insulation value of 1 Rd and are designed for use with AluTherm heat conduction profiles and SpeeTube Ø10mm heating pipe. The EPS boards are laid (floating) on a completely flat subfloor (it does not have to be level) with a 3mm gap at the walls.

| **SpeeTherm30 dry construction board** | | | |
|---|---|---|---|
| material and colour | | EPS (Expanded PolyStyrene) 200 grey | |
| length x width | | 80x60cm | |
| height | | 29mm | |
| surface area | | 0.48m² | |
| compressive strength (BRL 1306) | | 200 kPa | |
| pipe | | Ø10x1.3mm (WARP SpeeTube10) | |
| C-to-C distance between pipes | | 100mm | |
| thermal coefficient (λ) | | 0.030 W/mk | |
| thermal resistance (Rd) | | 1 m²K/W | |
| installation | | floating, 3mm gap from walls | |
| **Box contents** | | **Group** | |
| number of boards in box | 11 pieces | pipe length per group | maximum 80 metres |
| number of m² in box | 5.28m² | surface area per group | maximum 7m² |
| box dimensions | 80.5x60.5x34cm | pattern | double meander |
| **In combination with** | | | |
| dry | | AluTherm profile (0.5 mm thick) | |
| pipe | | Ø10x1.3mm (WARP SpeeTube10) | |
| pipe connection at manifold via | | ¾" Ø10mm PushFit connectors | |
| total system installation height | | 30mm | |
| total system weight (EPS, AluTherm, SpeeTube pipe and water) | | 3.3 kg/m² | |
| **Final flooring** | | | |
| • Option: sound-insulating, vapour-inhibiting foam film suitable for underfloor heating (e.g. heat foil).* | | | |
| • Rigid, non-resilient, floating final floors (e.g. laminate, parquet).* | | | |
| * For installation of the final floor, follow the instructions from the supplier of the final floor. | | | |

No rights can be derived from this product sheet.

# Heat emission table

Before commissioning the underfloor heating, first install your floating final flooring with self-supporting pressure-distributing underlay and then commission the system.

## HEATING

**Heat emission table** WARP SpeeTherm system.*
SpeeTube Ø10x1.3mm pipe at maximum flow rate of 75 l/h and 100mm C-to-C distance between pipes

| Average temperature of supply water °C | Room temperature °C | | | | | Floor/wall temperature °C |
|---|---|---|---|---|---|---|
| | 24°C | 22°C | 20°C | 18°C | 15°C | |
| 27.5 | 7 W/m² | 31 W/m² | 55 W/m² | 79 W/m² | 115 W/m² | 24.6 |
| 30 | 18 W/m² | 42 W/m² | 66 W/m² | 90 W/m² | 126 W/m² | 25.5 |
| 32.5 | 29 W/m² | 53 W/m² | 77 W/m² | 101 W/m² | 137 W/m² | 26.4 |
| 35 | 40 W/m² | 66 W/m² | 88 W/m² | 112 W/m² | 148 W/m² | 27.3 |
| 37.5 | 50 W/m² | 75 W/m² | 98 W/m² | 122 W/m² | 158 W/m² | 28.2 |
| 40 | 62 W/m² | 86 W/m² | 110 W/m² | 134 W/m² | 170 W/m² | 29.2 |

## COOLING

**Heat absorption table** (cooling) with WARP SpeeTherm system.*
SpeeTube Ø10x1.3mm pipe at maximum flow rate of 75 l/h and 100mm C-to-C distance between pipes

| Average temperature of supply water °C | Room temperature °C | | | | | Floor/wall temperature °C |
|---|---|---|---|---|---|---|
| | 22°C | 24°C | 26°C | 28°C | 30°C | |
| 22 | - | 6 W/m² | 12 W/m² | 30 W/m² | 42 W/m² | 23 |
| 20.75 | 1.5 W/m² | 14 W/m² | 26 W/m² | 38 W/m² | 50 W/m² | 21.75 |
| 19.5 | 9 W/m² | 21 W/m² | 33 W/m² | 45 W/m² | 57 W/m² | 20.5 |
| 18.25 | 17 W/m² | 29 W/m² | 41 W/m² | 53 W/m² | 65 W/m² | 19.25 |
| 17 | 24 W/m² | 36 W/m² | 48 W/m² | 60 W/m² | 72 W/m² | 18 |
| 15.75 | 32 W/m² | 44 W/m² | 56 W/m² | 68 W/m² | 80 W/m² | 16.75 |

| Correction factors * | | | |
|---|---|---|---|
| Laminate 10mm thick | 0.82 | Parquet 15mm thick | 0.77 |

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# SpeeTube10

## PRODUCT DESCRIPTION

The green **SpeeTube10** is an oxygen diffusion-tight 5-layer PE-RT (PolyEthylene of Raised Temperature-resistance) plastic pipe suitable for heating and cooling. The pipe is SKZ and KOMO certified with a 30-year warranty. The available roll lengths are 50, 80, 150, 240, 480 and 800m. Use a pipe reel when installing the pipe – the pipe unwinds easily and without tension, in the direction favoured by the pipe.

| **SpeeTube Ø10mm** | |
|---|---|
| material | PE-RT 5-layer oxygen diffusion-tight |
| colour | WARP green |
| outer diameter | (Ø)10mm |
| wall thickness | 1.3mm |
| thermal conductivity coefficient | 0,41 W/mK |
| KOMO certification | KOMO K 84463 Cl.4/ 5 6 bar |
| SKZ certification | SKZ A666 DIN 16833, ISO 24033 / 22391 |
| oxygen diffusion-tight | KOMO DIN 4726 & SKZ DIN 16833 |
| oxygen diffusion at 40 °C | Less than 0.1 mg/lxd |
| roll lengths | 50, 80, 150, 240, 480, 800 metres |
| suitable for dry construction | SpeeTherm15 & SpeeTherm30 systems |
| suitable for wet construction | SpeeTile10 system |
| manifold connection | 3/4" Ø10mm PushFit connectors |
| maximum group length of pipe | 80 metres |
| warranty | 30 years |

## PRESSURE LOSS TABLE

Pressure loss per metre SpeeTube Ø10x1.3mm pipe*

| **Metres [m]** | 75 | 70 | 65 | 60 | 55 | 50 | 45 | 40 | 35 | 30 | 25 | 20 | 15 | 10 | 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water speed [m/s]** | 0.49 | 0.45 | 0.42 | 0.39 | 0.36 | 0.32 | 0.29 | 0.26 | 0.23 | 0,19 | 0.16 | 0.13 | 0.1 | 0.06 | 0.03 |
| **Pressure loss [mBar/m]** | 6.58 | 5.85 | 5.16 | 4.5 | 3.89 | 3.31 | 1.7 | 1.51 | 1.33 | 1,14 | 0.95 | 0.76 | 0.57 | 0.38 | 0.19 |
| **Pressure loss in [kPa/m]** | 0.658 | 0.585 | 0.516 | 0.45 | 0.389 | 0.331 | 0.17 | 0.151 | 0.133 | 0,114 | 0.095 | 0.076 | 0.057 | 0.038 | 0.019 |

* The values in the table are estimates. No rights can be derived from the values in the table.

**Example calculation** 65 metres of Ø10x1.3mm pipe
Flow rate 72 l/h = 72 kg/h
Water speed approximately 0.47 m/s
Pressure loss across the group = approximately (6.58+5.85)/2*65 m = 404 mbar or 40.4 kPa.

No rights can be derived from this product sheet.

# SpeeTube12

## PRODUCT DESCRIPTION

The green **SpeeTube12** is an oxygen diffusion-tight 5-layer PE-RT (PolyEthylene of Raised Temperature-resistance) plastic heating pipe suitable for heating and cooling. The heating pipe is SKZ and KOMO certified with a 30-year warranty.
The available roll lengths are 100, 300 and 600m. Use a pipe reel when installing the pipe – the pipe unwinds easily and without tension, in the direction favoured by the pipe.

| **SpeeTube Ø12mm** | |
|---|---|
| material | PE-RT 5-layer oxygen diffusion-tight |
| colour | WARP green |
| outer diameter | Ø12mm |
| wall thickness | 1.5mm |
| thermal conductivity coefficient | 0.41 W/mK |
| KOMO certification | KOMO K13788 DIN4726 Cl.4/ 5 6bar |
| SKZ certification | SKZ 220 DIN 16833, ISO 24033 / 22391 |
| oxygen diffusion-tight | KOMO DIN 4726 & SKZ DIN 16833 |
| oxygen diffusion at 40°C | Less than 0.1 mg/lxd |
| roll lengths | 100, 300, 600 metres |
| suitable for wet construction | SpeeTile12 system |
| manifold connection | 3/4" Ø12mm PushFit connectors |
| maximum group length of pipe | 100 metres |
| warranty | 30 years |

## PRESSURE LOSS TABLE

Pressure loss per metre SpeeTube Ø12x1.5mm pipe*

| **Metres [m]** | 75 | 70 | 65 | 60 | 55 | 50 | 45 | 40 | 35 | 30 | 25 | 20 | 15 | 10 | 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Water speed [m/s]** | 0.30 | 0.28 | 0.26 | 0.24 | 0.22 | 0.20 | 0.18 | 0.16 | 0.14 | 0.12 | 0.10 | 0.08 | 0.06 | 0.04 | 0.02 |
| **Pressure loss [mBar/m]** | 2.35 | 1.94 | 1.59 | 1.28 | 1.01 | 0.86 | 0.78 | 0.69 | 0.60 | 0.52 | 0.43 | 0.34 | 0.26 | 0.17 | 0.09 |
| **Pressure loss in [kPa/m]** | 0.235 | 0.194 | 0.159 | 0.128 | 0.101 | 0.086 | 0.078 | 0.069 | 0.060 | 0.052 | 0.043 | 0.034 | 0.026 | 0.017 | 0.009 |

* The values in the table are estimates. No rights can be derived from the values in the table.

**Example calculation** 65 metres of Ø12x1.5mm pipe
Flow rate 72 l/h = 72 kg/h
Water speed approximately 0.29 m/s
Pressure loss across the group = approximately (2.35+1.94)/2*65 m = 139.43 mbar or 13.9 KPa.

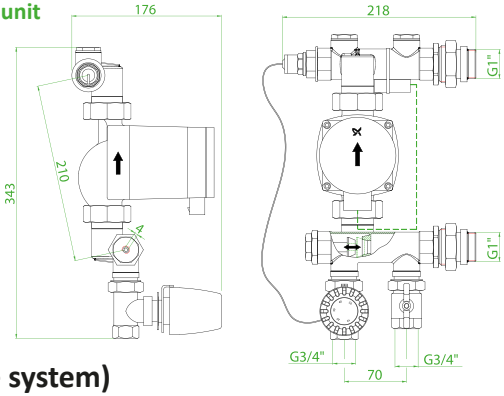
No rights can be derived from this product sheet.

# Manifold

## Table of dimensions open manifold incl. pump unit and ball valves

| Number of groups | Length [mm] | Height [mm] | Depth [mm] |
|---|---|---|---|
| 2 | 465 | 575 | 200 |
| 3 | 520 | 575 | 200 |
| 4 | 575 | 575 | 200 |
| 5 | 630 | 575 | 200 |
| 6 | 685 | 575 | 200 |
| 7 | 740 | 575 | 200 |
| 8 | 795 | 575 | 200 |
| 9 | 850 | 575 | 200 |
| 10 | 905 | 575 | 200 |
| 11 | 960 | 575 | 200 |
| 12 | 1015 | 575 | 200 |
| 13 | 1070 | 575 | 200 |
| 14 | 1125 | 575 | 200 |
| 15 | 1180 | 575 | 200 |
| 16 | 1235 | 575 | 200 |
| 17 | 1290 | 575 | 200 |
| 18 | 1345 | 575 | 200 |

**DIMENSIONS**
**pump unit**




## GRADUAL HEATING PROTOCOL (only for the SpeeTile system)

The curing time before starting the gradual heating protocol after applying mortar depends on the ambient temperature: **> 15°C after 48 hours**
**< 15°C after 72 hours**

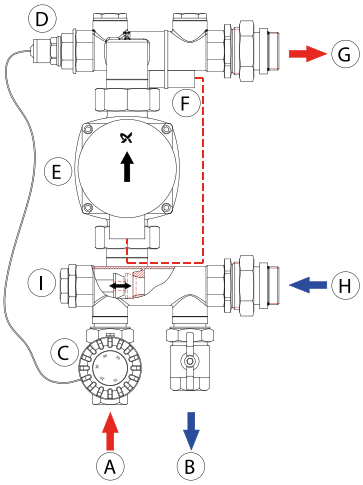
When the heating system is started for the first time, the gradual heating protocol must be followed. Ask your plasterer (for wall or ceiling applications with plaster or cob) about drying times before you start the system.

Using the thermostat head on the pump unit, set the water temperature of the heating system to 20°C for 24 hours. The temperature can be read from the thermomanometer on the manifold's supply rail. Every 24 hours thereafter, the temperature can be increased by 5°C until a temperature of 40°C is reached, after which the temperature is reduced by 5°C daily until 20°C is reached. The SpeeTile heating system is now ready to be covered and for use.

# Pump unit

## COMPONENT DESCRIPTIONS

### Pump unit LTH (Low Temperature Heating)



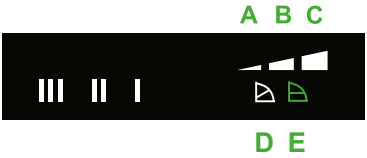

- **A.** Supply, primary
- **B.** Return, primary
- **C.** Thermostat head
- **D.** Capillary tube and sensor pocket, thermostat head
- **E.** Pump, arrow indicates water flow towards supply rail
- **F.** Maximum thermostat protection
- **G.** Supply rail, manifold
- **H.** Return rail, manifold
- **I.** Low temperature valve (LTH)

## Installation

1. Connect the supply rail of the manifold to position G.
2. Connect the return rail of the manifold to position H.
3. Connect the primary supply line to position A and the primary return line to position B.
4. Mount maximum thermostat F on the supply side after the pump unit before the manifold supply rail with a tie-wrap on the silver-coloured brass.
5. Attach thermostat knob C to the thermostatic valve after removing the black protective cap, and set it to the lowest setting.
6. Place the capillary tube in sensor pocket D, and close it with the black cap open.
7. Use mixing valve I to set the mixing ratio. Turning anti-clockwise opens the valve more. Turning clockwise reduces the mixing ratio, which means more supply water will be pumped to the supply rail (G) unmixed.

## Pump unit

To set the pump unit correctly, use position A, B or C depending on the number of groups on the distributor in combination with position E. Position D is not used. The left three options on the pump unit are also not used. The grey button on the front of the pump unit can be used to change position. First make sure that position E is selected and then choose option A, B or C according to your own situation. The red float indicator ring (C) in the glass tubes of the flow meters gives a result (standard between 0.5 and 2 L/m).



# SpeeTools

## SpeeTurn10

The **SpeeTurn** is a corner guide, made of recycled polypropylene, that is used to create a 90° bend in a SpeeTube Ø10mm heating pipe. By combining two SpeeTurn corner guides, the SpeeTube can be run from floor to wall, from wall to wall and from wall to ceiling, without kinks. This makes drilling or chiselling in corners a thing of the past. The SpeeTurn has three attachment points; the two lateral ones can be adjusted and folded in, to fit the application. The masonry anchors from the SpeeTile system can be used to secure them in place. Because the height of the SpeeTurn is the same as the height of the SpeeTile and SpeeTherm systems through which the heating pipe runs, it can be finished smoothly, completely hidden from view, without drilling or chiselling. Because the SpeeTile system is suitable for floors, walls and ceilings, it is important to be able quickly and easily make connections between these surfaces. This way, an entire room can easily be connected to the same manifold.

- ✔ Make connections from floor to wall, wall to wall and wall to ceiling
- ✔ A pass-through bend to the manifold
- ✔ Pipe guidance without kinking
- ✔ Total installation height floor 15mm including SpeeTop mortar
- ✔ Total installation height wall/ceiling 20mm including plaster/cob

## SpeeTrap10 and 12

These are mounting aids made of recycled polypropylene and are available for the SpeeTube Ø10mm and Ø12mm. You use them to easily attach two SpeeTube heating pipes parallel to each other on the floor, wall or ceiling. This is handy in places where there are no SpeeTile mats, such as at the manifold or the points at which the SpeeTube has to be fed through the wall. At the manifold there is no room for SpeeTile mats, as there would not be enough space to guide the SpeeTube heating pipes to the manifold. The SpeeTrap solves this problem. It neatly secures the heating pipes in position, at the right height, so they do not remain floating on the surface. This makes it possible to finish the area in a neat, smooth, professional manner.

- ✔ Minimum installation height
- ✔ Interconnectable
- ✔ Balanced minimum C-to-C pipe spacing of 28mm
- ✔ Fixes the SpeeTube Ø10mm in position
- ✔ Mount with the masonry anchor from the SpeeTile every 25cm

The **SpeeTrap** has one mounting point in the middle. The masonry anchors from the SpeeTile system can be used to secure them in place. The SpeeTraps can also be interconnected by clicking them together to neatly guide many heating pipes in a small area.

# SpeeTools

## CalibrationTool

After cutting off the SpeeTube heating pipe, the **CalibrationTool** is used to make it round again and bevel the edges. This makes it easy to insert the SpeeTube heating pipe in the PushFit connectors.

- ✔ Calibrates SpeeTube Ø10x1.3mm and Ø12x1.5mm SpeeTube heating pipe
- ✔ Prevents ovality of the SpeeTube heating pipe
- ✔ Deburrs and bevels the edges
- ✔ Perfectly sized for PushFit system connectors

## PushFit connector 10mm and 12mm

**PushFit** 10mm connector 1 group 3/4" 10x1.3 and 12mm cone 1 group 3/4" 12x1.5. The PushFit system is a quick, professional way to connect the supply and return pipes of the SpeeTube heating pipe to the manifold. One of the benefits of the PushFit connector is that it encloses the heating pipe instead of squeezing it the way a compression connector does. Because the heating pipe is not constricted, there is less resistance. The lower resistance allows a higher rate of flow and prevents blockages.

The PushFit system can be connected and disconnected quickly, just like the SpeeTube heating pipe. It can be easily removed by pressing the red plastic ring and simultaneously pulling the heating pipe out of the coupling. The PushFit system consists of a single connector, a double (splitter) connector and a repair connector.

## SpeeTrace

Heat detection sticker used for tracing a warm SpeeTube heating pipe in a wall or ceiling. Attach the SpeeTrace sticker to a cooled wall in a location in which you want to detect pipes. Then switch on the heating system so that warm water flows through the heating pipes. The sticker will become green in colour where the heating pipes run behind it. Do not drill in these areas.

- ✔ Easily trace heating pipe in wall or ceiling
- ✔ Drill in the correct location

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