

Total-16 System

Overview

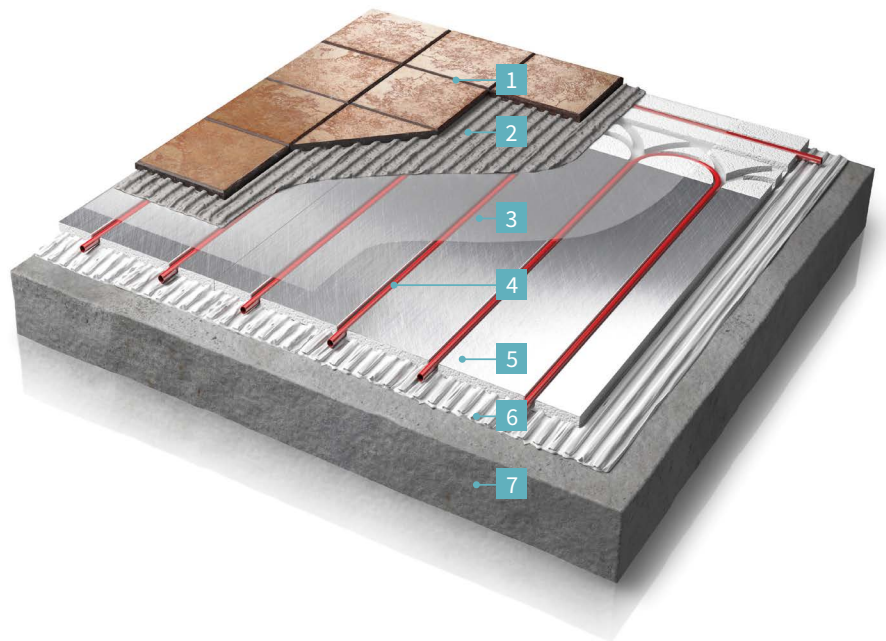
The Warmup Total-16 Low Profile System is perfect for renovation projects and off-plan installations of underfloor heating adding only 16mm to the floor build up. Once installed a variety of floor finishes can be laid over the system including tiles which can be bonded directly to the system.

The boards are lightweight yet heavy duty and are comprised of three components: straight, multi-feed and return boards.

The boards are made from high density EPS, able to withstand 40 Tonnes/m² and come with aluminium heat diffusion plates as an integral part of the board. Total-16 significantly speeds up installation time for both, new-build and refurbishment projects, where floor height is at a premium.

FLOOR CONSTRUCTION

- 1 Ceramic tiles/stone
(for residential areas)
- 2 Warmup adhesive
(WHS-X-SEAL25)*
- 3 Warmup primer
(WHS-X-PRIMER)*
- 4 Warmup PEX-A 12mm pipe
- 5 Warmup Total-16 includes:
 - Pre-installed aluminium diffusion plates
 - Insulation (0.034 W/m K @10°C)
- 6 Warmup Glue
- 7 Subfloor



Hydronic
Heating System

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Warmup

The world's best-selling floor heating brand™

Features

- Low profile system, only 16mm, with no screeding required. Perfect for use over either pre-insulated floors, intermediate floors or those where it is impractical to lay a thicker system
- Aluminium heat diffusion plates come pre-installed, reducing installation time
- Suitable for almost any floor finish, including tiles which can be bonded directly to the system
- Ultra low weight - only 1.7kg for the straight, multifeed and return boards
- Can be supplied with or without return ends
- Lifetime Warranty when PEX-A pipe is used / 50yr Warranty for PE-RT or AL/PE-RT pipes



WARMUP COMPONENTS

Total-16 Boards

The Warmup Total-16 boards are made of high density EPS with a 400Kpa compressive strength; providing extremely high resistance for short and long term loads.

The straight boards come with aluminium heat diffusion plates as an integral part of the board. Return boards and the multifeed boards, which are used to transit pipes to other heating circuits from the manifold, do not have the aluminium heat diffusion plates

TOTAL-16 STRAIGHT BOARD - TECHNICAL SPECIFICATIONS					
CODE	DIMENSIONS	THICK-NESS	COMPRESSIVE STRENGTH @10% (kPa)	THERMAL CONDUCTIVITY @ 10°C	R-VALUE (m ² K/W)
WHS-TOTAL16-BOARD	1200 x 600mm	16mm	400kPA	0.034	0.47
TOTAL-16 RETURN BOARD - TECHNICAL SPECIFICATIONS					
WHS-TOTAL16-RETURN	600 x 300mm	16mm	400kPA	0.034	0.47
TOTAL-16 MULTIFEED BOARD - TECHNICAL SPECIFICATIONS					
WHS-TOTAL16-FEED	600 x 30mm	16mm	400kPA	0.034	0.47

Warmup Insulation Boards have zero Ozone Depletion Potential (ODP) and a Global Warming Potential (GWP) of less than 5

Glues, Adhesives & Primer

WHS-X-SEAL25



20kg pack of Seal Adhesive

WHS-X-BIND



5 litres of Fix Binder

WHS-X-PRIMER



3 litres of Start Primer

WHS-X-GLUE



10 litres of Water-based glue

WHS-X-SEAL25

WHS-X-SEAL25 mixed with WHS-X-BIND is used to adhere the Total-16 boards to the subfloor when you intend to have a tile floor finish or a vinyl floor finish in a wet area. To be used in situations where rising damp is an issue.

WHS-X-SEAL25 **MUST** also be used to adhere tiles to the primed Total-16 boards.

WHS-X-GLUE

WHS-X-GLUE is used to adhere the Total-16 boards to the subfloor when you intend to have a tile floor finish. To be used when looking to minimise floor height.

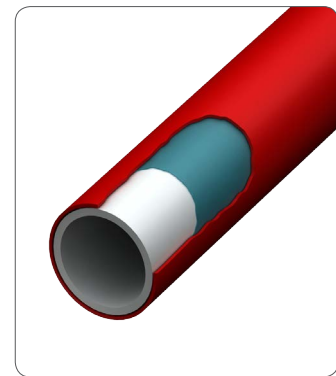
WHS-X-PRIMER

The topside of the Total-16 must be primed if the intention is to apply tiles directly to the boards or you plan to self level over the boards. For this, you should only use Warmup's WHS-X-PRIMER. WHS-X-PRIMER has outstanding qualities as a primer for expanded polystyrene and aluminium.

Pipework

The Warmup PEX-A pipe is formed as a single extrusion with an adhesive layer and EVOH oxygen barrier. The EVOH layer restricts the ingress of oxygen into the heating system, reducing oxidation of critical components in the primary system and extending their service life.

The minimum 70% cross linking within the PE material provides superior mechanical properties to the pipe, with a maximum working temperature and pressure of 95°C and 6 bar respectively. The PEX-A pipe has a high thermal conductivity of 0.41W/mK, substantially greater than an equivalent polybutylene pipe at 0.22W/mK. This enables our systems to emit between 3% and 6% more heat from the same water temperature as equivalent systems using PB pipe.

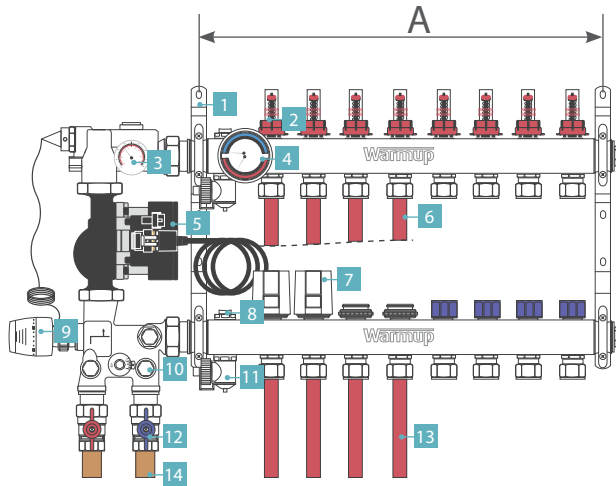


PEX-A PIPE - TECHNICAL SPECIFICATIONS

CODE	DIMENSIONS	MAX. WORKING TEMPERATURE	MAX. OPERATING PRESSURE	COMPOSITION	THERMAL CONDUCTIVITY	WATER CAPACITY
WHS-P-PEXA-12x70	PEX-A 12mm x 2mm x 70m	95°C	6 Bar	PEX-A 70% cross linked	0.41 W/mK	16mm pipe - 0.113 l/m
WHS-P-PEXA-12x140	PEX-A 12mm x 2mm x 140m					

Manifold

The Warmup Stainless Steel Manifold range provides flexible zoning and water regulation for 2 to 12 underfloor heating circuits. Supplied complete with Taconova TopMeters, Fill/Drain Valves, Air Vents and a Thermomanometer, it is equipped with all the features needed to commission an underfloor heating system quickly and confidently.



MANIFOLD - TECHNICAL SPECIFICATIONS

MATERIAL	304 Stainless Steel
PORTS AVAILABLE	2 - 12
TEMPERATURE RANGE	-5°C to +60°C
MAX OPERATING PRESSURE	6 Bar
MAX TEST PRESSURE	10 Bar
ADJUSTMENT RANGE	0 - 5 l/min
MEASURING ACCURACY	±10% (of highest nominal value)
MANIFOLD ARM DIMENSIONS	40 mm X 40 mm
PIPE FITTING CENTRES	50 mm / 55 mm
PIPE FITTING DIAMETERS	G-1/2" (20X1.5)

MANIFOLD & MIXING UNIT

- | | |
|----------------------------|----------------------------|
| 1 Mounting Bracket | 8 Manual Air Vent |
| 2 Flow Gauge | 9 Capillary Thermostat |
| 3 Thermometer - secondary | 10 Mixing Unit |
| 4 Thermomanometer | 11 Fill/Drain Valve |
| 5 Grundfos UPM3 Circulator | 12 Primary Isolation Valve |
| 6 Secondary - Flow | 13 Secondary - Return |
| 7 Electrothermic Actuator | 14 Primary pipework |

Thermostat



4iE® SMART WIFI THERMOSTAT

For Central Heating and Underfloor Heating Systems

Connected to the internet by WiFi, it can be controlled from a smart phone, tablet or computer as well as its own touchscreen interface. It learns how homeowners use their heating and the unique way each zone reacts. It uses this knowledge to suggest ways to save energy, such as what temperature should be set when the area is not in use and when the heating can be turned off earlier with no noticeable impact on comfort.

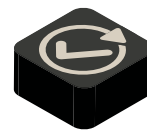
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SmartGeo™
Always at the right temperature automatically, and up to 25% lower energy usage. Just like magic.



EasySwitch™
Always on the best tariff, automatically. Saving on average £210.



Easy to use
Simple and secure set up using WiFi, with 24/7 technical support.