

VLo Ultra-12 Low Build System



Low Profile Floor Finish

At 18 mm thick VLo Ultra-12 has minimal impact on floor levels when used with any floor covering - ideal for Retrofits and Off-Plan sales into new builds.

High System Performance

150µm aluminium foil combined with double serpentine piping ensures there is even and efficient heat output across the floor using low water temperatures.

Robust and Efficient Panels

The 18 mm thick panels are manufactured from 500 kPa XPS with a declared long term thermal conductivity of 0.034 W/mK - reducing both heat up times and heat loss.

Quick and Easy Installation

Lightweight panels with snap lines for easy shape alteration, paired with built-in pipe channels ensures quick and easy installation.



Overview

The VLo Ultra-12 is the next generation lightweight and robust underfloor heating system from Warmup. The range comprises of 5 panels maximising usability for the installer, with each panel purposely designed to hold the pipe securely across the entire floor.

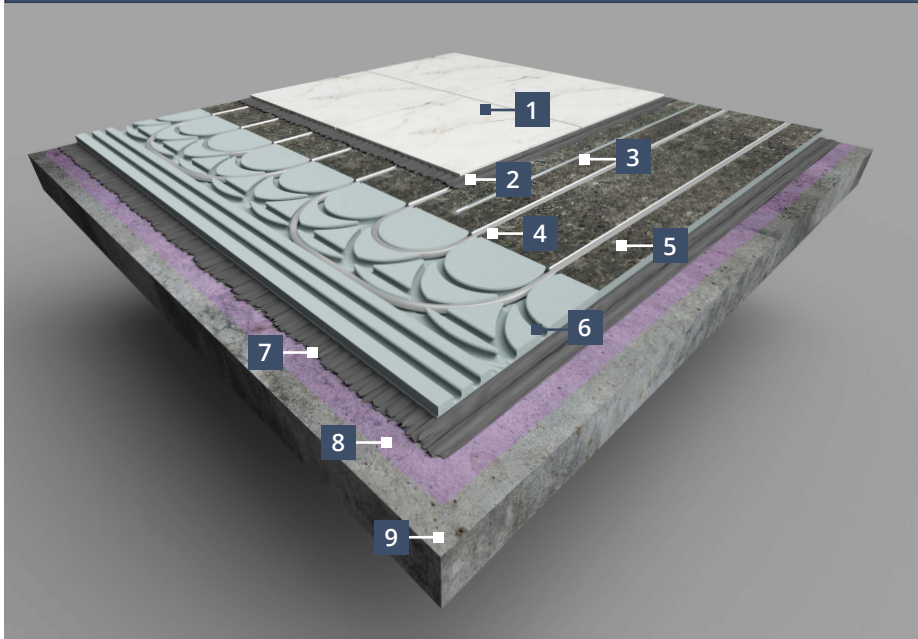
Designed for use with Warmup's 12mm PE-RT pipe that inserts directly into the board channels for quick and easy installation, the system has been created with speed and efficiency in mind.

The straight panel with omega profiled 150µm aluminium diffuser channels ensures maximum surface contact between the aluminum diffuser and PE-RT pipe; optimising heat output, reducing heat up times whilst also minimising heat loss through increased insulation.

The aluminium surface of the heating panels is covered with a securely bonded, fibreglass reinforced fleece, providing an ideal surface for tiling, removing the need for specialist primers.

Typical floor build-ups

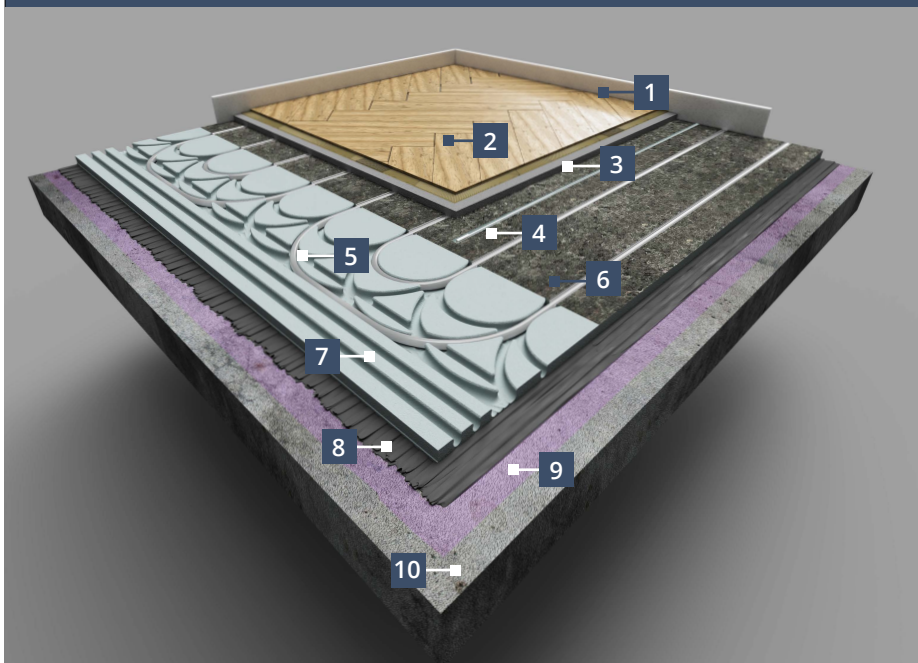
Tiled floors



A 3D cutaway diagram of a tiled floor build-up. The layers are numbered 1 through 9 from top to bottom. Layer 1 is the tile floor finish. Layer 2 is a flexible tile adhesive. Layer 3 is a floor sensor. Layer 4 is a warmup 12mm PE-RT pipe. Layer 5 is an Ultra-12 straight panel. Layer 6 is an Ultra-12 curve panel. Layer 7 is another flexible tile adhesive. Layer 8 is a warmup primer. Layer 9 is the subfloor with surface regularity of SR1.

1	Tile floor finish
2	Flexible tile adhesive <i>Tile adhesive used must be compatible with compressible panels such as Ultra-12, e.g. Warmup S2 flexible tile adhesive</i>
3	Floor sensor <i>Must be recessed into the Ultra-12 panel and taped in position.</i>
4	Warmup 12mm PE-RT pipe
5	Ultra-12 - Straight panel
6	Ultra-12 - Curve panel
7	Flexible tile adhesive <i>e.g. Warmup S1/S2 flexible tile adhesive for wet or dry areas or compatible high temperature acrylic adhesive for dry areas</i>
8	Warmup primer <i>Refer to tile adhesive manufacturers instructions for priming requirements</i>
9	Subfloor with surface regularity of SR1

All floor finishes - bonded

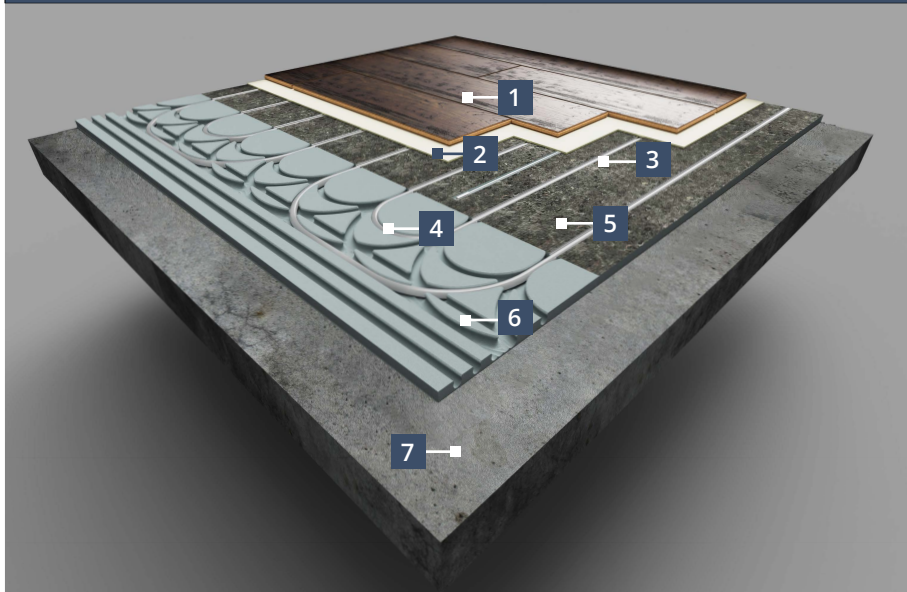


A 3D cutaway diagram of a bonded floor finish build-up. The layers are numbered 1 through 10 from top to bottom. Layer 1 is a perimeter strip. Layer 2 is the floor finish. Layer 3 is a minimum 12mm layer of compatible self-levelling compound. Layer 4 is a floor sensor. Layer 5 is a warmup 12mm PE-RT pipe. Layer 6 is an Ultra-12 straight panel. Layer 7 is an Ultra-12 curve panel. Layer 8 is a flexible tile adhesive. Layer 9 is a warmup primer. Layer 10 is the subfloor with surface regularity of SR1.

1	Perimeter strip <i>To allow for differential movement between finished floor level and walls</i>
2	Floor finish
3	Min. 12 mm layer of compatible self-levelling compound <i>e.g. Mapei Ultraplan Renovation Screed 3240</i>
4	Floor sensor <i>Must be recessed into the Ultra-12 panel and taped in position.</i>
5	Warmup 12mm PE-RT pipe
6	Ultra-12 - Straight panel
7	Ultra-12 - Curve panel
8	Flexible tile adhesive <i>e.g. Warmup S1/S2 flexible tile adhesive for wet or dry areas or compatible high temperature acrylic adhesive for dry areas</i>
9	Warmup primer <i>Refer to tile adhesive manufacturers instructions for priming requirements</i>
10	Subfloor with surface regularity of SR1

Typical floor build-ups

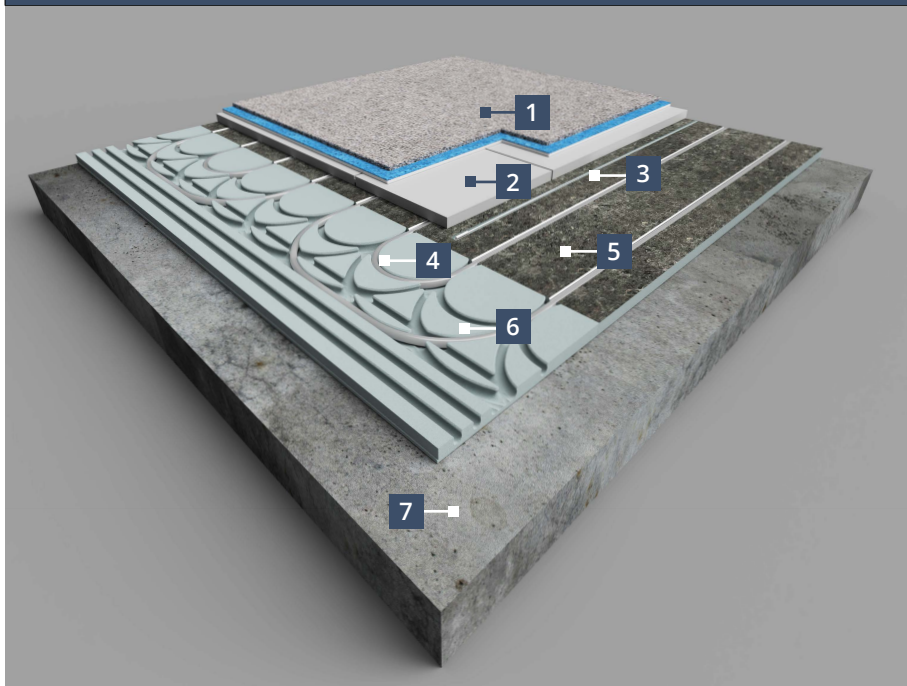
Floating floor finishes



- 1 **Floating floor finish**
- 2 **UFH compatible underlay**
- Floor sensor**
- 3 *Must be recessed into the Ultra-12 panel and taped in position.*
- 4 **Warmup 12mm PE-RT pipe**
- 5 **Ultra-12 - Straight panel***
- 6 **Ultra-12 - Curve panel***
- 7 **Subfloor with surface regularity of SR1**

** Ultra-12 panels can also be adhered to the subfloor to improve stability*

All floor finishes - floating



- 1 **Floor finish**
- Floating floor deck**
- 2 *Such as HiDECK 18 or 18 mm P5 T&G chipboard. Install referring to their instructions*
- Floor sensor**
- 3 *Must be recessed into the Ultra-12 panel and taped in position.*
- 4 **Warmup 12mm PE-RT pipe**
- 5 **Ultra-12 - Straight panel***
- 6 **Ultra-12 - Curve panel***
- 7 **Subfloor with surface regularity of SR1**

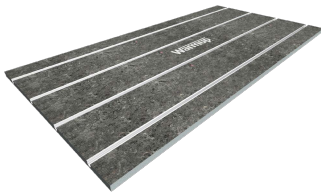
** Ultra-12 panels can also be adhered to the subfloor to improve stability*

Technical specifications

Ultra-12 panels - Foam component

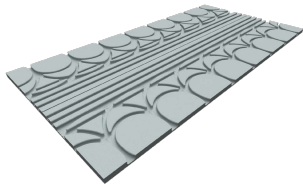
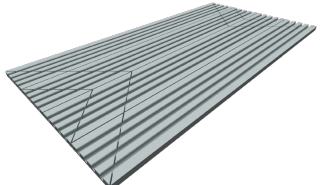
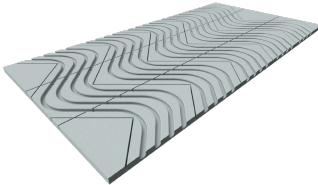
Density	50 kg/m ³
Thermal Conductivity	0.034W/mK
Compressive Strength (10% deflection)	500kN/m ²
Water Absorption (2-day immersion)	<1.0% by volume
Water Absorption (Capillary)	Zero
Coefficient of linear expansion	0.07 mm/mK
Water Vapour Diffusion Resistivity factor (μ)	110 – 225
Fire Behaviour	Euroclass E
ODP (Ozone Depleting Potential)	Zero
GWP (Global Warming Potential)	< 0.29

Ultra-12 - Straight Panel



Product Code	U12-SP-PANEL
Composition	Extruded polystyrene with 150μm thick aluminium foil layer on top, with a fibreglass reinforcement mesh and a 100% recycled polyester fleece on top and bottom
Pipe centres	150 mm
Dimensions	600 x 1200 x 18 mm
Weight of the Panel	1 kg

Ultra-12 - Curve Panel, Straight Service Panel, Curve Service Panel

Product Code	  
	<p>U12-CP-PANEL U12-SS-PANEL U12-CS-PANEL</p>
Composition	Extruded polystyrene with a fibreglass reinforcement mesh and a 100% recycled polyester fleece on bottom
Dimensions	600 x 1200 x 18 mm
Weight of the Panel	0.5 kg

Ultra-12 - Plain Panel



Product Code	U12-PP-PANEL
Composition	Extruded polystyrene with a fibreglass reinforcement mesh and a 100% recycled polyester fleece on top and bottom
Dimensions	600 x 1200 x 18 mm
Weight of the Panel	0.7 kg

System performance

Resistance of Floor Covering, tog	k _H Value - W/m ² K												
	0.00	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00
150mm Pipe Centres*	6.96	5.74	4.90	4.27	3.79	3.41	3.09	2.84	2.62	2.43	2.27	2.13	2.00

* 150 mm pipe centres with no overboarding or levelling compound. If you are using a floating floor deck over Ultra-12 beneath the floor finish, you must also include its thermal resistance, for example:

18 mm Chipboard, R = 1.25 tog

18 mm HiDECK 18, R = 0.45 tog

q = Specific Heat Output, W/m²	k_H = System Performance Factor, W/m²K
T_{water} = Mean water Temperature	T_{air} = Room Air Temperature

Using the system k_H value to calculate the system heat output:

$$q = k_H \times (T_{\text{water}} - T_{\text{air}})$$

Example:

The heat output through an 18 mm thick, ≈ 1.25 tog timber floor, over Ultra-12 in a 21°C room heated with 40°C water is;

$$q = 3.41 \times (40 - 21) = 3.41 \times 19 = 65 \text{ W/m}^2$$

Alternatively, using the system k_H value to calculate the required water temperature, knowing the required heat output:

$$T_{\text{water}} = (q / k_H) + T_{\text{air}}$$

Example:

The water temperature required to produce a heat output of 55 W/m², through a 3 mm thick LVT floor finish on HiDECK 18 (0.30 + 0.45 = 0.75 tog), over Ultra-12 panels in a 22°C room is;

$$T_{\text{water}} = (55 / 4.27) + 22 = 13 + 22 = 35^\circ\text{C}$$

Components



PE-RT Pipe - PERT-12 x XX

Warmup PE-RT (Polyethylene of Raised Temperature Resistance) pipe. The pipe guarantees leak free performance with a smooth internal structure for improved flow, reduced pressure loss and deposit formation.



Warmup 6iE - 6iE-01-OB-DC / 6iE-01-BP-LC

The world's first UFH thermostat with a smartphone touchscreen providing effortless control at your fingertips. Connected to the internet by WiFi, it can be controlled from a smart phone, tablet or computer as well as its own touchscreen interface. Working automatically; it learns your routines and location through background communication with your smartphone. Using this knowledge it suggests ways to save energy.



Warmup Element - RSW-01-WH-RG (ELM-01-WH-RG) / RSW-01-OB-DC (ELM-01-OB-DC)

Warmup's Element WiFi Thermostat has been designed with simplicity and stylish functionality in mind. It brings energy-efficient heating control to all Warmup floor heaters. Combining smart technology with simple, contemporary design, the Element WiFi Thermostat is the perfect all-rounder to control Warmup heating systems.



Warmup Primer - ACC-PRIMER

A ready to use, bond enhancing and solvent-free single component primer for the preparation of absorbent and non-absorbent floors and walls with or without surface heating.



Pipe bend supports - WHS-P-BEND12

The bend support is used for supporting pipes to make a smooth 90-degree turn where needed & provides a rigid bend which changes the pipes direction without causing excessive bending



Pipe clips - UK-WUK-HY-ACC-PIPECLIPS12

The robust pipe clips feature a press in to secure and press in to release design making mounting of the pipe easy. They link together to form a single rail and secure pipes at 25mm centres, neatly aligning them to the manifold ports.

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