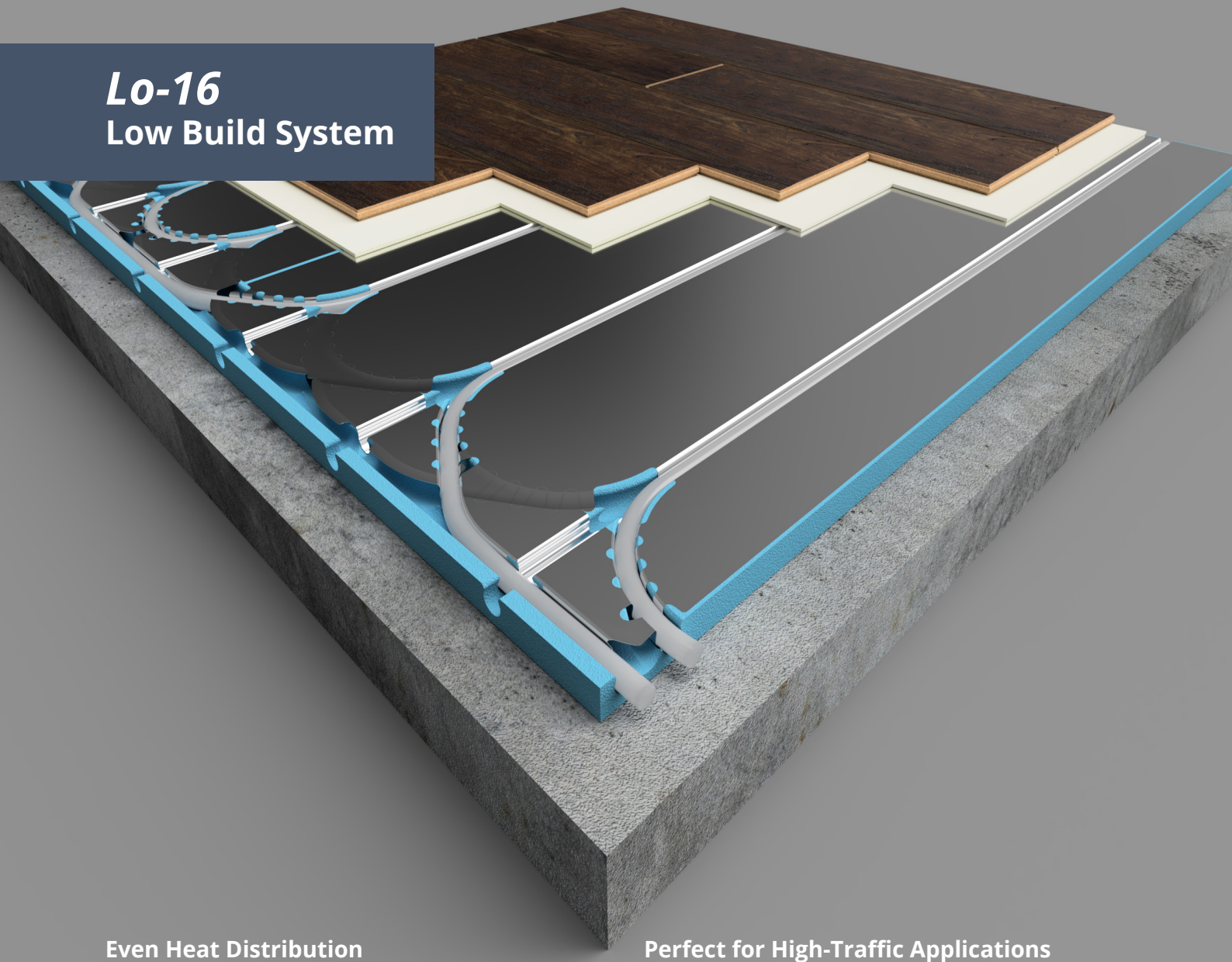
Lo-16
Low Build System



Even Heat Distribution
Provides a high heat output through its continuous, 200µm thick aluminium diffuser

Lower Floor Heights
Warmup Lo-16's 25mm panels will have little impact on floor levels

Perfect for High-Traffic Applications
Features in-built XPS insulation with a high compressive strength (500kPa) - making it perfect for use under high load traffic areas

Innovative Panels for Rapid Installation
Innovative panels which are easy to snap/cut and therefore quick to modify and install

SAFETY Net™ Installation-Guarantee

LIFETIME WARRANTY Warmup

Overview

With its low-profile design and screedless installation method, Warmup Lo-16 is a fantastic water floor heating system to specify for projects of all scales. It offers a more superior heating performance than comparable models on the market.

Lo-16's moisture resistant panels incorporate XPS insulation with a high compressive strength of 500kPa – making this system perfect for use under high load traffic areas.

The system also features a 200µm thick, continuous aluminium diffuser for an even heat spread and high heat output.

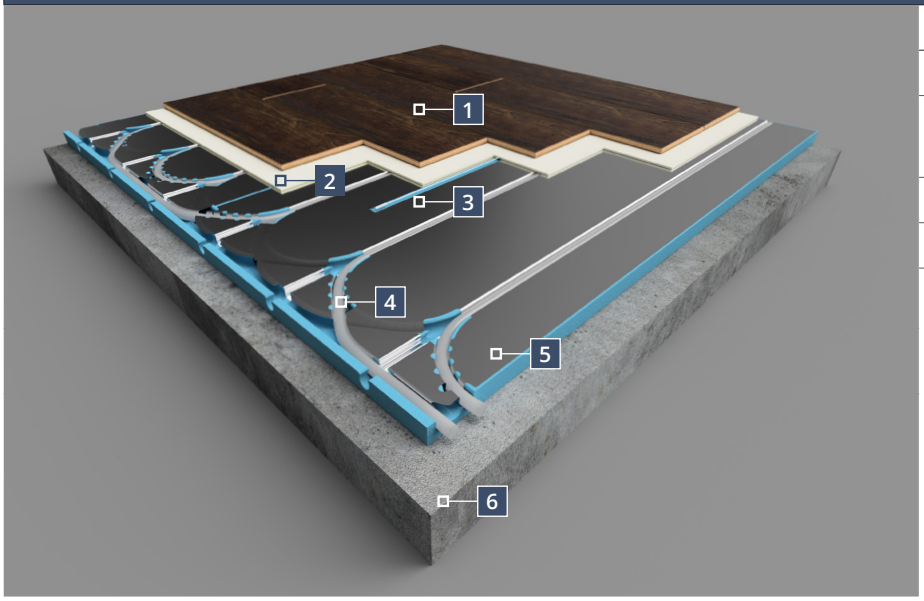
Additionally, by utilising Warmup's 16mm PE-RT heating pipe, Lo-16 also enables larger floor heating circuits - reducing the manifold size and overall system cost - whilst its 200mm centres enables the heating pipe to be installed without exceeding the minimum bending radius (which can result in the voiding of the warranty).

Warmup Lo-16's energy-efficient, low-carbon technology will offer low long-term running costs for the end-user and it can be used with both boilers and heat pumps.

Warmup

Typical floor build-ups

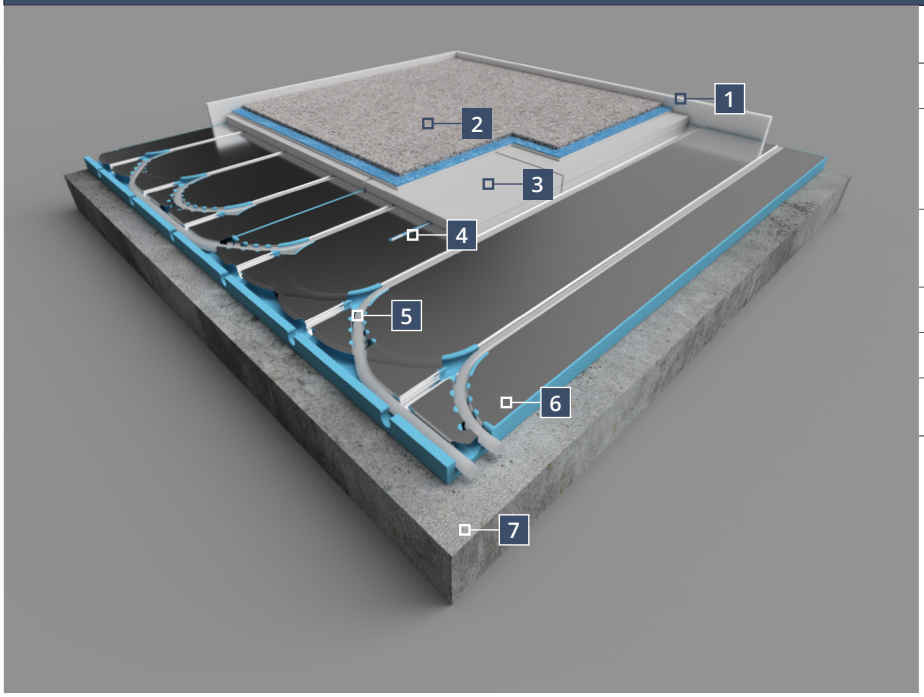
Floating floor finishes



1	Floating floor finish
2	UFH compatible underlay
3	Floor sensor *Must be recessed into the Lo-16 panel and taped in position.*
4	Warmup 16 mm PE-RT pipe
5	Universal Heating Panel *
6	Subfloor with a Surface Regularity of SR1

** Lo-16 panels can also be adhered to the subfloor to improve stability*

All floor finishes - Floating

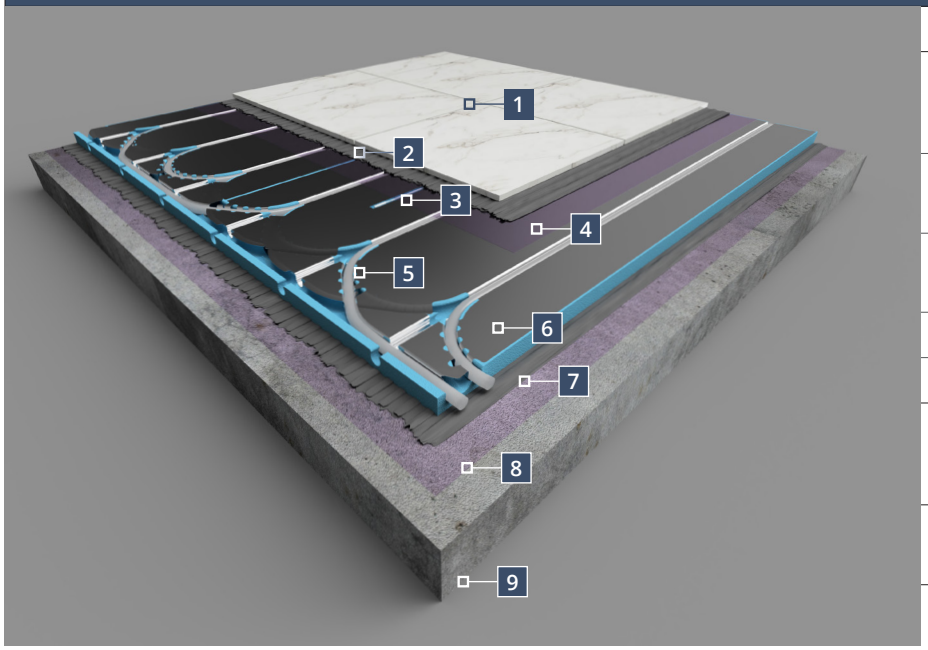


1	Perimeter strip *DCM-E-25*
2	Floor finish
3	Floating floor deck *Such as HiDECK 18 or 18mm P5 T&G chipboard. Install referring to their instructions*
4	Floor sensor *Must be recessed into the Lo-16 panel and taped in position.*
5	Warmup 16 mm PE-RT pipe
6	Universal Heating Panel*
7	Subfloor with a Surface Regularity of SR1

** Lo-16 panels can also be adhered to the subfloor to improve stability*

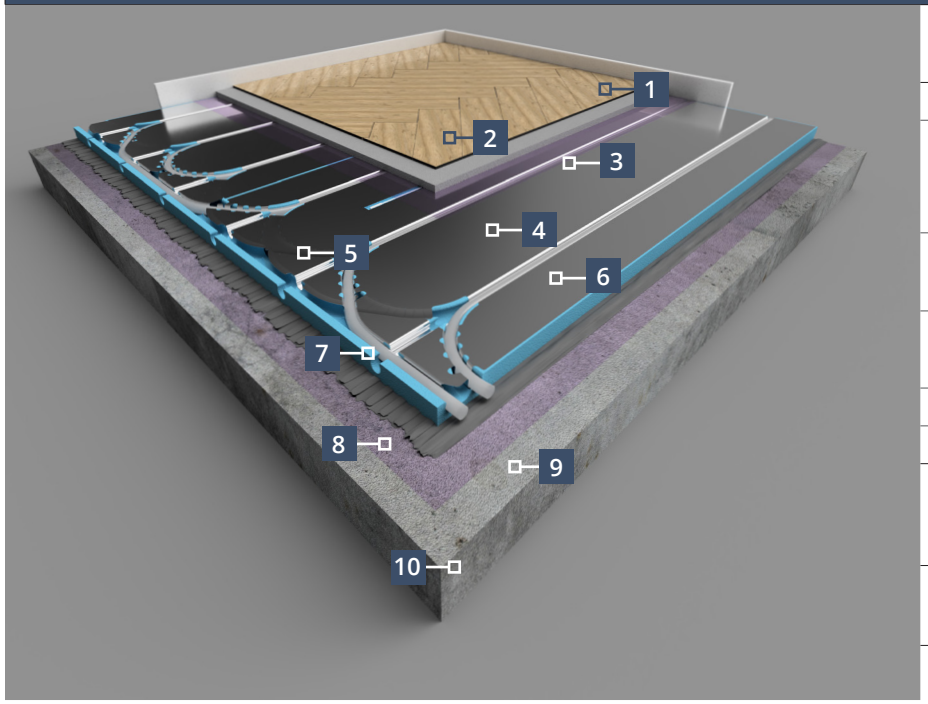
Typical floor build-ups

Tiled floors



1	Tile Floor Finish
2	Flexible tile adhesive *Tile adhesive used must be compatible with compressible panels such as Lo-16, e.g. Warmup S2 flexible tile adhesive*
3	Floor sensor *Must be recessed into the Lo-16 panel and taped in position.*
4	Warmup Primer *[ACC-PRIMER]* *Diffuser plates require priming to ensure proper adhesion of tile adhesive*
5	Warmup 16 mm PE-RT pipe
6	Universal Heating Panel
7	Flexible tile adhesive *e.g. Warmup S2 flexible tile adhesive for wet or dry areas or compatible high temperature acrylic adhesive for dry areas*
8	Warmup Primer *[ACC-PRIMER]* *Refer to tile adhesive manufacturers instructions for priming requirements*
9	Subfloor with a Surface Regularity of SR1

All floor finishes - Bonded

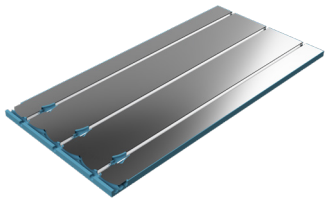


1	Perimeter strip *To allow for differential movement between finished floor level and walls*
2	Floor finish
3	**MINIMUM** 12 mm single layer of compatible self-levelling compound *e.g. Mapei Ultraplan Renovation Screed 3240 fibre reinforced levelling compound*
4	Warmup Primer *[ACC-PRIMER]* *Diffuser plates must be primed to ensure proper adhesion of levelling compound*
5	Floor sensor *Must be recessed into the Lo-16 panel and taped in position.*
6	Warmup 16 mm PE-RT pipe
7	Universal Heating Panel
8	Flexible tile adhesive *e.g. Warmup S2 flexible tile adhesive for wet or dry areas or compatible high temperature acrylic adhesive for dry areas*
9	Warmup Primer *[ACC-PRIMER]* *Refer to tile adhesive manufacturers instructions for priming requirements*
10	Subfloor with a Surface Regularity of SR1

Technical specifications

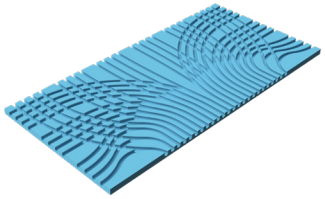
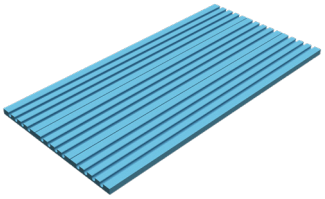
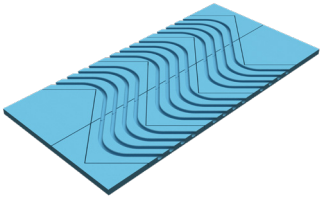
Lo-16 Panels - *Foam component*	
Density	32 kg/m^3
Thermal Conductivity	0.033 W/mK
Compressive Strength (10% deflection)	500 kPa
Water Absorption (2-day immersion)	<1.0% by volume
Water Absorption (Capillary)	Zero
Coefficient of linear expansion	0.07mm/mK
Water Vapour Permeability	3.2 ng/pa.m.s
Fire Behaviour	Euroclass F

Lo-16 - *Universal Heating Panel*

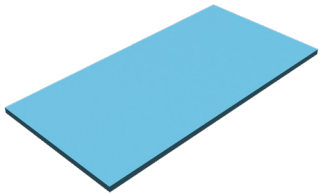


Product Code	LO16-SP-PANEL
Composition	XPS Panel with 0.20mm aluminium top layer Aluminium layer pressed inside the straight groves and sliced over the curves
Pipe centres	200 mm
Dimensions	1200 x 600 x 25mm
Weight of the Panel	1.3 kg

Lo-16 - *Manifold Panel, Straight Service Panel, Curve Service Panel*

Product Code			
	LO16-MP-PANEL	LO16-SS-PANEL	LO16-CS-PANEL
Composition	Routed XPS Panels		
Dimensions	1200 x 600 x 25mm		
Weight of the Panel	0.5 kg		

Lo-16 - *Plain Panel*



Product Code	LO16-PP-PANEL
Composition	XPS Panel
Dimensions	1200 x 600 x 25mm
Weight of the Panel	0.64 kg

System performance

k^H Value - W/m²K													
Resistance of Floor Covering, tog	**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**
200mm Pipe Centres*	6.20	5.23	4.52	3.98	3.56	3.22	2.93	2.70	2.50	2.32	2.17	2.04	1.92

* 200 mm pipe centres with no overboarding or levelling compound. If you are using a floating floor deck over Lo-16 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:

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

Example:
The heat output through an 18 mm thick, ≈ 1.25 tog timber floor, over Lo-16 in a 21°C room heated with 40°C water is;

$q = 3.22 \times (40 - 21)$ = 3.22 **x 19 = 61.18 W/m²**

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

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

Example:
The water temperature required to produce a heat output of 55 W/m², through a 0.3 tog, 3 mm thick LVT floor finish on HiDECK 18 (0.30 + 0.45 = 0.75 tog), over Lo-16 panels in a 22°C room is;

$T_{water} = (55 / 3.98) + 22 = 13.8 + 22 = 36°C$

Components

16mm PE-RT Pipe - WHS-P-PERT-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 7iE - 7iE-01-OB-DC / 7iE-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 UFH Wiring Centre - WWC-09
Warmup's Wiring Centre has been expertly designed for a more efficient heating installation in projects of all sizes. The Wiring Centre allows for installs of up to 9 UFH zones, with 2 of the zones being configurable to control radiators and domestic hot water.

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-BEND
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

Warmup Stick&Go UFH Glue - STICK&GO
Allows immediate site access, enabling installers to begin underfloor heating installations right away. Unlike traditional tile adhesives, which require on-site mixing and can take half a day to cure enough to take light traffic, this ready-to-use glue is applied straight from the tub, saving time and effort.

Contact

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