

Warmup® Ultralight™



4in1

Insulating

Heat Spreading

Decoupling

Sound Reducing

Overview

Ultralight is a specialised composite board designed for floor heating applications. Manufactured as flat, flexible sheets they are water and mould-resistant. The top surface incorporates a heat spreading aluminium layer combined with non-woven fleece.

The core of PEF insulation provides thermal separation from the floor beneath, ensuring a rapid thermal response of a heated layer of tiles or levelling compound above.

The rapid thermal response promoted by the PEF insulation and diffusion layer allows the flooring to heat up and cool down faster, resulting in a more energy efficient and comfortable heated floor, consuming up to 12% less energy compared to systems using traditional insulation.

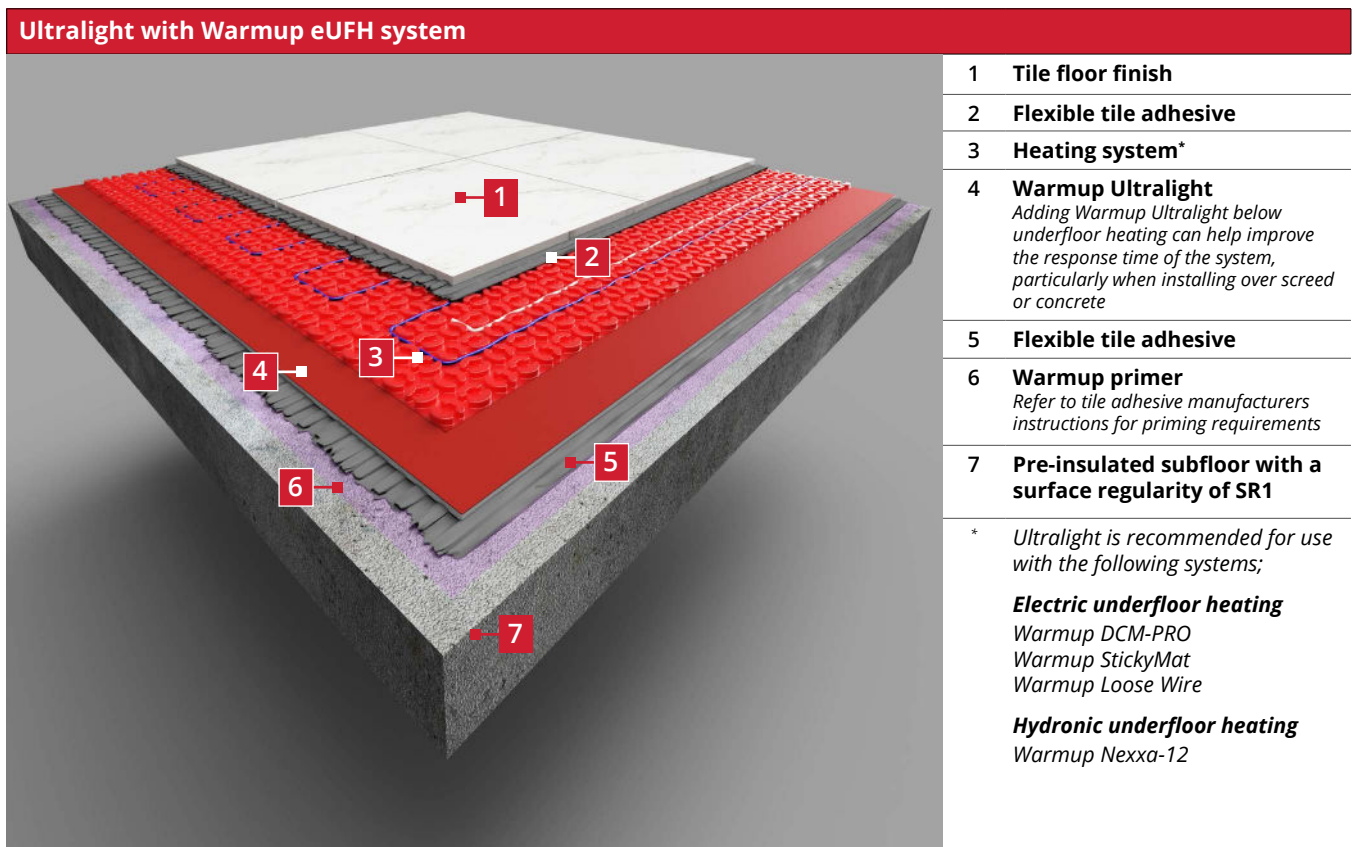
The base layer of non-woven fleece functions as a high performance anti-fracture membrane for tile and stone floor coverings. It also facilitates a high-strength mechanical bond making high-quality installations robust and repeatable.

Warmup®

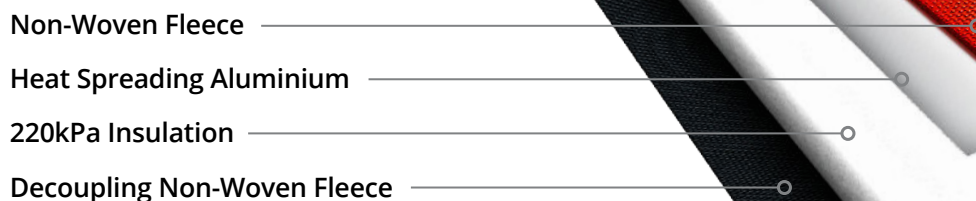
Features & Benefits

- The heat spreading aluminium layer **improves comfort and reduces running costs** by providing a 50 % more even heat spread. This enables the floor to achieve the same comfort temperature whilst using 12% less energy. See Fig 1.
- PEF insulation layer **reduces eUFH heat up times** by up to 76 minutes, reduces energy used during eUFH heat up by 69% and reduces heat loss through floors by 5% in a typical house built in 1995, more in older houses, saving you up to 60p/m² a year by improving the floor insulation level. See Fig 2.
- Decoupling fleece layer provides high performance **protection against tiles cracking** due to lateral subfloor movement in accordance with ANSI A118.12 standard.
- Warmup Ultralight is **tested and rated for its acoustic performance** by Intertek Building & Construction in accordance with ISO 10140-2, ISO 10140-3, ASTM E90 and ASTM E492 . Results obtained are tested values and were obtained by using the designated test methods in test chambers that satisfy the lab requirements specified in ISO 10140-5. See page 4 for detailed information.
- Lightweight and durable. Ultralight weighs 1.15kg/m² making it much **lighter and easier to carry** than standard cement-based tile insulation and backer boards and is more robust due to the high strength composite design meaning it **won't break if dropped or bent**.
- Ultralight achieved **Heavy Commercial rating** when used with large format tiles (600 mm x 600 mm) and Light Commercial rating when used with standard tiles (300 mm x 300 mm), in accordance with ASTM-C627 (Robinson Test).
- The lightweight composite design makes it **easier to cut** curves and complex shapes, compared with cement-based tile insulation and backer boards and will not dull knife blades.
- Ultralight will not crumple, dent or create dust when cutting or kneeling on the boards which means **no dust to clean or breathe in during installation**.

Typical Floor Build-Up



Technical Data



Product Code	WCI-16	Compressive Strength, 10% Compression, <i>EN 826</i>	220 kPa
Pack Size	16 Boards	Point Loading, tiled <i>ANSI A118.12</i>	≥ 2.2 kN
Thickness	6 mm ±0.2mm	Robinsons test, 100 - 199 mm tiles, <i>ASTM C627</i>	Domestic
Dimensions	800 mm (W) x 1200 mm (L) ±6mm	Robinsons test, 200 - 599 mm tiles, <i>ASTM C627</i>	Light Commercial
Area	0.96m ²	Robinsons test, ≥ 600 mm tiles, <i>ASTM C627</i>	Heavy Commercial
Weight of Board	1.1kg	7 Day Shear Strength, <i>ANSI A118.12</i>	113 psi (780 kPa)
Thermal Resistance <i>EN 12667</i>	0.111 m ² K/W	Crack Resistance (Anti-Fracture / Decoupling), <i>ANSI A118.12</i>	≥ 1/8" => High Performance
Thermal Conductivity <i>EN 12667</i>	0.054 W/mK	Long Term Water Absorption, <i>EN 12087</i>	0.052% w/w
Reaction to Fire, <i>EN 13501-1</i> <i>EN ISO 11952-2</i>	Euroclass E	Water Vapour Permeability, <i>EN 12086</i>	9.12 mg/m ² h
Release of Dangerous Substances, <i>REACH</i>	SVHC ≤ 0.1% w/w	Mould Growth, <i>ANSI A118.12</i>	Does not support mould growth

Acoustic Performance*			
Floor Construction	Standards	Result	Report No.
3/4" (19mm) OSB board 18" (450mm) Open Web Joists 3.5" (90mm) Fibreglass Insulation 1/2" (12.7mm) RC Deluxe Resilient Channel 5/8" (15.9mm) Gypsum Panel	ISO 717-1 ISO 10140-2 ISO 10140-3 ASTM E90 ASTM E492	Rw 54 dB L _{n,w} 60 dB STC 54 IIC 50 HIIC 50	M5642.01-113-11-R0 M5642.02-113-11-R0
75 lb/ft ² (350 kg/m ²) Concrete Slab	ISO 717-1 ISO 10140-2 ISO 10140-3 ASTM E90 ASTM E492 ASTM 3222 ASTM E2179	Rw 53 dB L _{n,w} 67 dB ΔL _{n,w} 11 dB STC 53 IIC 43 ΔIIC 15 HIIC 42 ΔIIC 14	M5643.01-113-11-R0 M5643.02-113-11-R0

* See page 4 for detailed information

Acoustic Performance

Warmup Ultralight is tested and rated for its acoustic performance by Intertek Building & Construction in accordance with ISO 10140-2, ISO 10140-3, ASTM E90 and ASTM E492. Results obtained are tested values and were obtained by using the designated test methods in test chambers that satisfy the lab requirements specified in ISO 10140-5.

Each tested construction included standard ceramic tiles and tile adhesive installed over Ultralight installed in accordance with its manual. These installation layers are common to and cover all floor constructions* detailed below.

1/3" (8mm) Ceramic Tile			
1/8" (3mm) Cementitious Tile Adhesive			
1/4" (6mm) Warmup Ultralight			
1/8" (3mm) Cementitious Tile Adhesive			
<i>Floor Construction*</i>	<i>Standards</i>	<i>Result</i>	<i>Report No.</i>
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* Construction from Top to Bottom

NOTE:

Rw = Sound Reduction Index

L_{n,w} = Normalised Impact Sound Pressure Level

$\Delta L_{n,w}$ = Improvement in impact sound insulation when VLo Ultra-12 is added

STC = Sound Transmission Class

IIC = Impact Insulation Class

HHIC = High-Frequency Impact Insulation Class

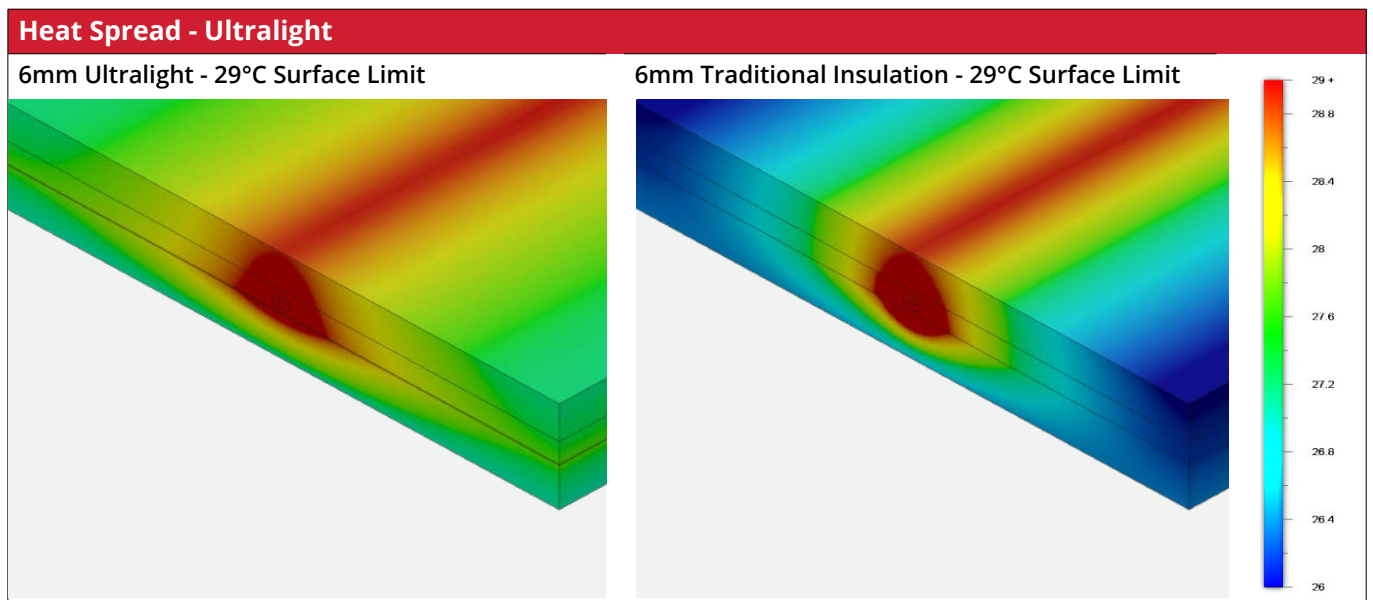


Fig. 1 - Improved Heat Spread of Ultralight Vs Traditional Insulation
 When operating at a 29°C maximum surface temperature, traditional insulation would result in a minimum surface temperature just below 26°C. By comparison, Ultralight increases this to 27.5°C resulting in increased comfort and a 10.5% increase in heat output.

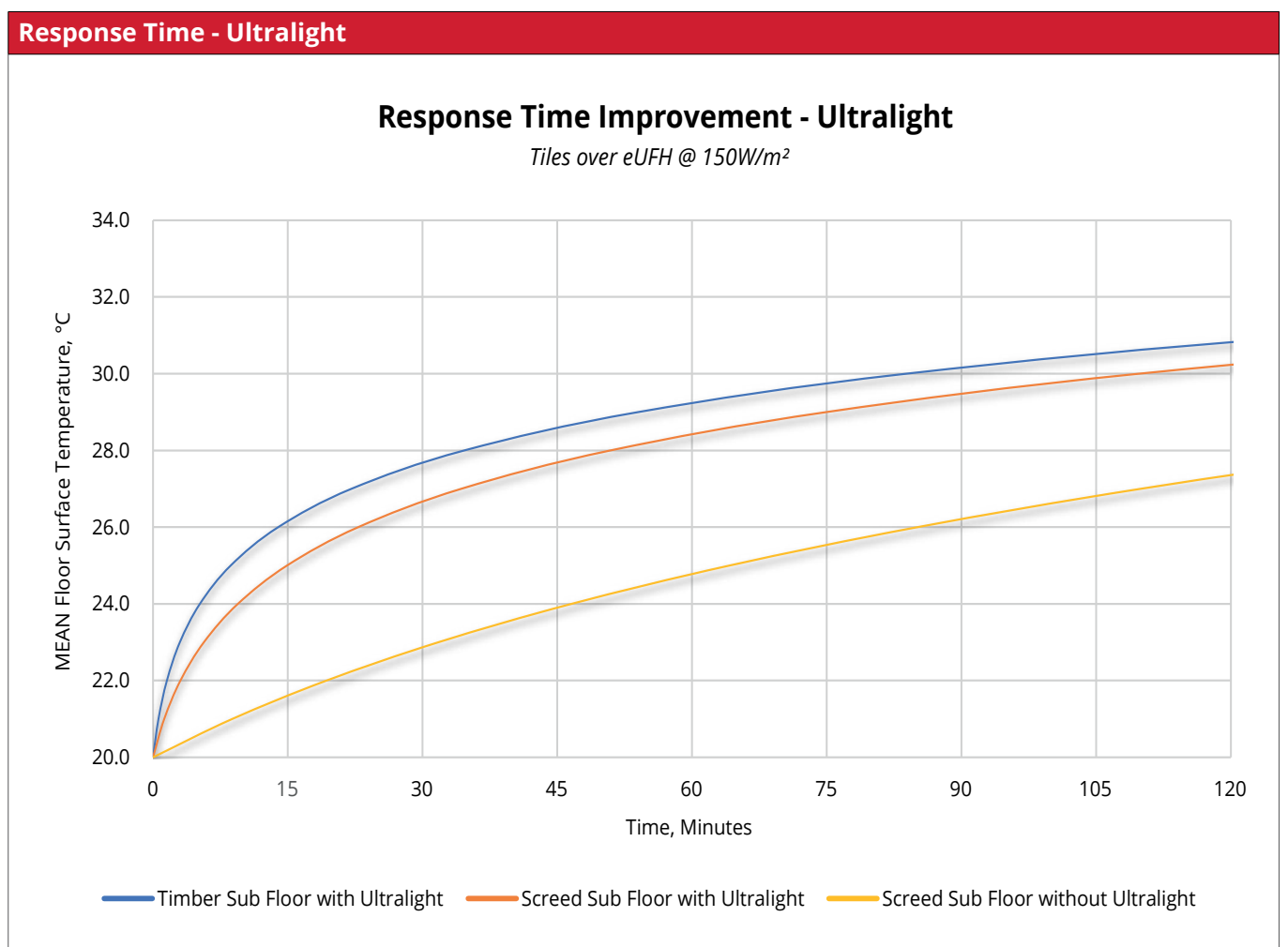


Fig. 2 - Improvement in response time due to using Ultralight
 In tests, a 150W/m² eUFH heater over a 65mm insulated screed, the floor will take 110 minutes to achieve 27°C. By installing Ultralight beneath the eUFH, the same temperature is reached in just 34 minutes.