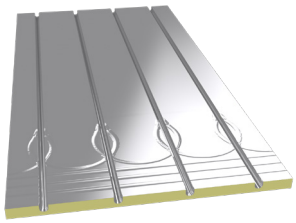
TIMOLEON EUROPE

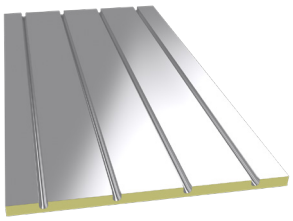
FF16

DATASHEET – ROUTED & LINED INSULATION PANEL

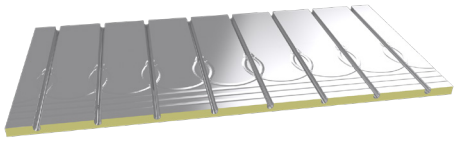
DS_FF16_01.0



Combination Panel (Pattern 2)
FF16–PO2

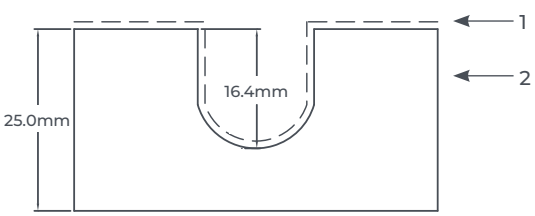


Straights Panel (Pattern 3)
FF16–PO3



Loop with Flow and Return Channels Panel (Pattern 4)
FF16–PO4

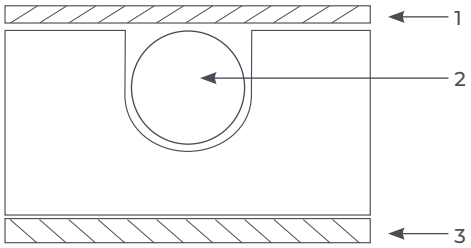
ROUTED PANEL CROSS SECTION



1 – Soft temper aluminium fully lined channel (100µm)

2 – 300kPa XPS insulation

APPLICATION CROSS SECTION



1 – Floor deck/finish

2 – 16mm pipe

3 – Sub floor

PRODUCT OVERVIEW

High grade XPS insulation for fully floating floors to support an overlaid tongue and groove or timber floor deck above. The panel features a pre-bonded soft temper aluminium heat diffuser with fully lined straight channels. This panel can be floated, bonded or even mechanically fixed to a solid or timber substructure.

PRODUCT TECHNICAL DATA

Material	XPS Extruded Insulation
Compressive Strength (EN 826)	300kPa
Panel dimensions	1200 x 600mm
Thickness	25mm
Panel options	a) Combination panel (P2)
	b) Separate straights & loops with flow and return channels (P3 + P4)
Pipe centres	150mm
Pipe channels/external pipe diameter	16mm
Soft temper aluminium diffuser	100µm in straight channels & over entire panel

Insulation properties

Regularity (EN 824)	≤ 5
Creep with compression 2% reduction, 1.5% deformation over 50 years (EN 1606)	90kPa
Modules of compressive elasticity (EN 826)	15000kPa
Bulk Density (EN 1607)	32kg/m3
Nominal thermal conductivity (EN 13164)	0.034 W/mK
Application Temperature Range	-150 to +75°C
Fire Behaviour (EN 1305-1)	E
Water absorption on long immersion (EN 12087)	≤ 1.0% vol.
Thermal Expansion Coefficient	0.07mm/(mK)

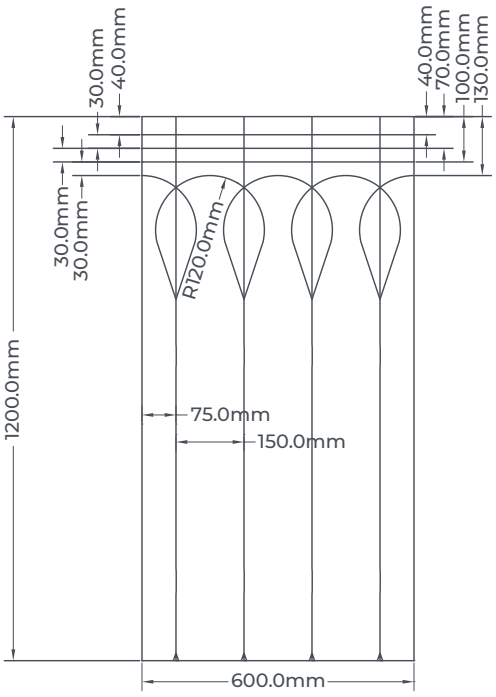
MATERIAL CREDENTIALS

- 100% recyclable.
- Raw material manufactured in accordance with EN 13164.
- No CFC, HCFC or HFC gases or fire retardants that contain hazardous bromine compounds are used in the manufacturing of the insulation. Neither do any gases, particles or fibres that are hazardous to health evaporate or release from the insulation. Rated M1 for emissions, i.e. the best indoor air quality.

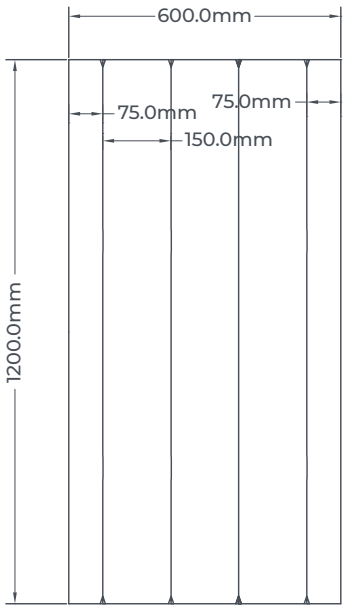
INSTALLATION GUIDANCE

1. Store panels in a safe dry, weather tight area out of direct sunlight.
2. Ensure that the subfloor is level and free from dust & debris (best practice to use a primer and to refer to the floor finish manufacturers' instructions which should always take precedence).
3. Lay panels as a floating floor or fully bonded to the subfloor depending on floor finish proposed.
4. Once laid use walking boards to protect the panels, especially in areas of high-level foot traffic.
5. Pipe up the panels following your installation drawing.
6. Pressure test the system.
7. Lay deck and/or floor finish.

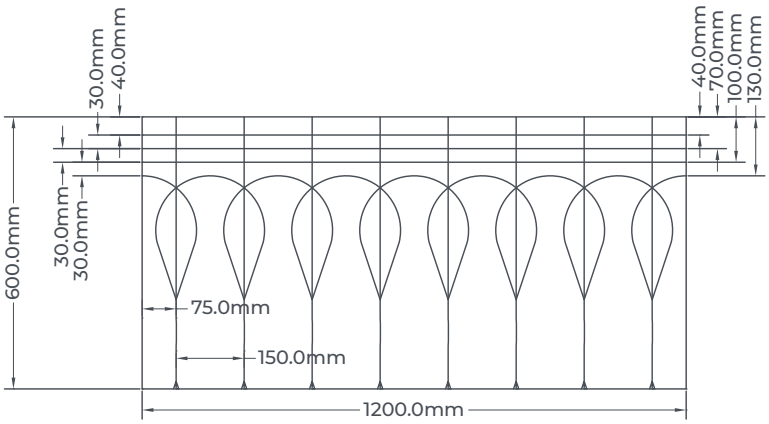
DETAILS OF PANEL DESIGN OPTIONS



Combination Panel (Pattern 2)



Straights Panel (Pattern 3)



Loop with Flow and Return Channels Panel (Pattern 4)

PRODUCT TOLERANCE

Panel	
Length	+/-2mm
Width	+/-2mm
Thickness	+/-0.5mm
Channel routed depth	
16mm pipe	-0/+0.5mm

OMNIE.

Technical
Product Guide

System Information & Installation Guidance

Integrated floor deck and heating system for suspended and batten floors.

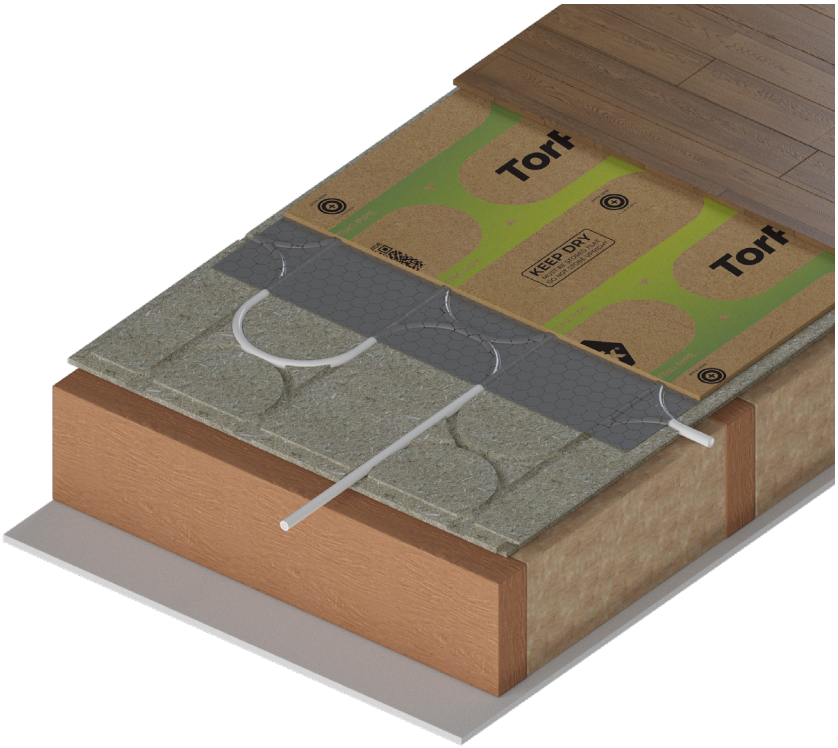
TPG-OMKT0001-0524

TorFloor2® Standard

TorFloor 2 is a high-performance integrated floor deck and underfloor heating system, designed for suspended and batten floors structurally tested to 600mm centres, however this may create too much movement for tiled floors.

The TorFloor 2 Standard system comprises of a 22mm chipboard deck panel with a 6mm woodfibre cover panel with bonded layer of AL HEX aluminium diffuser foil.

The system is comprised of lower deck panel and upper covering panel. These panels encapsulate the warm water UFH pipe. Both cover panel and floor deck panel are routed with matching channels that perfectly align around the pipework. Once screwed together the assembly forms a structural floor deck.



CONTENTS:

SYSTEM INFORMATION:

To use this system you will require the following OMNIE products:

UTCW0106 TorFloor 2 woodfibre cover panel
UTCD0122 TorFloor 2 chipboard deck panel
UP12XXXX* OMNIFLO pipe - 12mm
ULSW0116 OMNIE 16mm cover panel screws

*Product code as required

1. System Overview

1.1 Features

TorFloor 2 provides both a structural floor plus integrated underfloor heating, replacing the floor deck used in constructions on a joisted beam or batten floor. It is structurally tested for use with joists up to 600mm centres.

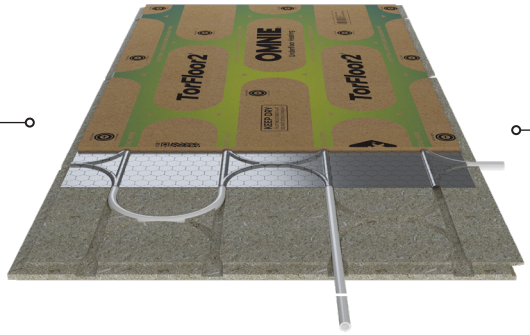
TorFloor 2 includes innovative features to speed up construction time, reduce installation risk and deliver the best possible heating performance.

This Standard model features a lower 22mm chipboard deck panel with a 6mm woodfibre cover panel. For higher heating performance select the TorFloor 2 Plus system. For greater acoustic performance select the TorFloor 2 RdB system.

AL HEX diffuser technology for fast warm up and even heat distribution.

Printed top panel shows pipe is beneath the floor and where to affix.

Tested for use with joists up to 600mm centres.



Locator Technology. Panels are pre-routed to locate easily over the pipe.

Fixing locations clearly marked to reduce instal-lation risk.

Omni-directional pipe pattern allows pipe to lay in multiple directions.

1.2 Isometric View

This drawing is an illustration of a typical floor build up used in the UK and is shown for information only. The items shown with an asterix (*) within the floor construction are specified and designed by others and are not part of the OMNIE system.

Floor finish*

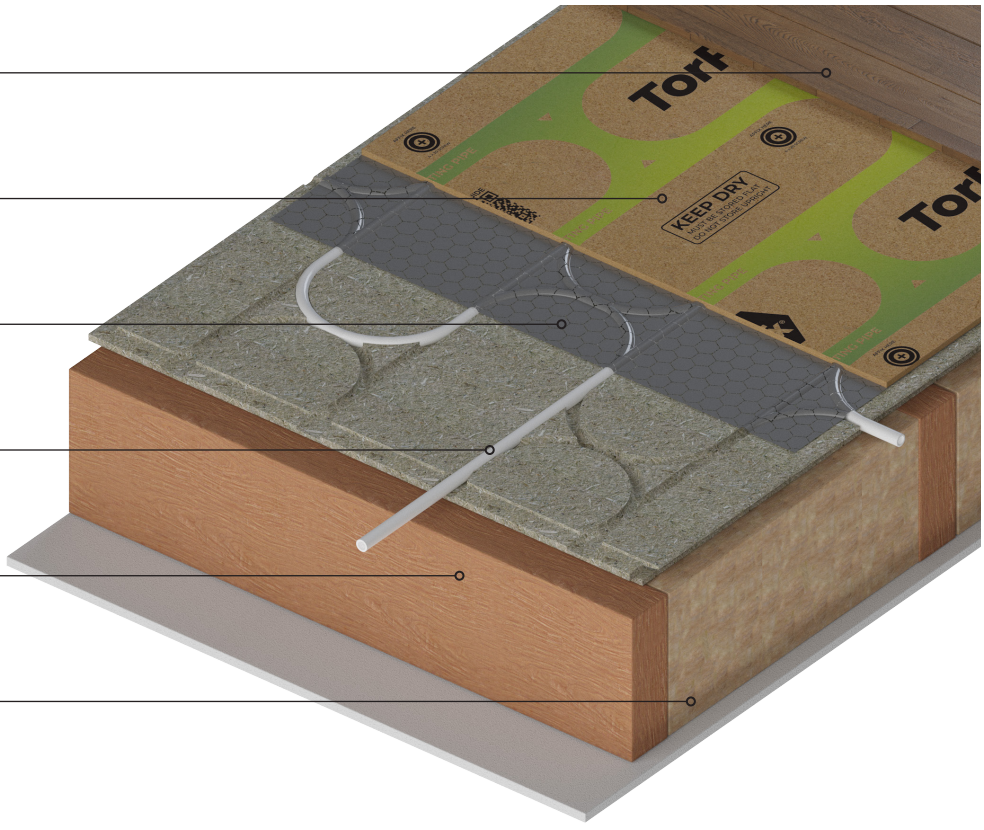
Woodfibre cover panel

Chipboard deck panel

OMNIFLO 12mm pipe

Subfloor (timber joist)*

Insulation*



1. System Overview

1.3 Product Functionality

PRINTED COVER PANEL

The cover panel features a printed warning notice to indicate the location of the pipe and screw fixings – reducing the risk of damage on initial installation or subsequent change of floor finish. The indicated screw fixings are the minimum requirement for a structural floor and more screws may be required.

LOCATOR TECHNOLOGY

Both the cover panel and deck panel are routed with matching channels that perfectly align around the pipework. Not only is the pipework safely encapsulated but further protection is provided by the cover panel's distinctive warning notice that is accurately aligned to indicate the pipe location.

FLUTED EXITS

By routing wide fluted exits at the edge of the TorFloor 2 panels, adjacent panels do not have to be aligned precisely when laid. The pipe can be quickly laid across adjoining panels, reducing the risk of pinching or kinking. Such damage would ultimately mean the pipe would require replacement.

OMNI-DIRECTIONAL PIPE PATTERN

OMNIE's unique routed channel patterns means the pipe can be laid precisely to any required route. This removes the need for any separate straight or loop panels meaning the installation can be quick and efficient, working easily around complex unheated areas, obstacles and room shapes.

ULTRA FAST WARM UP

The design of TorFloor 2 places the water pipe closer to the floor surface to deliver a fast warm up time. This is achievable due to the matching channels of the cover panel. AL HEX aluminium diffuser technology effectively transfers heat from the pipe into the foil, in turn optimising heat transfer into the floor.

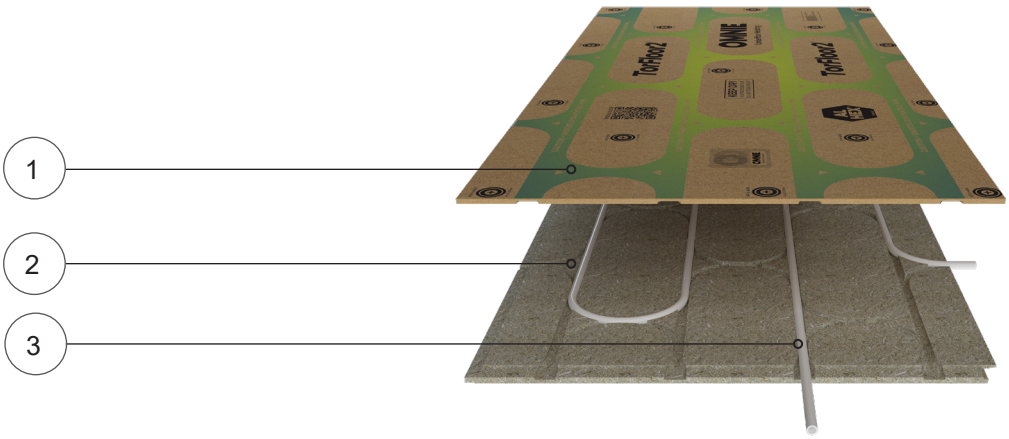
JOISTS UP TO 600mm CENTRES

The deck panel and cover panel are screwed together to form the finished structural load-bearing floor deck. The completed TorFloor 2 system has been structurally tested for use with joists up to 600mm centres.

2. Technical Specifications

2.1. System Technical Information

This drawing is an illustration of a typical floor build-up used in the UK and is shown for information only.



1 **TORFLOOR 2 Standard cover panel**

Forms upper half of TorFloor 2 Standard system. Routed for 12mm pipe, the 6mm woodfibre cover panel requires 22mm chipboard deck panel to complete the installation.

Product code	UTCW0106 TorFloor 2 woodfibre cover panel
Material	Woodfibre + AL HEX Aluminium Layer
Size or diameter	1200 x 600 mm
Material thickness	6mm
Product thickness (if different)	6mm
Pipe centres	150mm
Pipe channel size	12mm
Weight (approx.)	3.6kg
Max subfloor centres (for joisted/batten floors)	600mm
Fire class	
Coverage per square metre	0.72 m^2

2. Technical Specifications

2 **TORFLOOR 2 deck panel**

The 22mm chipboard deck panel forms the lower half of TorFloor 2 Standard system. The deck panel requires 6mm woodfibre cover panel to complete installation.

Product code	UTCD0122 TorFloor 2 chipboard deck panel
Material	P5 Chipboard - Moisture Resistant Tongue & Groove Profile - CE/UKCA Certified
Size or diameter	2400 x 600 mm (excluding tongues)
Material thickness	22mm
Product thickness (if different)	22mm
Pipe centres	150mm
Pipe channel size	12mm
Weight (approx.)	19kg
Max subfloor centres (for joisted/batten floors)	600mm
Fire class	A (EN 13501)
Coverage per square metre	1.44 m^2

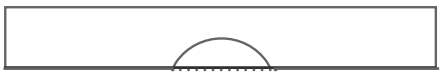
3 **OMNIFLO Pipe**

Five-layer construction achieves high oxygen tightness, good thermal stability and mechanical strength. Outer PE-RT layer protects against damage.

Material	PE-RT
Size or diameter	12 mm
coverage per square metre	6.7 metres of pipe at 150mm centres (approx)

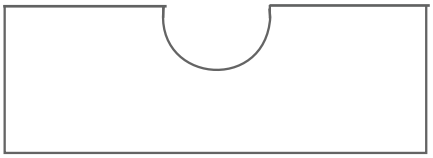
2. Technical Specifications

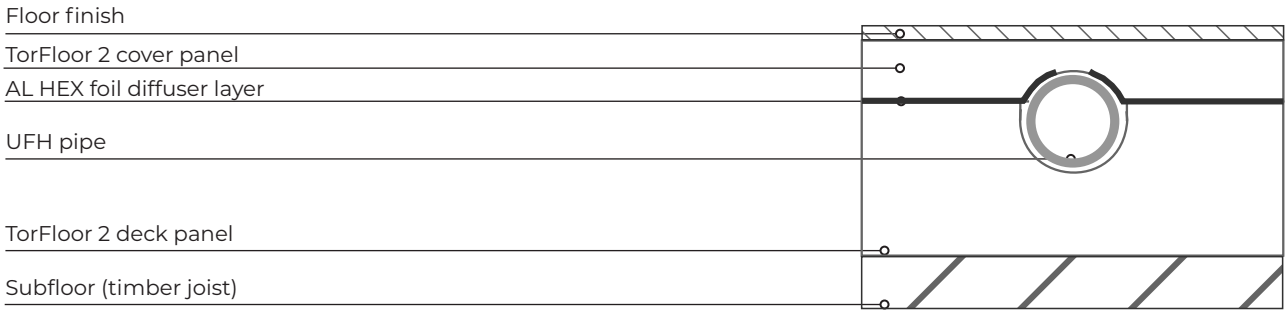
2.2 System Sectional Drawing



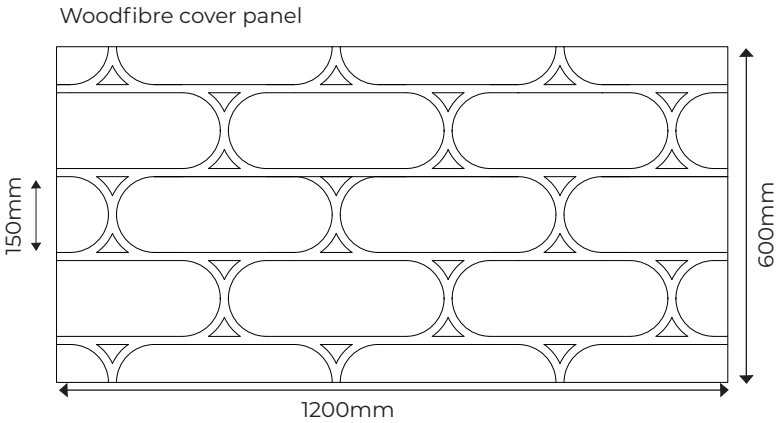
TorFloor 2 Standard featuring a lower 22mm chipboard deck panel with a 6mm woodfibre cover panel.

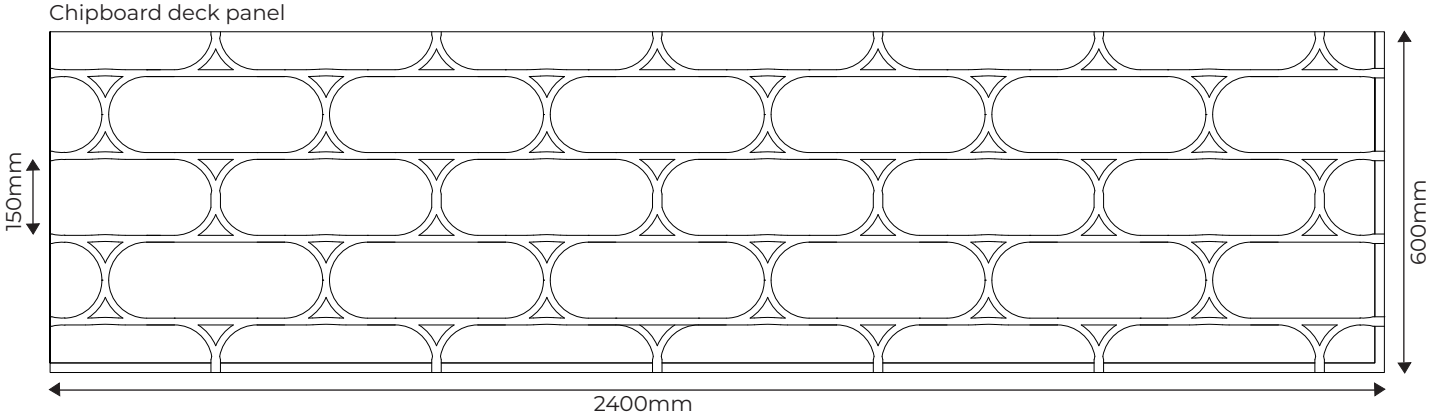
Locator Technology
Panels click in place over pipe. Pipe is encapsulted by upper and lower panels for maximum heat output.





2.3 System Topdown Drawing





2. Technical Specifications

2.4 Performance Efficiency Label

COMPARE WITH CONFIDENCE

OMNIE has now introduced performance information on all our underfloor heating products. The information will provide you with total clarity on the efficiencies and heat outputs of our systems. This is particularly important as the UK makes the transition towards renewable heating technologies such as heat pumps that operate at lower water temperatures, so every kilowatt of energy has to count.

PERFORMANCE AND EFFICIENCY LABEL

OMNIE's UFH systems have been extensively tested and measured. We express this product performance data two simple indicators to allow easy comparison – this is called the 50/50 Performance Benchmark.

Heat Output at 50°C Flow Water Temperature - This is a power rating, expressing what the heat output will be when the product is operating at a 50°C flow water temperature in the UFH pipework. The higher, the more power that is available.

Flow Water Temperature at 50 W/m² Heat Output - This is an efficiency rating, expressing the flow water temperature required to achieve a 50 W/m² heat output. The lower, the more efficient the heat source will be.

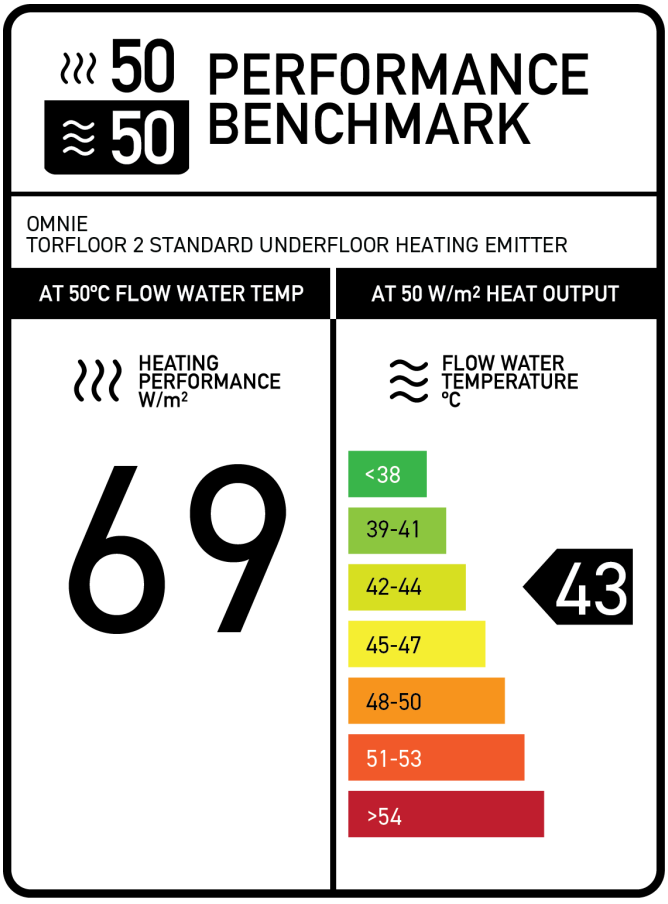
PRODUCT TESTING INFORMATION

Products have been independently tested. The outputs from pipe loops have been considered as well as straight sections.

- Outputs stated are based on a nominal 1 Tog floor finish, as if it were a carpet (a subfloor and support structure is required).
- Subfloor is insulated to the minimum stipulated by BS1264.
- Figures stated at a room temperature of 20°C and with a water flow and return dT of 7°C.

APPLICATION

- The published data is only a benchmark and not a statement of performance for a given project.
- Outputs can vary depending on materials used in the construction, such as the floor deck, insulation, or floor finish.
- Outputs will change with room temperature, flow and return temperature.
- The heat loss of a building will vary dependent on a number of factors so may be higher or lower than 50 W/m².

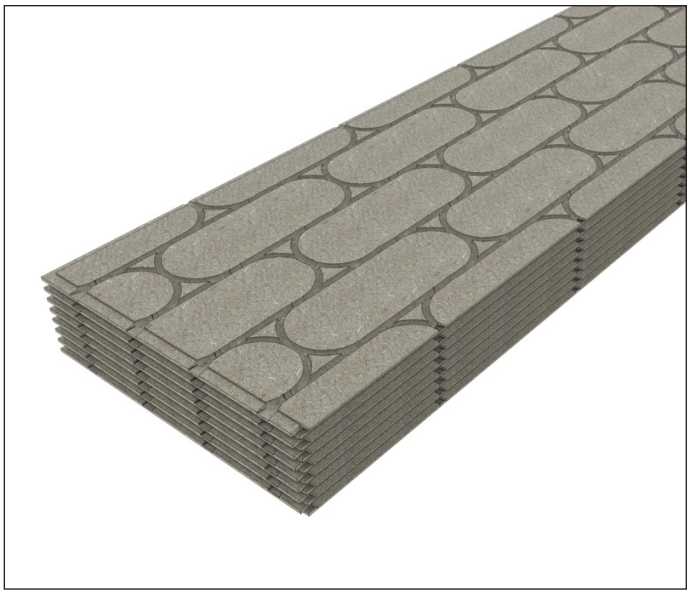


3. Installation Guidance

PLEASE READ THESE INSTRUCTIONS CAREFULLY AND ENSURE THAT THEY ARE CORRECTLY UNDERSTOOD. IF ASSISTANCE IS REQUIRED PLEASE CALL 01392 36 36 05

WATCH VIDEO OF THIS SYSTEM INSTALLATION ONLINE

3.1 Before you start



As OMNIE continues to develop and improve, it is recommended you check the OMNIE website (www.omnie.co.uk) for the latest information and instructions.

Where there are unheated flooring areas, blank and unrouted plain cover panels should be utilised. Do not use the printed cover panels for these unpiped/unheated areas.

Please read all stages of this install guide before proceeding with the installation.

Storage:
If it is necessary to store the system once you have taken delivery, ensure it is kept in the following conditions:

- A dry, weathertight area.
- Out of direct sunlight.
- Away from sharp objects or chemical spillages.
- All panels must be stacked horizontally and raised off the ground and STORED FLAT.
- Panels must not be exposed to moisture or high humidity.
- Ensure that all areas are correctly prepared, dry and protected from the weather.

3.2 Preparation

Check all joists/battens are:
- Level and even.
- Clean from debris.
- Without any surface deviations such as knots or nails.

IMPORTANT INFORMATION

The way that the TorFloor 2 system will be installed depends on access to the floor void below and/or site sequences or requirements.

If floor void IS NOT accessible from below (a suspended joist floor with the ceiling in a place or a timber batten floor): stages 3-7 will need to be completed room-by-room, starting at the room furthest from the manifold.

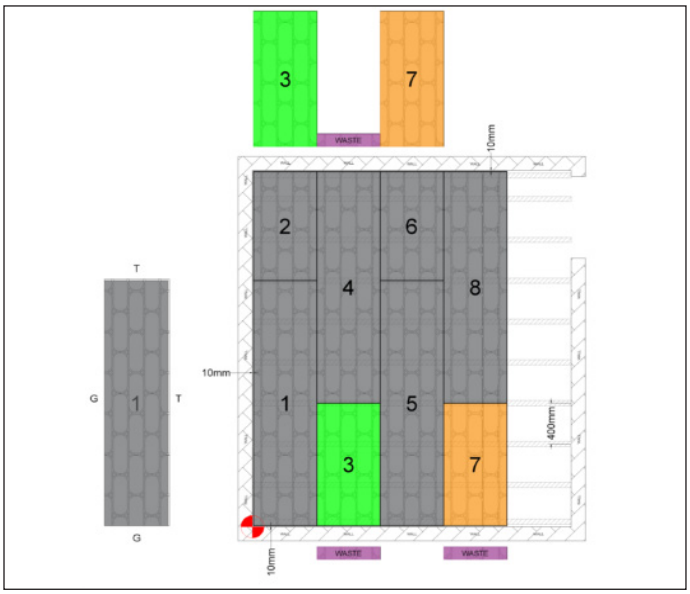
Access panels will be required for installing the flow and return pipework. If floor void IS accessible from below: Stages 3-7 can be completed for the whole floor deck at once. No access panels will be required as the pipe can be handled from below and can be run between joists.

TorFloor 2 is a structural panel and therefore cannot be routed to allow extra channels for flow and returns or for any other reason. See install procedure for flow and returns below.

The moisture content of the TorFloor 2 deck panels and cover panels should be ideally at 8-10% moisture content, ideally acclimatised together before installation.

3. Installation Guidance

3.3 Installation of the deck panels



Lay the first deck panel in a room into a corner, leaving a minimum 10mm gap between the end and edge of the panel and the walls. The grooved edges of the deck panel should be placed in the corner. The opposite end of the deck panel must sit on the centre line of a joist.

Lay the panels in a run, ensuring the end of each panel falls on a centre line of a joist. Use the off-cut of each run to start the following run of panels. Ensure that each row of panels has a group of return loops at each end.

When cutting the TorFloor 2 panels, we recommend that the shortest length of panel should be supported across a minimum of three joists. For example, if the supports are set nominally at 400mm centres, the shortest panel length should be 800mm. DO NOT fit very short lengths which are supported by only two joists, one at each end, unless supported by noggins.

ACCESS PANELS

An access panel allows connection of the room pipe to the flow and return pipes when the floor cannot be accessed from the underside. These must be cut into a TorFloor 2 deck panel.

If access panels are required, do not glue/screw these TorFloor 2 deck panels until the pipe has been installed.

To create an access panel, drill a 15mm hole at a 20-degree angle through the TorFloor 2 deck panel at the point at which the flow pipe needs to drop into the joist space.

WARNING - RISK OF INJURY TO PERSONS OR DAMAGE TO SYSTEM

When working with any wood products, dust and particles can become airborne and pose a hazard to health. Please follow all the relevant health & safety rules regarding required personal safety equipment and extraction/ ventilation requirements are also followed.

3. Installation Guidance

3.4 Fixing the deck panels

All deck panels must be glued with appropriate PVA adhesive on BOTH sides of the tongue and groove and fully driven together (in order to withstand loads specified in EN12871).

NOTE: If access panels are required, do not glue/screw these boards until the pipe has been installed.

The panels should then be glued and screwed to the joists. At each joist, fixings provided should be used, 60mm long screws x 2, placed 150mm away from the edge of the T&G. A pilot hole should be drilled at these points with no.8 particleboard screws to fix the panels to the joists.

IMPORTANT INFORMATION

If access panels are required, do not glue/screw these boards until the pipe has been installed.

3.5 Pipe installation

Before installing the pipe work, it is advised to sweep or vacuum the floor area as debris may have fallen into the channels.

Referring to the OMNIE CAD design (if applicable), insert the pipe into the TorFloor 2 deck panels.

Transitioning pipe from the panel to the joist space: If there are any access panels, drill a 15mm hole at a 20 degree angle through the TorFloor 2 deck panel at the point at which the flow pipe needs to drop into the joist space.

Feed one end of the pipe through the hole from above through to the manifold, notching or drilling as required. Where there is limited access, a plain access panel can be created and 12mm pipe interconnecting fittings used, if required.

Once the pipework has been installed into the room, the access panel can then be glued and screwed.

Where flow and return pipework runs through the joists, there must be a notch or hole.

Notching and drilling in solid wood joists must be done in accordance with Building Regulations Part A such that:

A) Holes should be drilled through the neutral axis and should be positioned between 0.25 and 0.4 times the joist span length.

B) Holes must not be less than 3 x diameters (of the hole) apart.

C) Notches must not deeper than 0.125 times the joist depth, and they should not be closer to a support than 0.07 times the span, not further away than 0.25 times the span.

Continue laying the panels and pipe until all circuits are complete.

Once the panels and pipe have been installed, the circuits should be hydraulically pressure tested.

3. Installation Guidance

3.6 Laying the cover panels

It is preferable for the pipe to be kept under pressure while the cover panels are laid. If this is not possible, the pressure test must be carried out for a second time once the cover panels have been installed.

Sweep or vacuum the deck panel to remove any debris to ensure a flush fit. Place the routed cover panels on top of the deck panels. Stagger the boards as shown.

IMPORTANT INFORMATION

Lay the panels starting with covering the loop ends of the system. Then proceed to use the remaining panels by laying them in a run between those already laid.

It is best practice to lay the panels where possible so that the joints in the deck panel and the cover panel are staggered, but this is not essential.

The routed pattern in the cover and deck panels will align. The cover panels will self-locate into place over the pipe, when this occurs the boards will set flat against each other.

Walk over the cover panels to ensure the AL HEX foil heat diffuser on the underside of panel breaks to accommodate the pipe, signified by an audible ‘crunch’ sound.

It is recommended to lay all the cover panels over the whole floor area before fixing down any of the cover panels.

Once all cover panels have been laid in the working area and you are happy with the fitting around the outside of the area and the fitting of the cover panels, panel to panel, screw down the cover panels in locations marked on the print “AFFIX HERE” using the fixings provided.

More screws may be needed to fix the cover panel flat to the deck panel, especially if the joists are uneven. The screws and positions specified are the minimum required for structural performance. When adding screws avoid the areas printed locating pipe channels underneath.

If there are areas on the pipe layout which do not have any heating pipe underneath, cover those with blank, unrouted and unprinted plain cover panels provided.

Tongued and grooved joints in the floor deck should be glued with PU adhesive or a PVAc adhesive conforming to durability class D3 of BS EN 204. It is essential that a clear gap of at least 10mm is left all the way around the periphery of a timber floor deck, under the skirting to accommodate any swelling of the floor deck due to change in moisture content. All wedges used during the floor deck installation, to press panels together, must be removed when the floor deck is complete.

During the initial system warm up, the mixing valve should be set to supply temperature between 20°C and 25°C which needs to be maintained for at least 3 days. After this period, the flow temperature can then be increased to the design maximum and should be held for a further 4 days to complete the process.

4. Certification & Type Approvals

OMNIE.

STS-OMKT0001-0124

STRUCTURAL TEST STATEMENT

1. Unique product identification codes:

UTCD0122 TorFloor 2 22mm chipboard deck panel
UTCW0106 TorFloor 2 6mm woodfibre cover panel

2. Intended uses of the construction product:

Used as underfloor heating panel.
The panel can be installed directly over a suspended or battened floor or as an additional deck over an existing deck with suspended floor beneath.

3. Manufacturer:

OMNIE Limited, Melrose House, Pynes Hill, Exeter, Devon EX2 5AZ

OMNIE Limited is part of the Ridgespear Group of companies whose address is Melrose House, Pynes Hill, Exeter, Devon, EX2 5AZ

4. Finished product performance information:

Harmonised Technical Specification: ENkh 1195:1998 and EN 12872:2010 and assessed against the requirements of Class I of EN 12871:2013 (E).

Material	Chipboard/Woodfibre
Size or Diameter	2400mm x 600mm
Material Thickness	22mm + 6mm
Product Thickness (if different)	28mm
Pipe Centres	150mm
Pipe Channel Size	12mm
Weight With Water (approx.)	21kg/m²
Thermal Conductivity	N/A
Max Subfloor Centres (for joisted/batten floors)	600mm
Fire Class	N/A

OMNIE GENUINE PRODUCT

On behalf of OMNIE Limited.
DATED: 01/01/2024

OMNIE.

OMNIE Limited, Melrose House, Pynes Hill, Exeter, Devon EX2 5AZ

OMNIE Limited is part of the Ridgespear Group of companies whose address is Melrose House, Pynes Hill, Exeter, Devon, EX2 5AZ

www.omnie.co.uk
01392 36 36 05

OMNIE.

Technical
Product Guide

System Information & Installation Guidance

Integrated floor deck and heating system for suspended and batten floors.

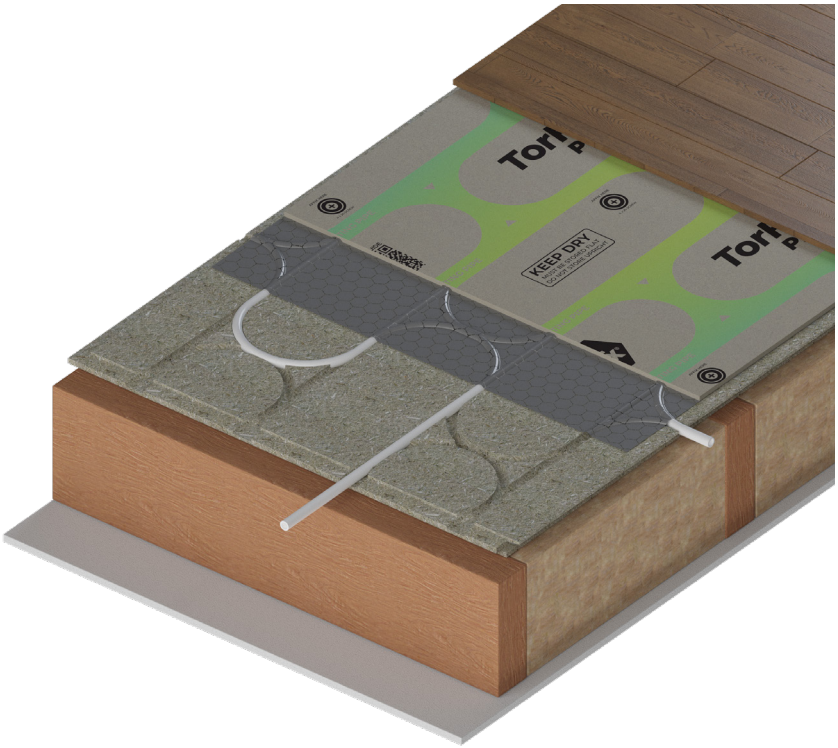
TPG-OMKT0002-0224

TorFloor2® Plus

TorFloor 2 is a high-performance integrated floor deck and underfloor heating system, designed for suspended and batten floors structurally tested to 600mm centres, however this may create too much movement for tiled floors.

The TorFloor 2 Plus system comprises of a 22mm chipboard deck panel with an 8mm cement particle cover panel with bonded layer of AL HEX aluminium diffuser foil.

The system is comprised of lower deck panel and upper covering panel. These panels encapsulate the warm water UFH pipe. Both cover panel and floor deck panel are routed with matching channels that perfectly align around the pipework. Once screwed together the assembly forms a structural floor deck.



CONTENTS:

SYSTEM INFORMATION:

To use this system you will require the following OMNIE products:

UTCH0108 TorFloor 2 cover panel
UTCD0122 TorFloor 2 chipboard deck panel
UP12XXXX* OMNIFLO pipe - 12mm
UTSC0120 OMNIE 20mm cover panel screws

*Product code as required

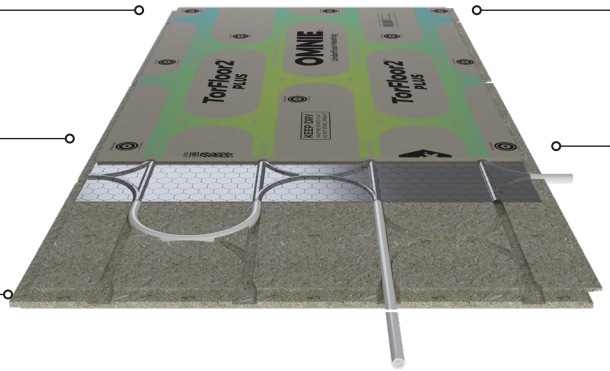
1. System Overview

1.1 Features

TorFloor 2 provides both a structural floor plus integrated underfloor heating, replacing the floor deck used in constructions on a joisted beam or batten floor. It is structurally tested for use with joists up to 600mm centres.

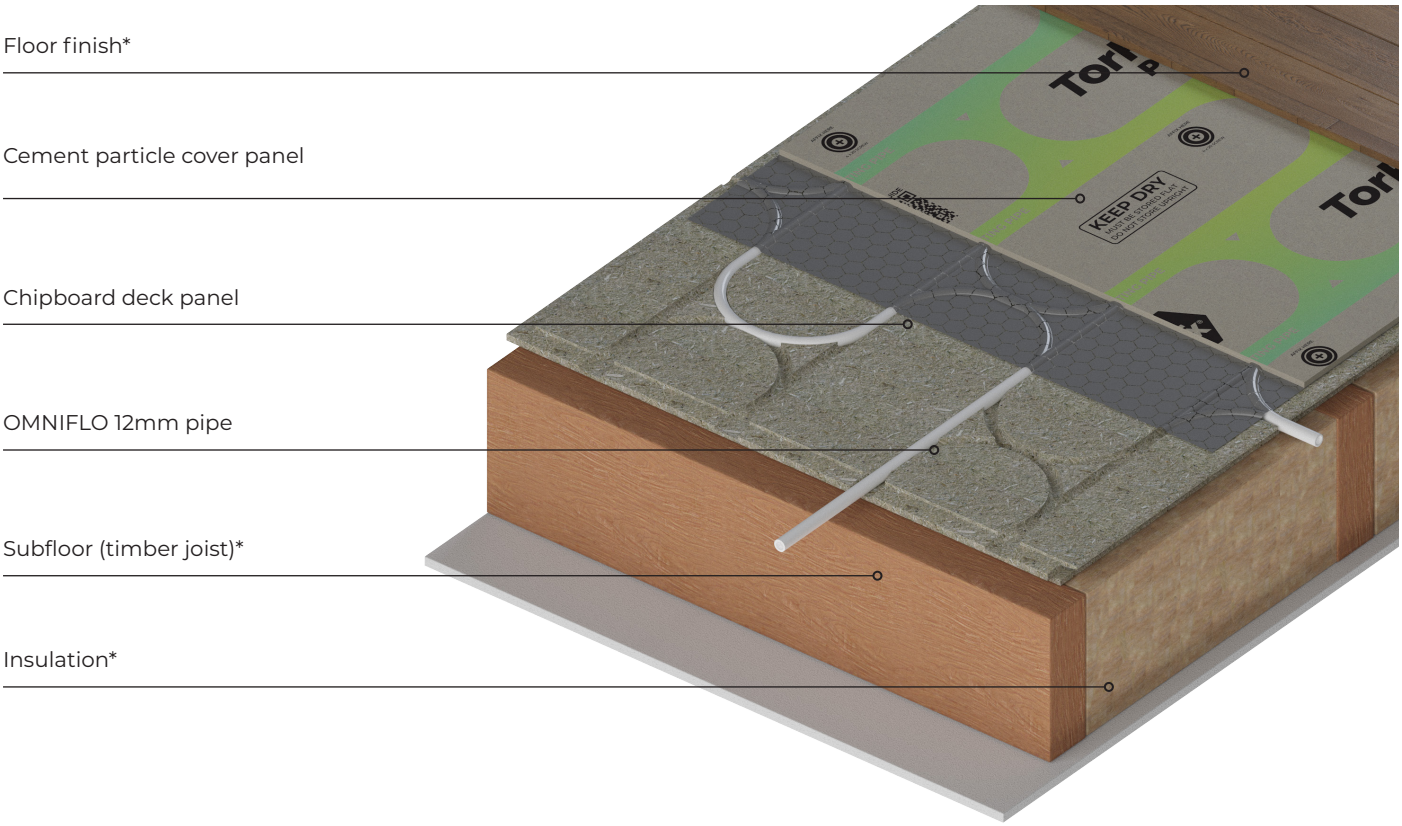
TorFloor 2 includes innovative features to speed up construction time, reduce installation risk and deliver the best possible heating performance.

This Plus model features a lower 22mm chipboard deck panel with a 8mm cement particle board cover panel. For greater acoustic performance select the TorFloor 2 RdB system.



1.2 Isometric View

This drawing is an illustration of a typical floor build up used in the UK and is shown for information only. The items shown with an asterix (*) within the floor construction are specified and designed by others and are not part of the OMNIE system.



1. System Overview

1.3 Product Functionality

PRINTED COVER PANEL

The cover panel features a printed warning notice to indicate the location of the pipe and screw fixings – reducing the risk of damage on initial installation or subsequent change of floor finish. The indicated screw fixings are the minimum requirement for a structural floor and more screws may be required.

LOCATOR TECHNOLOGY

Both the cover panel and deck panel are routed with matching channels that perfectly align around the pipework. Not only is the pipework safely encapsulated but further protection is provided by the cover panel's distinctive warning notice that is accurately aligned to indicate the pipe location.

FLUTED EXITS

By routing wide fluted exits at the edge of the TorFloor 2 panels, adjacent panels do not have to be aligned precisely when laid. The pipe can be quickly laid across adjoining panels, reducing the risk of pinching or kinking. Such damage would ultimately mean the pipe would require replacement.

OMNI-DIRECTIONAL PIPE PATTERN

OMNIE's unique routed channel patterns means the pipe can be laid precisely to any required route. This removes the need for any separate straight or loop panels meaning the installation can be quick and efficient, working easily around complex unheated areas, obstacles and room shapes.

ULTRA FAST WARM UP

The design of TorFloor 2 places the water pipe closer to the floor surface to deliver a fast warm up time. This is achievable due to the matching channels of the cover panel. AL HEX aluminium diffuser technology effectively transfers heat from the pipe into the foil, in turn optimising heat transfer into the floor.

JOISTS UP TO 600mm CENTRES

The deck panel and cover panel are screwed together to form the finished structural load-bearing floor deck. The completed TorFloor 2 system has been structurally tested for use with joists up to 600mm centres.

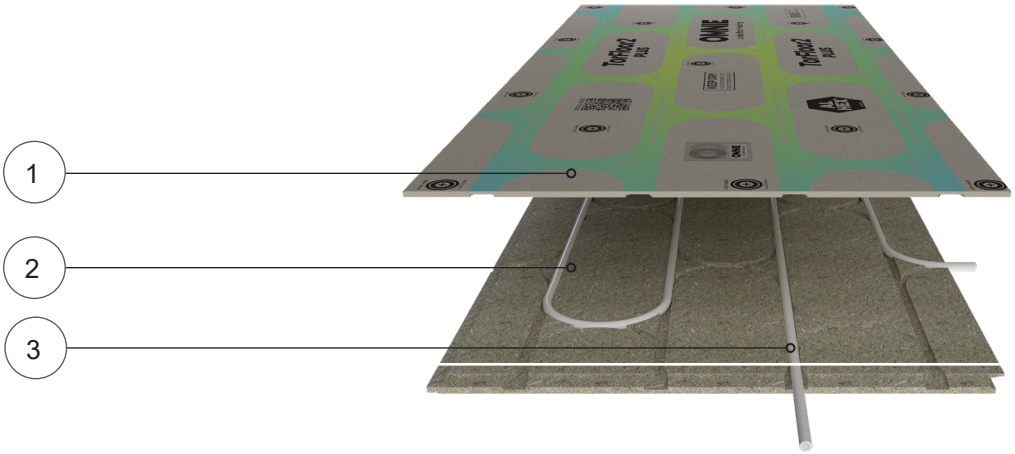
CEMENT PARTICLE BOARD COVER PANEL

The cover panel for LowBoard 2 INSULATE PLUS model is manufactured from Cement Particle Board (CPB). CPB is a material consisting of wood flakes binded by cement. The material offers many advantages over woodfibre, including a greater strength and thermal stability plus a high thermal mass that retains heat for longer and is able to attenuate sound more effectively. The CPB material provides a good bonding surface for tile adhesives, it is simple to cut and shape, does not splinter and poses no disposal issues.

2. Technical Specifications

2.1. System Technical Information

This drawing is an illustration of a typical floor build up used in the UK and is shown for information only.



1 **TORFLOOR 2 Plus cover panel**

Forms upper half of TorFloor 2 Plus system. Routed for 12mm pipe, the 8mm cement particle cover panel requires 22mm chipboard deck panel to complete the installation.

Product code	UTCH0108 TorFloor 2 cover panel
Material	CPB + AL-HEX Aluminium Layer
Size or diameter	1200 x 600 mm
Material thickness	8mm
Product thickness (if different)	8mm
Pipe centres	150mm
Pipe channel size	12mm
Weight (approx.)	8.6kg
Max subfloor centres (for joisted/batten floors)	600mm (may not be suitable for all finishes)
Fire class	A (EN 13501)
Coverage per square metre	0.72 m^2

2. Technical Specifications

2 **TORFLOOR 2 deck panel**

The 22mm chipboard deck panel forms the lower half of TorFloor 2 Plus system. The deck panel requires 8mm cempent particle cover panel to complete installation.

Product code	UTCD0122 TorFloor 2 chipboard deck panel
Material	P5 Chipboard - Moisture Resistant Tongue & Groove Profile - CE/UKCA Certified
Size or diameter	2400 x 600 mm (excluding tongues)
Material thickness	22mm
Product thickness (if different)	22mm
Pipe centres	150mm
Pipe channel size	12mm
Weight (approx.)	19kg
Max subfloor centres (for joisted/batten floors)	600mm
Fire class	N/A
Coverage per square metre	1.44 m^2

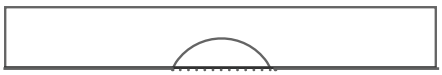
3 **OMNIFLO Pipe**

Five-layer construction achieves high oxygen tightness, good thermal stability and mechanical strength. Outer PE-RT layer protects against damage.

Material	PE-RT
Size or Diameter	12 mm
coverage per square metre	6.7 metres of pipe at 150mm centres (approx)

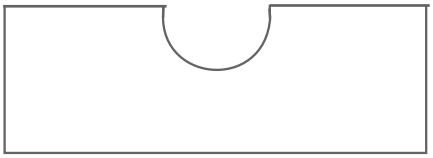
2. Technical Specifications

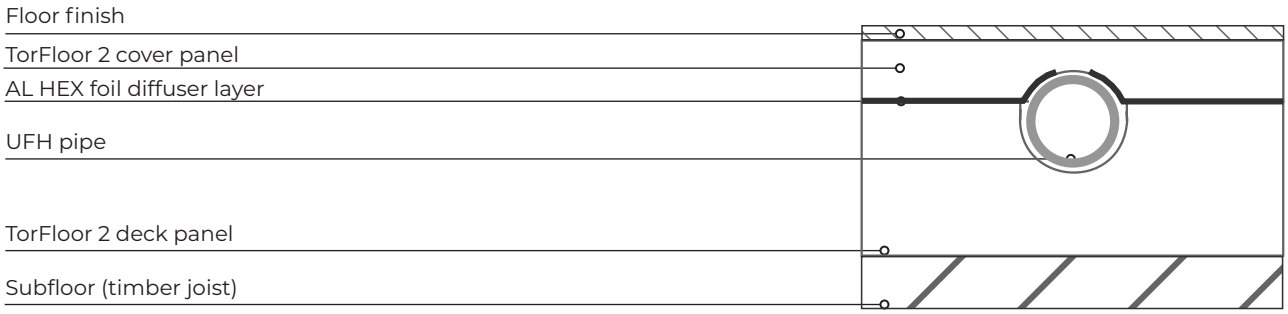
2.2 System Sectional Drawing



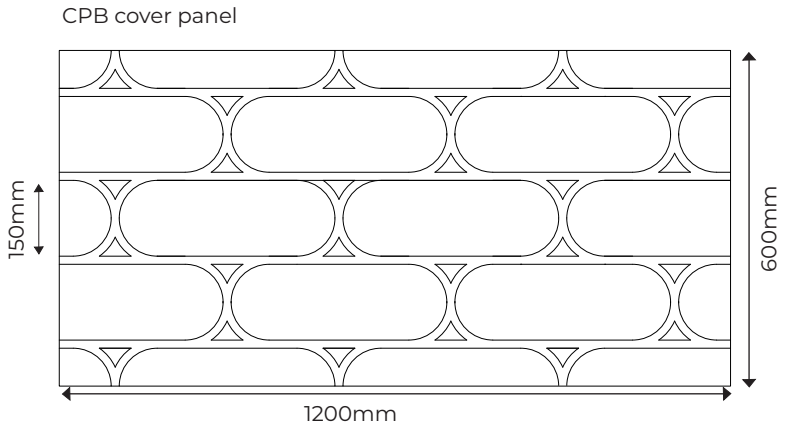
TorFloor 2 Plus featuring a lower 22mm chipboard deck panel with a 8mm cement particle cover panel.

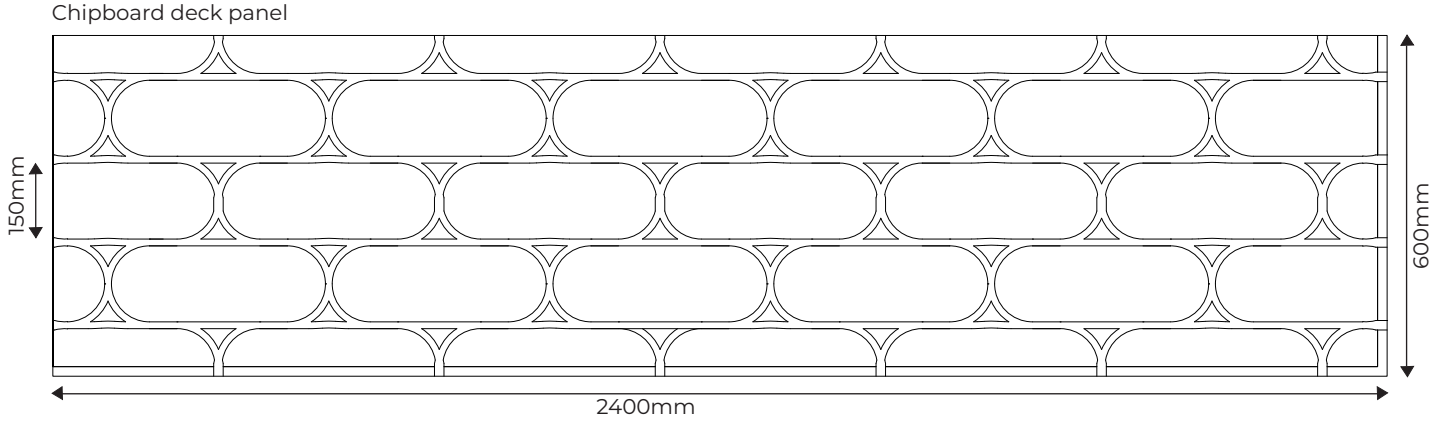
Locator Technology
Panels click in place over pipe. Pipe is encapsulted by upper and lower panels for maximum heat output.





2.3 System Topdown Drawing





2. Technical Specifications

2.4 Performance Efficiency Label

COMPARE WITH CONFIDENCE

OMNIE has now introduced performance information on all our underfloor heating products. The information will provide you with total clarity on the efficiencies and heat outputs of our systems. This is particularly important as the UK makes the transition towards renewable heating technologies such as heat pumps that operate at lower water temperatures, so every kilowatt of energy has to count.

PERFORMANCE AND EFFICIENCY LABEL

OMNIE's UFH systems have been extensively tested and measured. We express this product performance data two simple indicators to allow easy comparison – this is called the 50/50 Performance Benchmark.

Heat Output at 50°C Flow Water Temperature - This is a power rating, expressing what the heat output will be when the product is operating at a 50°C flow water temperature in the UFH pipework. The higher, the more power that is available.

Flow Water Temperature at 50 W/m² Heat Output - This is an efficiency rating, expressing the flow water temperature required to achieve a 50 W/m² heat output. The lower, the more efficient the heat source will be.

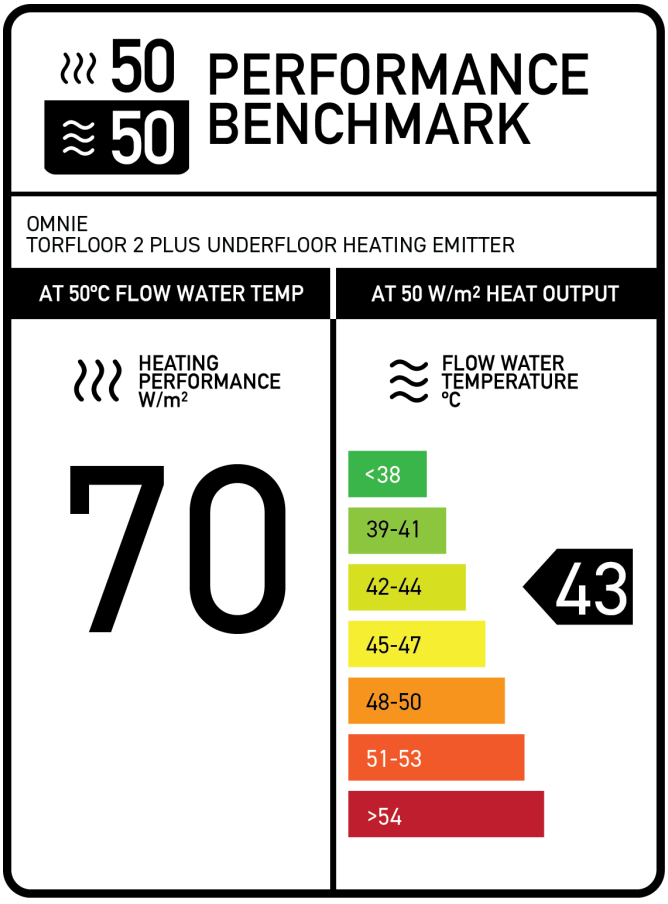
PRODUCT TESTING INFORMATION

Products have been independently tested. The outputs from pipe loops have been considered as well as straight sections.

- Outputs stated are based on a nominal 1 Tog floor finish, as if it were a carpet (a subfloor and support structure is required).
- Subfloor is insulated to the minimum stipulated by BS1264.
- Figures stated at a room temperature of 20°C and with a water flow and return dT of 7°C.

APPLICATION

- The published data is only a benchmark and not a statement of performance for a given project.
- Outputs can vary depending on materials used in the construction, such as the floor deck, insulation, or floor finish.
- Outputs will change with room temperature, flow and return temperature.
- The heat loss of a building will vary dependent on a number of factors so may be higher or lower than 50 W/m².

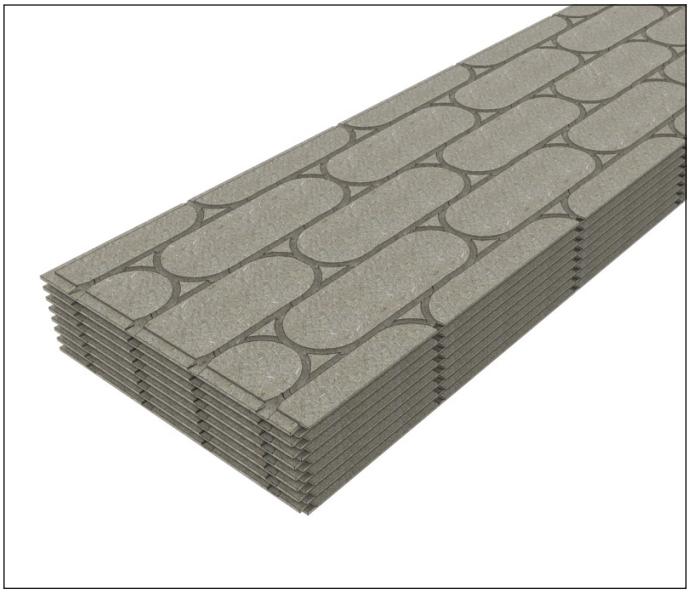


3. Installation Guidance

PLEASE READ THESE INSTRUCTIONS CAREFULLY AND ENSURE THAT THEY ARE CORRECTLY UNDERSTOOD. IF ASSISTANCE IS REQUIRED PLEASE CALL 01392 36 36 05

WATCH VIDEO OF THIS SYSTEM INSTALLATION ONLINE

3.1 Before you start



As OMNIE continues to develop and improve, it is recommended you check the OMNIE website (www.omnie.co.uk) for the latest information and instructions.

Where there are unheated flooring areas, blank and unrouted plain cover panels should be utilised. Do not use the printed cover panels for these unpiped/unheated areas.

Please read all stages of this install guide before proceeding with the installation.

Storage

If it is necessary to store the system once you have taken delivery, ensure it is kept in the following conditions:

- A dry, weathertight area.
- Out of direct sunlight.
- Away from sharp objects or chemical spillages.
- All panels must be stacked horizontally and raised off the ground and STORED FLAT.
- Panels must not be exposed to moisture or high humidity.
- Ensure that all areas are correctly prepared, dry and protected from the weather.

3.2 Preparation

Check all joists/battens are:
- Level and even.
- Clean from debris.
- Without any surface deviations such as knots or nails.

IMPORTANT INFORMATION

The way that the TorFloor 2 system will be installed depends on access to the floor void below and/or site sequences or requirements.

If floor void IS NOT accessible from below (a suspended joist floor with the ceiling in a place or a timber batten floor): stages 3-7 will need to be completed room-by-room, starting at the room furthest from the manifold.

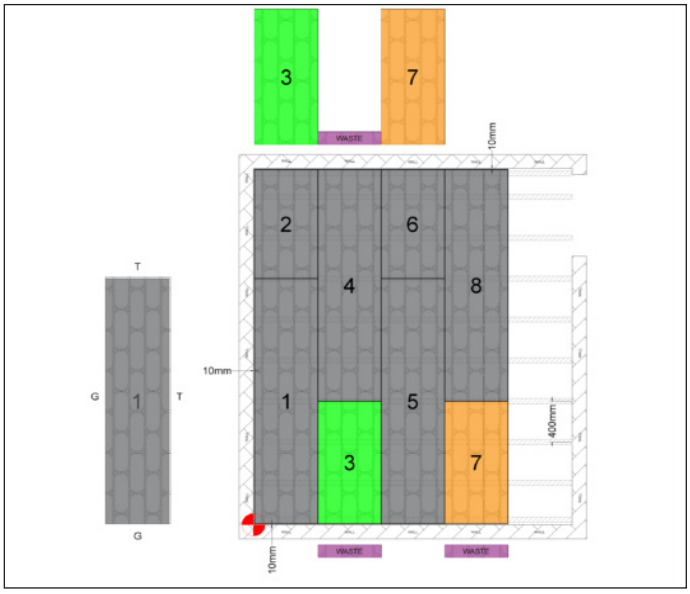
Access panels will be required for installing the flow and return pipework. If floor void IS accessible from below: Stages 3-7 can be completed for the whole floor deck at once. No access panels will be required as the pipe can be handled from below and can be run between joists.

TorFloor 2 is a structural panel and therefore cannot be routed to allow extra channels for flow and returns or for any other reason. See install procedure for flow and returns below.

The moisture content of the TorFloor 2 deck panels and cover panels should be ideally at 8-10% moisture content, ideally acclimatised together before installation.

3. Installation Guidance

3.3 Installation of the deck panels



Lay the first deck panel in a room into a corner, leaving a minimum 10mm gap between the end and edge of the panel and the walls. The grooved edges of the deck panel should be placed in the corner. The opposite end of the deck panel must sit on the centre line of a joist.

Lay the panels in a run, ensuring the end of each panel falls on a centre line of a joist. Use the off-cut of each run to start the following run of panels. Ensure that each row of panels has a group of return loops at each end.

When cutting the TorFloor 2 panels, we recommend that the shortest length of panel should be supported across a minimum of three joists. For example, if the supports are set nominally at 400mm centres, the shortest panel length should be 800mm. DO NOT fit very short lengths which are supported by only two joists, one at each end, unless supported by noggins.

ACCESS PANELS

An access panel allows connection of the room pipe to the flow and return pipes when the floor cannot be accessed from the underside. These must be cut into a TorFloor 2 deck panel.

If access panels are required, do not glue/screw these TorFloor 2 deck panels until the pipe has been installed.

To create an access panel, drill a 15mm hole at a 20-degree angle through the TorFloor 2 deck panel at the point at which the flow pipe needs to drop into the joist space.

WARNING - RISK OF INJURY TO PERSONS OR DAMAGE TO SYSTEM

When working with any wood products, dust and particles can become airborne and pose a hazard to health. Please follow all the relevant health & safety rules regarding required personal safety equipment and extraction/ ventilation requirements are also followed.

3. Installation Guidance

3.4 Fixing the deck panels

All deck panels must be glued with appropriate PVA adhesive on BOTH sides of the tongue and groove and fully driven together (in order to withstand loads specified in EN12871).

If access panels are required, do not glue/screw these boards until the pipe has been installed.

The panels should then be glued and screwed to the joists. At each joist, fixings provided should be used, 60mm long screws x 2, placed 150mm away from the edge of the T&G. A pilot hole should be drilled at these points with no.8 particleboard screws to fix the panels to the joists.

IMPORTANT INFORMATION

If access panels are required, do not glue/screw these boards until the pipe has been installed.

3.5 Pipe installation

Before installing the pipe work, it is advised to sweep or vacuum the floor area as debris may have fallen into the channels.

Referring to the OMNIE CAD design (if applicable), insert the pipe into the TorFloor 2 deck panels.

Transitioning pipe from the panel to the joist space: If there are any access panels, drill a 15mm hole at a 20 degree angle through the TorFloor 2 deck panel at the point at which the flow pipe needs to drop into the joist space.

Feed one end of the pipe through the hole from above through to the manifold, notching or drilling as required. Where there is limited access, a plain access panel can be created and 12mm pipe interconnecting fittings used, if required.

Once the pipework has been installed into the room, the access panel can then be glued and screwed.

Where flow and return pipework runs through the joists, there must be a notch or hole.

Notching and drilling in solid wood joists must be done in accordance with Building Regulations Part A such that:

A) Holes should be drilled through the neutral axis and should be positioned between 0.25 and 0.4 times the joist span length.

B) Holes must not be less than 3 x diameters (of the hole) apart.

C) Notches must not deeper than 0.125 times the joist depth, and they should not be closer to a support than 0.07 times the span, not further away than 0.25 times the span.

Continue laying the panels and pipe until all circuits are complete.

Once the panels and pipe have been installed, the circuits should be hydraulically pressure tested.

3. Installation Guidance

3.6 Laying the cover panels

It is preferable for the pipe to be kept under pressure while the cover panels are laid. If this is not possible, the pressure test must be carried out for a second time once the cover panels have been installed.

Sweep or vacuum the deck panel to remove any debris to ensure a flush fit. Place the routed cover panels on top of the deck panels. Stagger the boards as shown.

IMPORTANT INFORMATION

Lay the panels starting with covering the loop ends of the system. Then proceed to use the remaining panels by laying them in a run between those already laid.

It is best practice to lay the panels where possible so that the joints in the deck panel and the cover panel are staggered, but this is not essential.

The routed pattern in the cover and deck panels will align. The cover panels will self-locate into place over the pipe, when this occurs the boards will set flat against each other.

Walk over the cover panels to ensure the AL HEX foil heat diffuser on the underside of panel breaks to accommodate the pipe, signified by an audible ‘crunch’ sound.

It is recommended to lay all the cover panels over the whole floor area before fixing down any of the cover panels.

Once all cover panels have been laid in the working area and you are happy with the fitting around the outside of the area and the fitting of the cover panels, panel to panel, screw down the cover panels in locations marked on the print “AFFIX HERE” using the fixings provided.

More screws may be needed to fix the cover panel flat to the deck panel, especially if the joists are uneven. The screws and positions specified are the minimum required for structural performance. When adding screws avoid the areas printed locating pipe channels underneath.

If there are areas on the pipe layout which do not have any heating pipe underneath, cover those with blank, unrouted and unprinted plain cover panels provided.

Tongued and grooved joints in the floor deck should be glued with PU adhesive or a PVAc adhesive conforming to durability class D3 of BS EN 204. It is essential that a clear gap of at least 10mm is left all the way around the periphery of a timber floor deck, under the skirting to accommodate any swelling of the floor deck due to change in moisture content. All wedges used during the floor deck installation, to press panels together, must be removed when the floor deck is complete.

During the initial system warm up, the mixing valve should be set to supply temperature between 20°C and 25°C which needs to be maintained for at least 3 days. After this period, the flow temperature can then be increased to the design maximum and should be held for a further 4 days to complete the process.

4. Certification & Type Approvals

OMNIE.

STS-OMKT0002-0124

STRUCTURAL TEST STATEMENT

1. Unique product identification codes:

UTCD0122 TorFloor 2 22mm chipboard deck panel
UTCH0108 TorFloor 2 Plus 8mm cement particle cover panel

2. Intended uses of the construction product:

Used as underfloor heating panel.
The panel can be installed directly over a suspended or battened floor or as an additional deck over an existing deck with suspended floor beneath.

3. Manufacturer:

OMNIE Limited, Melrose House, Pynes Hill, Exeter, Devon EX2 5AZ

OMNIE Limited is part of the Ridgespear Group of companies whose address is Melrose House, Pynes Hill, Exeter, Devon, EX2 5AZ

4. Finished product performance information:

Harmonised Technical Specification: ENkh 1195:1998 and EN 12872:2010 and assessed against the requirements of Class I of EN 12871:2013 (E).

Material	Chipboard/Cement particle board
Size or Diameter	2400mm x 600mm
Material Thickness	22mm + 8mm
Product Thickness (if different)	30mm
Pipe Centres	150mm
Pipe Channel Size	12mm
Weight With Water (approx.)	21kg/m²
Thermal Conductivity	N/A
Max Subfloor Centres (for joisted/batten floors)	600mm
Fire Class	A (EN 13501)

OMNIE. GENUINE PRODUCT

On behalf of OMNIE Limited.
DATED: 01/01/2024

OMNIE Limited, Melrose House, Pynes Hill, Exeter, Devon EX2 5AZ
OMNIE Limited is part of the Ridgespear Group of companies whose address is Melrose House, Pynes Hill, Exeter, Devon, EX2 5AZ

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www.omnie.co.uk
01392 36 36 05

OMNIE.

Technical
Product Guide

System Information &
Installation Guidance

Integrated floor deck and heating system for suspended and batten floors.

TPG-OMKT0003-0524

TorFloor2® RdB

TorFloor 2 is a high-performance integrated floor deck and underfloor heating system, designed for suspended and batten floors structurally tested to 600mm centres, however this may create too much movement for tiled floors.

The TorFloor 2 RdB system comprises of a 22mm chipboard deck panel with bonded rubber acoustic layer bonded to the underside to reduce vibration and attenuate airborne and impact noise passing through floors, plus a 8mm cement particleboard cover panel with bonded layer of AL HEX aluminium diffuser foil.

The system is comprised of lower deck panel and upper covering panel. These panels encapsulate the warm water UFH pipe. Both cover panel and floor deck panel are routed with matching channels that perfectly align around the pipework.

CONTENTS:

SYSTEM INFORMATION:

To use this system you will require the following OMNIE products:

UTRH0108 TorFloor 2 RdB cover panel
UTCR0128 TorFloor 2 RdB chipboard deck panel
UP12XXXX* OMNIFLO pipe - 12mm
UTSC0120 OMNIE 20mm cover panel screws

*Product code as required

1. System Overview

1.1 Features

TorFloor 2 provides both a structural floor plus integrated underfloor heating, replacing the floor deck used in constructions on a joisted beam or batten floor. It is structurally tested for use with joists up to 600mm centres.

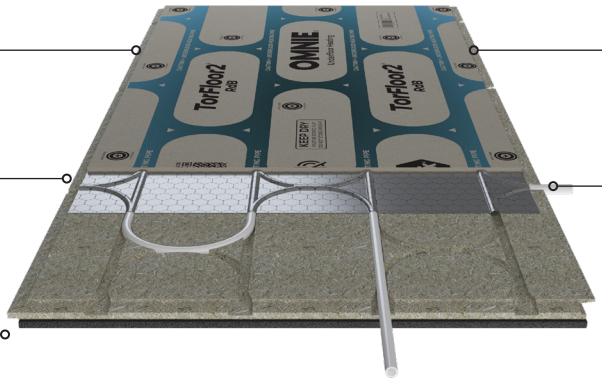
TorFloor 2 includes innovative features to speed up construction time, reduce installation risk and deliver the best possible heating performance.

This RdB model features a lower 30mm chipboard deck panel with bonded rubber layer plus a 8mm cement particle board cover panel.

AL HEX diffuser technology for fast warm up and even heat distribution.

Printed top panel shows pipe is beneath the floor and where to affix.

Tested for use with joists up to 600mm centres.



Locator Technology. Panels are pre-routed to locate easily over the pipe.

Fixing locations clearly marked to reduce installation risk.

Omni-directional pipe pattern allows pipe to lay in multiple directions.

1.2 Isometric View

This drawing is an illustration of a typical floor build up used in the UK and is shown for information only. The items shown with an asterix (*) within the floor construction are specified and designed by others and are not part of the OMNIE system.

Floor finish*

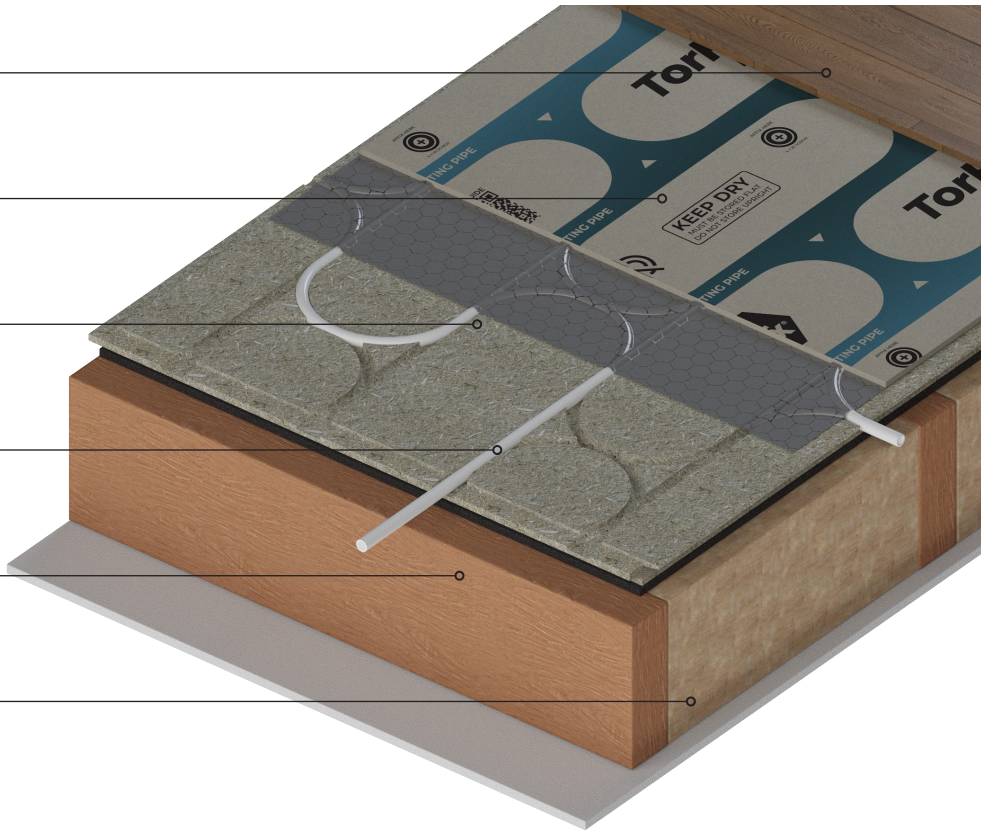
Cement Particle cover panel

Chipboard deck panel with RdB layer

OMNIFLO 12mm pipe

Subfloor (timber joist)*

Insulation*



1. System Overview

1.3 Product Functionality

PRINTED COVER PANEL

The cover panel features a printed warning notice to indicate the location of the pipe and screw fixings – reducing the risk of damage on initial installation or subsequent change of floor finish. The indicated screw fixings are the minimum requirement for a structural floor and more screws may be required.

LOCATOR TECHNOLOGY

Both the cover panel and floor deck panel are routed with matching channels that perfectly align around the pipework. Not only is the pipework safely encapsulated but further protection is provided by the cover panel's distinctive warning notice that is accurately aligned to indicate the pipe location.

FLUTED EXITS

By routing wide fluted exits at the edge of the TorFloor 2 panels, adjacent panels do not have to be aligned precisely when laid. The pipe can be quickly laid across adjoining panels, reducing the risk of pinching or kinking. Such damage would ultimately mean the pipe would require replacement.

OMNI-DIRECTIONAL PIPE PATTERN

OMNIE's unique routed channel patterns means the pipe can be laid precisely to any required route. This removes the need for any separate straight or loop panels meaning the installation can be quick and efficient, working easily around complex unheated areas, obstacles and room shapes.

ULTRA FAST WARM UP

The design of TorFloor 2 places the water pipe closer to the floor surface to deliver a fast warm up time. This is achievable due to the matching channels of the cover panel. AL HEX aluminium diffuser technology effectively transfers heat from the pipe into the foil, in turn optimising heat transfer into the floor.

JOISTS UP TO 600mm CENTRES

The deck panel and cover panel are screwed together to form the finished structural load-bearing floor deck. The completed TorFloor 2 system has been structurally tested for use with joists up to 600mm centres.

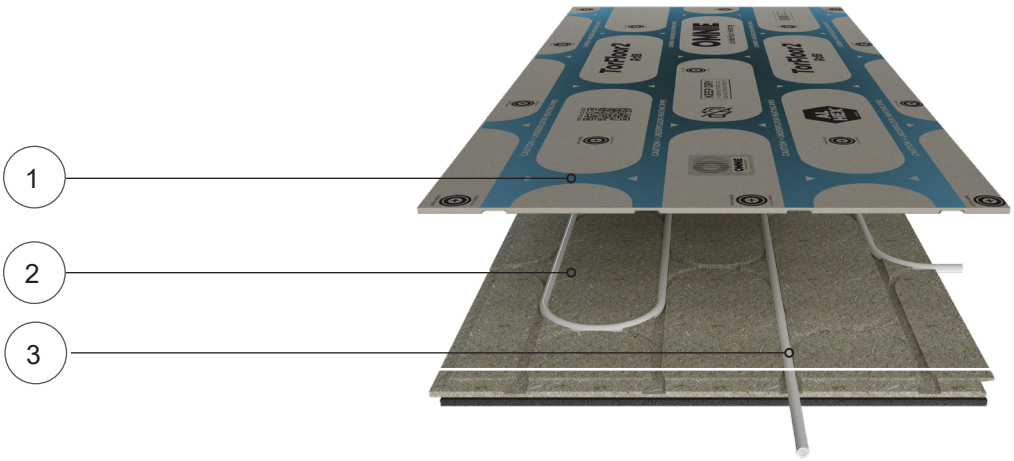
CEMENT PARTICLE BOARD COVER PANEL

The cover panel for LowBoard 2 INSULATE PLUS model is manufactured from Cement Particle Board (CPB). CPB is a material consisting of wood flakes binded by cement. The material offers many advantages over woodfibre, including a greater strength and thermal stability plus a high thermal mass that retains heat for longer and is able to attenuate sound more effectively. The CPB material provides a good bonding surface for tile adhesives, it is simple to cut and shape, does not splinter and poses no disposal issues.

2. Technical Specifications

2.1. System Technical Information

This drawing is an illustration of a typical floor build up used in the UK and is shown for information only.



1 **TORFLOOR 2 RdB cover panel**

Forms upper half of TorFloor 2 RdB system. Routed for 12mm pipe, the 8mm cement particle board cover panel requires the 30mm chipboard deck panel to complete the installation.

Product code	UTRH0108 TorFloor 2 RdB cover panel
Material	CPB + AL-HEX Aluminium Layer
Size or diameter	1200 x 600 mm
Material thickness	8mm
Product thickness (if different)	8mm
Pipe centres	150mm
Pipe channel size	12mm
Weight (approx.)	8.6kg
Max subfloor centres (for joisted/batten floors)	600mm (may not be suitable for all finishes)
Fire class	A (EN 13501)
Coverage per square metre	0.72 m^2

2. Technical Specifications

2 **TORFLOOR 2 RdB deck panel**

The 30mm RdB chipboard deck panel forms the lower half of TorFloor 2 RdB system. The deck panel requires the 8mm CPB cover panel to complete installation.

Product code	UTCR0128 TorFloor 2 RdB chipboard deck panel
Material	P5 Chipboard - Moisture Resistant Tongue & Groove Profile - CE/UKCA Certified
Size or diameter	2400 x 600 mm (excluding tongues)
Material thickness	22mm + 8mm RdB
Product thickness (if different)	22mm + 8mm RdB
Pipe centres	150mm
Pipe channel size	12mm
Weight (approx.)	30.2kg
Max subfloor centres (for joisted/batten floors)	600mm
Fire class	A (EN 13501)
Coverage per square metre	1.44 m^2

3 **OMNIFLO PIPE**

Five-layer construction achieves high oxygen tightness, good thermal stability and mechanical strength. Outer PE-RT layer protects against damage.

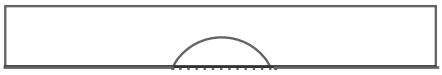
Material	PE-RT
Size or Diameter	12 mm
coverage per square metre	6.7 metres of pipe at 150mm centres (approx)

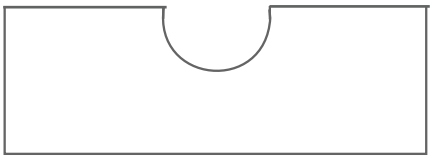
2. Technical Specifications

2.2 System Sectional Drawing

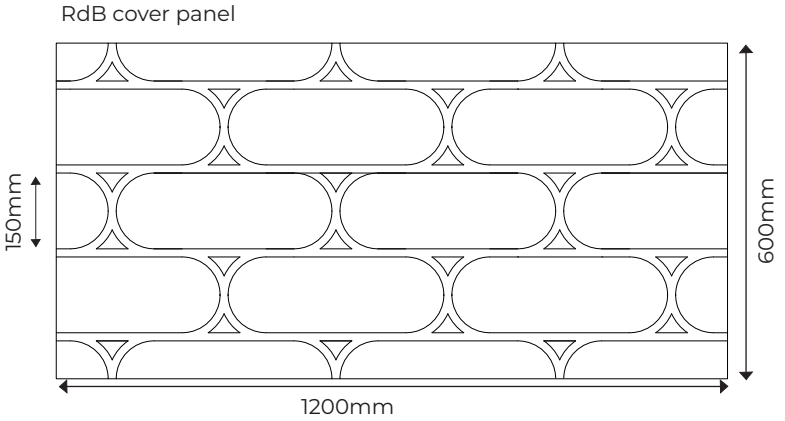
TorFloor 2 RdB featuring a lower 22mm chipboard deck panel with a 8mm cement particle cover panel.

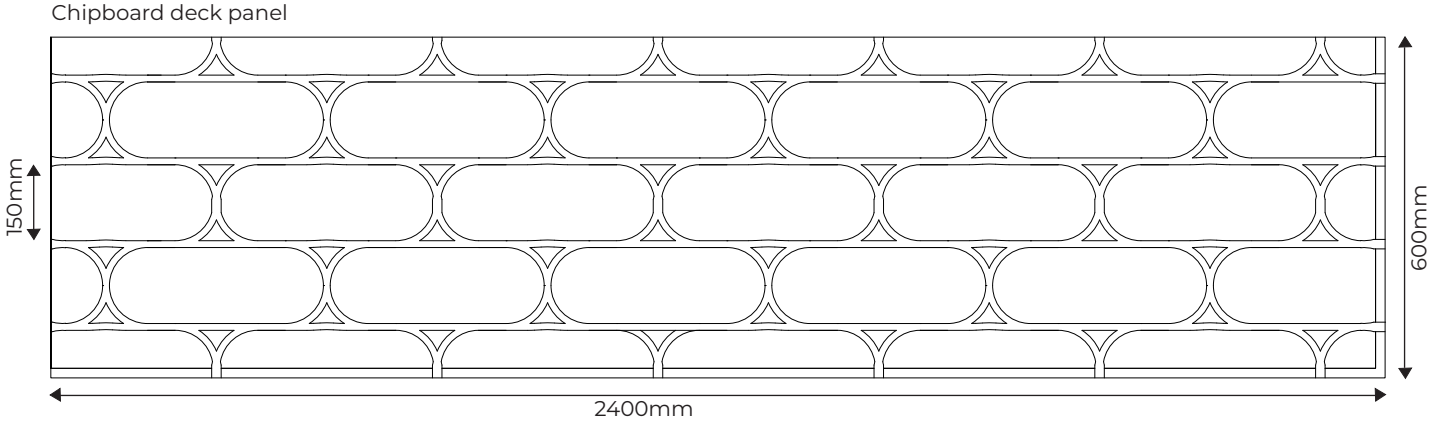
Locator Technology
Panels click in place over pipe. Pipe is encapsulted by upper and lower panels for maximum heat output.





2.3 System Topdown Drawing





2. Technical Specifications

2.4 Performance Efficiency Label

COMPARE WITH CONFIDENCE

OMNIE has now introduced performance information on all our underfloor heating products. The information will provide you with total clarity on the efficiencies and heat outputs of our systems. This is particularly important as the UK makes the transition towards renewable heating technologies such as heat pumps that operate at lower water temperatures, so every kilowatt of energy has to count.

PERFORMANCE AND EFFICIENCY LABEL

OMNIE's UFH systems have been extensively tested and measured. We express this product performance data two simple indicators to allow easy comparison – this is called the 50/50 Performance Benchmark.

Heat Output at 50°C Flow Water Temperature - This is a power rating, expressing what the heat output will be when the product is operating at a 50°C flow water temperature in the UFH pipework. The higher, the more power that is available.

Flow Water Temperature at 50 W/m² Heat Output - This is an efficiency rating, expressing the flow water temperature required to achieve a 50 W/m² heat output. The lower, the more efficient the heat source will be.

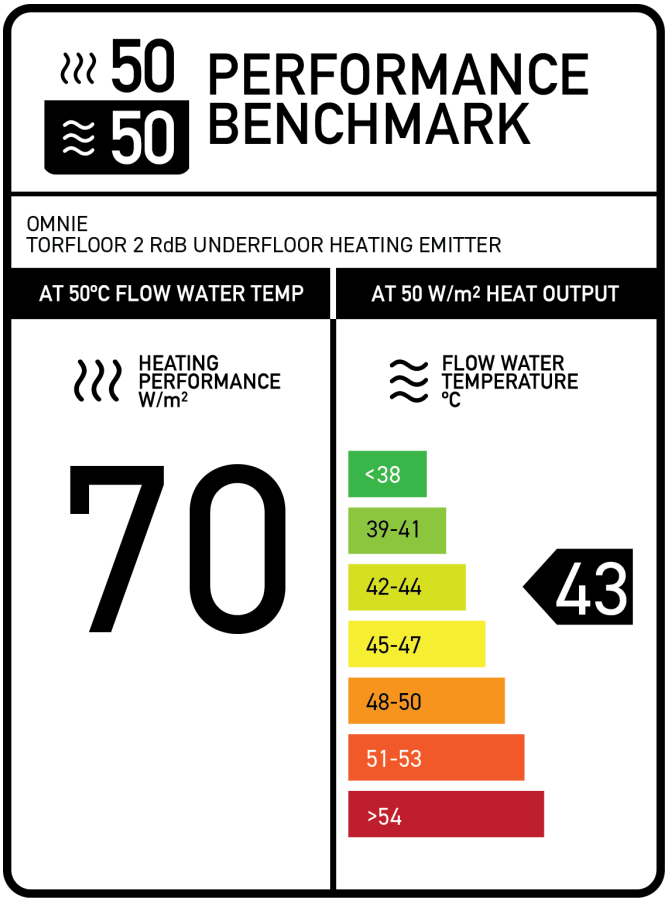
PRODUCT TESTING INFORMATION

Products have been independently tested. The outputs from pipe loops have been considered as well as straight sections.

- Outputs stated are based on a nominal 1 Tog floor finish, as if it were a carpet (a subfloor and support structure is required).
- Subfloor is insulated to the minimum stipulated by BS1264.
- Figures stated at a room temperature of 20°C and with a water flow and return dT of 7°C.

APPLICATION

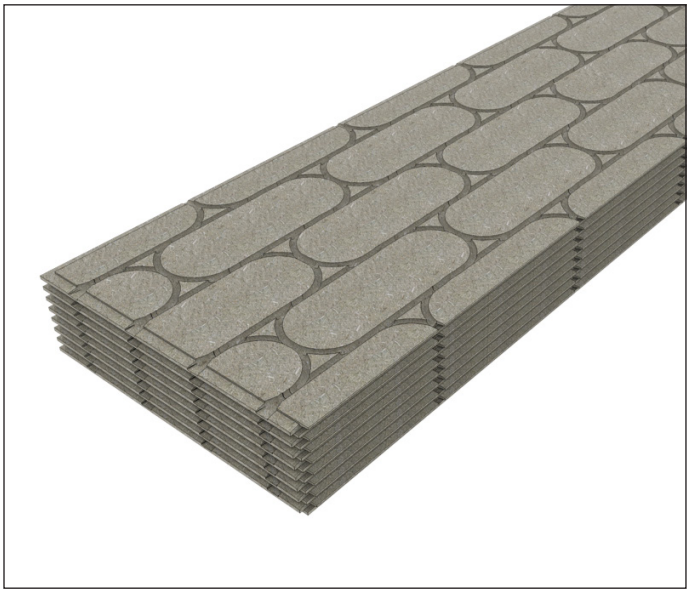
- The published data is only a benchmark and not a statement of performance for a given project.
- Outputs can vary depending on materials used in the construction, such as the floor deck, insulation, or floor finish.
- Outputs will change with room temperature, flow and return temperature.
- The heat loss of a building will vary dependent on a number of factors so may be higher or lower than 50 W/m².



3. Installation Guidance

PLEASE READ THESE INSTRUCTIONS CAREFULLY AND ENSURE THAT THEY ARE CORRECTLY UNDERSTOOD. IF ASSISTANCE IS REQUIRED PLEASE CALL 01392 36 36 05

WATCH VIDEO OF THIS SYSTEM INSTALLATION ONLINE



3.1 Before you start

As OMNIE continues to develop and improve, it is recommended you check the OMNIE website (www.omnie.co.uk) for the latest information and instructions.

Where there are unheated flooring areas, blank and unrouted plain cover panels should be utilised. Do not use the printed cover panels for these unpiped/unheated areas.

Please read all stages of this install guide before proceeding with the installation.

Storage

If it is necessary to store the system once you have taken delivery, ensure it is kept in the following conditions:

- A dry, weathertight area.
- Out of direct sunlight.
- Away from sharp objects or chemical spillages.
- All panels must be stacked horizontally and raised off the ground and STORED FLAT.
- Panels must not be exposed to moisture or high humidity.
- Ensure that all areas are correctly prepared, dry and protected from the weather.

3.2 Preparation

Check all joists/battens are:
- Level and even.
- Clean from debris.
- Without any surface deviations such as knots or nails.

IMPORTANT INFORMATION

The way that the TorFloor 2 system will be installed depends on access to the floor void below and/or site sequences or requirements.

If floor void IS NOT accessible from below (a suspended joist floor with the ceiling in a place or a timber batten floor): stages 3-7 will need to be completed room-by-room, starting at the room furthest from the manifold.

Access panels will be required for installing the flow and return pipework. If floor void IS accessible from below: Stages 3-7 can be completed for the whole floor deck at once. No access panels will be required as the pipe can be handled from below and can be run between joists.

TorFloor 2 is a structural panel and therefore cannot be routed to allow extra channels for flow and returns or for any other reason. See install procedure for flow and returns below.

The moisture content of the TorFloor 2 deck panels and cover panels should be ideally at 8-10% moisture content, ideally acclimatised together before installation.

3. Installation Guidance

Sound insulation slab

If a sound insulation slab is to be incorporated into the floor, friction fit snugly between the joists. Ensure the entire ceiling area (including gaps between the end joists and the wall) are covered. Alternatively, if the ceilings are being removed and not in place on the floor below, the sound insulation slab should be fitted after the underfloor system.

Thresholds

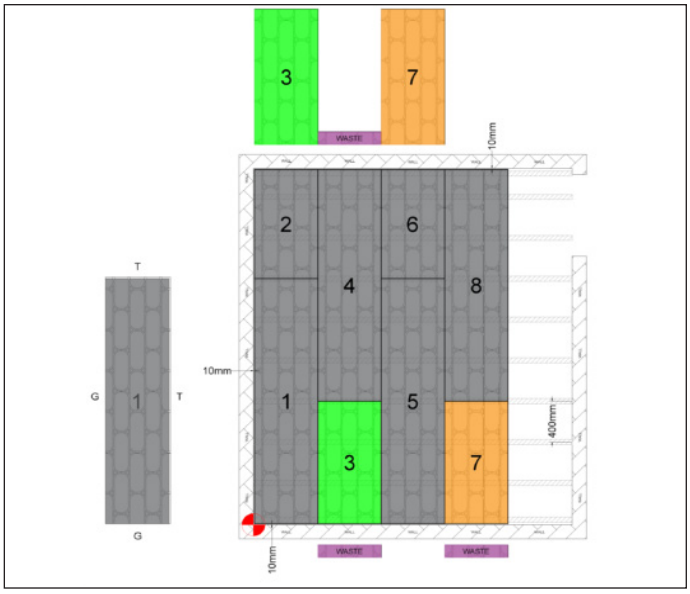
Fix timber noggins/battens across any thresholds of stairs or doorways that will abut the TorFloor RdB panels to ensure the edges of panels are supported.

RdB panel

Apply sticky backed isolation strip around the bottom vertical face of the perimeter walls to reduce flanking sound transmission. Ensure when the TorFloor RdB panel is laid it sits against this flanking strip only and has no physical contact with the wall. The isolation strip should be 2mm wider than the thickness of the acoustic flooring board. If the surface of the wall is uneven, apply a 3mm to 5mm bead of acoustic sealant at the joint between the floor and the wall.

3.3 Installation of the deck panels

Lay the first deck panel in a room into a corner, leaving a minimum 10mm gap between the end and edge of the panel and the walls. The grooved edges of the deck panel should be placed in the corner. The opposite end of the deck panel must sit on the centre line of a joist.



Lay the panels in a run, ensuring the end of each panel falls on a centre line of a joist. Use the off-cut of each run to start the following run of panels. Ensure that each row of panels has a group of return loops at each end.

When cutting the TorFloor 2 panels, we recommend that the shortest length of panel should be supported across a minimum of three joists. For example, if the supports are set nominally at 400mm centres, the shortest panel length should be 800mm. DO NOT fit very short lengths which are supported by only two joists, one at each end, unless supported by noggins.

ACCESS PANELS

An access panel allows connection of the room pipe to the flow and return pipes when the floor cannot be accessed from the underside. These must be cut into a TorFloor 2 deck panel.

If access panels are required, do not glue/screw these TorFloor 2 deck panels until the pipe has been installed.

To create an access panel, drill a 15mm hole at a 20-degree angle through the TorFloor 2 deck panel at the point at which the flow pipe needs to drop into the joist space.

WARNING - RISK OF INJURY TO PERSONS OR DAMAGE TO SYSTEM

When working with any wood products, dust and particles can become airborne and pose a hazard to health. Please follow all the relevant health & safety rules regarding required personal safety equipment and extraction/ ventilation requirements are also followed.

3. Installation Guidance

3.4 Fixing the deck panels

All deck panels must be glued with appropriate PVA adhesive on BOTH sides of the tongue and groove and fully driven together (in order to withstand loads specified in EN12871).

NOTE: If access panels are required, do not glue/screw these boards until the pipe has been installed.

The panels should then be glued and screwed to the joists. At each joist, 60mm long screws x 2, placed 150mm away from the edge of the T&G.

IMPORTANT INFORMATION

If access panels are required, do not glue/screw these boards until the pipe has been installed.

3.5 Pipe installation

Before installing the pipe work, it is advised to sweep or vacuum the floor area as debris may have fallen into the channels.

Referring to the OMNIE CAD design (if applicable), insert the pipe into the TorFloor 2 deck panels.

Transitioning pipe from the panel to the joist space: If there are any access panels, drill a 15mm hole at a 20 degree angle through the TorFloor 2 deck panel at the point at which the flow pipe needs to drop into the joist space.

Feed one end of the pipe through the hole from above through to the manifold, notching or drilling as required. Where there is limited access, a plain access panel can be created and 12mm pipe interconnecting fittings used, if required.

Once the pipework has been installed into the room, the access panel can then be glued and screwed.

Where flow and return pipework runs through the joists, there must be a notch or hole.

Notching and drilling in solid wood joists must be done in accordance with Building Regulations Part A such that:

A) Holes should be drilled through the neutral axis and should be positioned between 0.25 and 0.4 times the joist span length.

B) Holes must not be less than 3 x diameters (of the hole) apart.

C) Notches must not deeper than 0.125 times the joist depth, and they should not be closer to a support than 0.07 times the span, not further away than 0.25 times the span.

Continue laying the panels and pipe until all circuits are complete.

Once the panels and pipe have been installed, the circuits should be hydraulically pressure tested.

3. Installation Guidance

3.6 Laying the cover panels

It is preferable for the pipe to be kept under pressure while the cover panels are laid. If this is not possible, the pressure test must be carried out for a second time once the cover panels have been installed.

Sweep or vacuum the deck panel to remove any debris to ensure a flush fit. Place the routed cover panels on top of the deck panels. Stagger the boards as shown.

IMPORTANT INFORMATION

Lay the panels starting with covering the loop ends of the system. Then proceed to use the remaining panels by laying them in a run between those already laid.

It is best practice to lay the panels where possible so that the joints in the deck panel and the cover panel are staggered, but this is not essential.

The routed pattern in the cover and deck panels will align. The cover panels will self-locate into place over the pipe, when this occurs the boards will set flat against each other.

Walk over the cover panels to ensure the AL HEX foil heat diffuser on the underside of panel breaks to accommodate the pipe, signified by an audible ‘crunch’ sound.

It is recommended to lay all the cover panels over the whole floor area before fixing down any of the cover panels.

Once all cover panels have been laid in the working area and you are happy with the fitting around the outside of the area and the fitting of the cover panels, panel to panel, screw down the cover panels in locations marked on the print “AFFIX HERE” using the fixings provided.

More screws may be needed to fix the cover panel flat to the deck panel, especially if the joists are uneven. The screws and positions specified are the minimum required for structural performance. When adding screws avoid the areas printed locating pipe channels underneath.

If there are areas on the pipe layout which do not have any heating pipe underneath, cover those with blank, unrouted and unprinted plain cover panels provided.

Tongued and grooved joints in the floor deck should be glued with PU adhesive or a PVAc adhesive conforming to durability class D3 of BS EN 204. It is essential that a clear gap of at least 10mm is left all the way around the periphery of a timber floor deck, under the skirting to accommodate any swelling of the floor deck due to change in moisture content. All wedges used during the floor deck installation, to press panels together, must be removed when the floor deck is complete.

During the initial system warm up, the mixing valve should be set to supply temperature between 20°C and 25°C which needs to be maintained for at least 3 days. After this period, the flow temperature can then be increased to the design maximum and should be held for a further 4 days to complete the process.

4. Certification & Type Approvals

OMNIE.

STS-OMKT0002-0124

STRUCTURAL TEST STATEMENT

1. Unique product identification codes:

UTCR0122 TorFloor 2 RdB 30mm chipboard deck panel
UTRH0108 TorFloor 2 RdB 8mm cement particle cover panel

2. Intended uses of the construction product:

Used as underfloor heating panel.
The panel can be installed directly over a suspended or battened floor or as an additional deck over an existing deck with suspended floor beneath.

3. Manufacturer:

OMNIE Limited, Melrose House, Pynes Hill, Exeter, Devon EX2 5AZ

OMNIE Limited is part of the Ridgespear Group of companies whose address is Melrose House, Pynes Hill, Exeter, Devon, EX2 5AZ

4. Finished product performance information:

Harmonised Technical Specification: ENkh 1195:1998 and EN 12872:2010 and assessed against the requirements of Class I of EN 12871:2013 (E).

Material	Chipboard/Cement particle board
Size or Diameter	2400mm x 600mm
Material Thickness	30mm + 8mm
Product Thickness (if different)	30mm
Pipe Centres	150mm
Pipe Channel Size	12mm
Weight With Water (approx.)	21kg/m²
Thermal Conductivity	N/A
Max Subfloor Centres (for joisted/batten floors)	600mm
Fire Class	A (EN 13501)

OMNIE GENUINE PRODUCT

On behalf of OMNIE Limited.
DATED: 01/01/2024

OMNIE Limited, Melrose House, Pynes Hill, Exeter, Devon EX2 5AZ
OMNIE Limited is part of the Ridgespear Group of companies whose address is Melrose House, Pynes Hill, Exeter, Devon, EX2 5AZ

OMNIE.

OMNIE Limited, Melrose House,
Pynes Hill, Exeter, Devon EX2 5AZ

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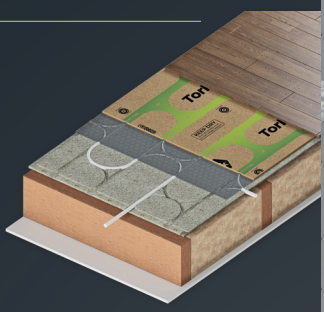
whose address is Melrose House,
Pynes Hill, Exeter, Devon, EX2 5AZ

www.omnie.co.uk
01392 36 36 05

TorFloor2®

Minimal build up height



Panel thickness:
28mm

Weight with water:
18.9kg/m²

Suitable for:
Suspended timber or batten floors with centres up to 600mm

Pipe centres:
150mm using 12mm pipe

Dimensions:
Cover Panel: 1200mm x 600mm
Deck Panel: 2400mm x 600mm

TorFloor2® PLUS

Enhanced strength & stability

Panel thickness:
30mm

Weight with water:
21 kg/m²

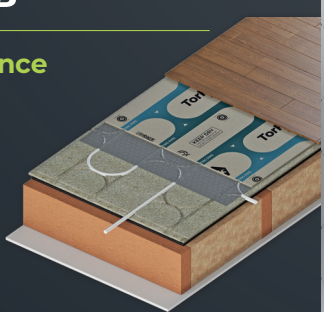
Suitable for:
Suspended timber or batten floors with centres up to 600mm

Pipe centres:
150mm using 12mm pipe

Dimensions:
Cover Panel: 1200mm x 600mm
Deck Panel: 2400mm x 600mm

TorFloor2® RdB

Ultimate acoustic performance



Panel thickness:
38mm

Weight with water:
28 kg/m²

Suitable for:
Suspended timber or batten floors with centres up to 600mm

Pipe centres:
150mm using 12mm pipe

Dimensions:
Cover Panel: 1200mm x 600mm
Deck Panel: 2400mm x 600mm

Watch product installation video.

Watch product features video.

OMNIE.

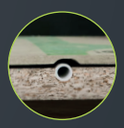
TorFloor2®

Floor & heating in one.

Our TorFloor 2 range for timber floor constructions encapsulates the pipe to achieve best in class heating performance.

TorFloor 2® is an integrated floor deck and underfloor heating system that shows exactly where the pipes are, reducing installation risk and delivering the best possible heating performance.

TorFloor 2® evolves the market-leading TorFloor® UFH panel by adding a cover panel with pre-foiled aluminium heat diffuser. Both panels are routed with matching channels that perfectly align around the pipework.

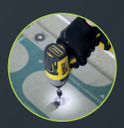


Locator Technology

Pipe is encapsulted by upper and lower panels for maximum heat output.

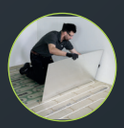
Omni-directional Pipe Channel Pattern

Fast and flexible installation - lay the pipe in any direction.



Fixing Locators

Clearly marked fixing locations to speed up panel installation.

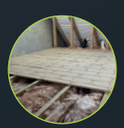


AL HEX Heat Diffuser

High heating performance and fast warm up times as the diffuser wraps around the warm water pipe.

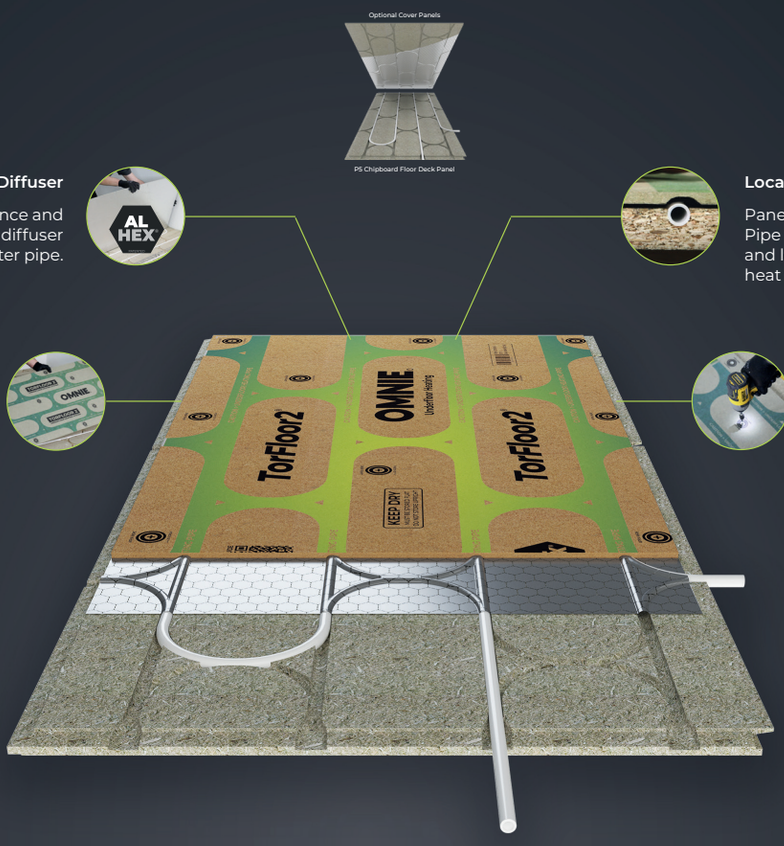
Printed Cover Panel

Risk free installation as pipe channel pattern is visible on top surface layer.



Up to 600mm joist centres

Lay the system across joists up to 600 centres.



AL-HEX Heat Diffuser

High heating performance and fast warm up times as the diffuser wraps around the warm water pipe.

Locator Technology

Panels click in place over pipe. Pipe is encapsulated by upper and lower panels for maximum heat output.

Printed Cover Panel

Risk free installation as pipe channel pattern is visible on surface layer.

Fixing Locators

Clearly marked fixing locations to speed up system installation.

Up to 600mm joist centres

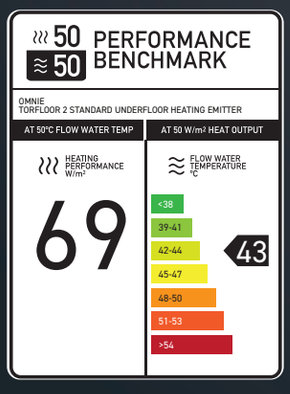
Fit the panels across joists up to 600 centres.

Omni-directional Pipe Channel Pattern

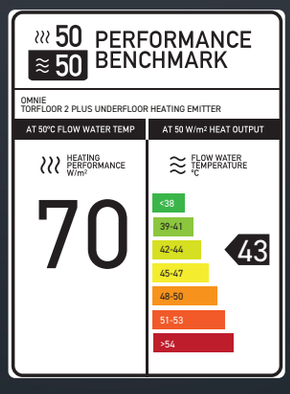
Fast and flexible installation, lay the pipe in any direction.

High performance heating & floor deck in one product. Fast installation, high heat output and warm up times. For joisted and battened floors.

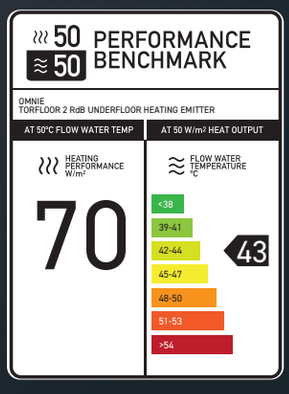
TorFloor2®



TorFloor2® PLUS



TorFloor2® RdB



omnie.co.uk

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CAUTION > U

rFloor2®
PLUS

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OMNIE.

Technical
Product Guide

System Information &
Installation Guidance

Low build-up overlay underfloor heating system for existing insulated timber or concrete floors.

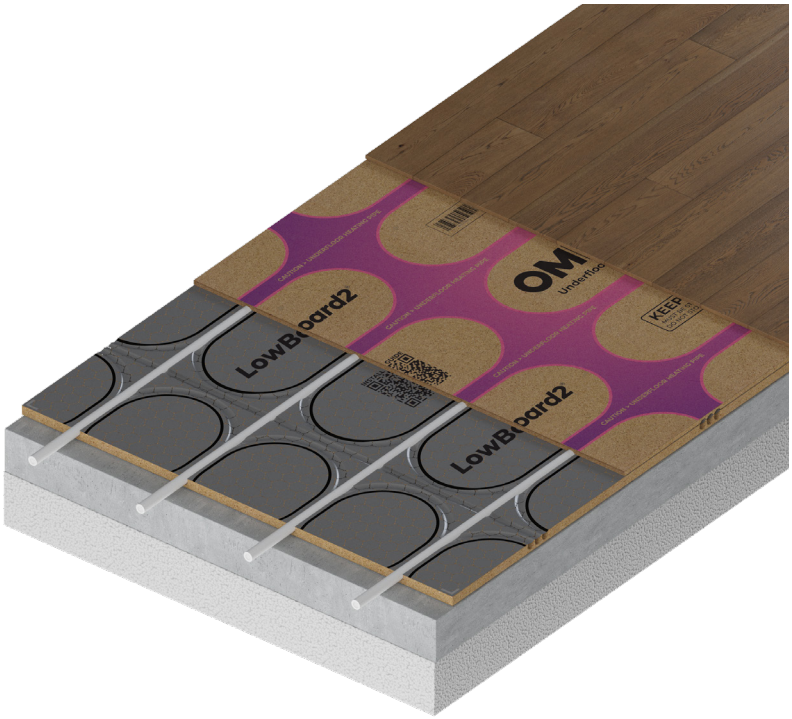
TPG-OMKT0004-0224

LowBoard2® Standard

LowBoard 2 is a low build-up underfloor heating system, designed to be overlaid on existing insulated timber or concrete floors.

The LowBoard 2 Standard system comprises of a 12mm woodfibre lower panel with bonded layer of AL HEX aluminium diffuser foil, plus a 6mm woodfibre cover panel.

The system is comprised of lower panel and upper covering panel. These panels encapsulate the warm water UFH pipe. Both lower panel and cover panel are routed with matching channels that perfectly align around the pipework. The system provides a surface ready for the floor finish to be laid over.



CONTENTS:

SYSTEM INFORMATION:

To use this system you will require the following OMNIE products:

ULUW0206 OMNIE LowBoard 2 6mm woodfibre cover panel
ULLW0212 OMNIE LowBoard 2 12mm woodfibre lower panel
UP12XXXX* OMNIFLO pipe - 12mm
ULSW0116 OMNIE 16mm cover panel screws

*Product code as required

1. Product / System Overview

1.1 Features

LowBoard 2 provides a fully-encased low build-up underfloor heating system that is overlaid on existing concrete or timber floors.

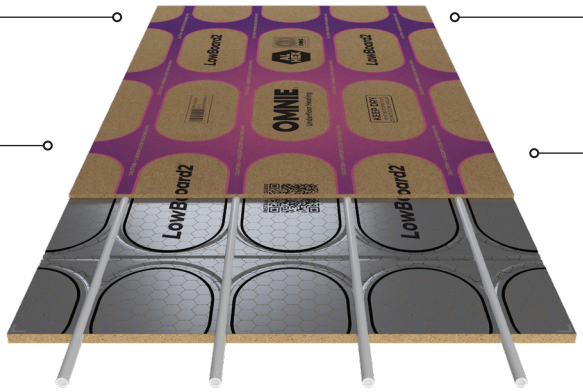
LowBoard 2 includes innovative features to speed up construction time, reduce installation risk and deliver the best possible heating performance.

This Standard model features a lower 12mm woodfibre lower panel with a 6mm woodfibre cover panel. For higher heating performance select the LowBoard 2 Plus system. If an insulation layer is required select the LowBoard 2 Insulate system. For insulation and increased performance select LowBoard 2 Insulate Plus.

AL HEX diffuser technology for fast warm up and even heat distribution.

Printed top panel shows pipe is beneath the floor and where to affix.

Ultra-thin profile. Only 18mm in depth to finished floor level.



Locator Technology. Panels are pre-routed to locate easily over the pipe.

Fluted exits mean panels do not have to align precisely reducing risk of kinking or damage.

Omni-directional pipe pattern allows pipe to lay in multiple directions.

1.2 Isometric View

This drawing is an illustration of a typical floor build up used in the UK and is shown for information only. The items shown with an asterix (*) within the floor construction are specified and designed by others and are not part of the OMNIE system.

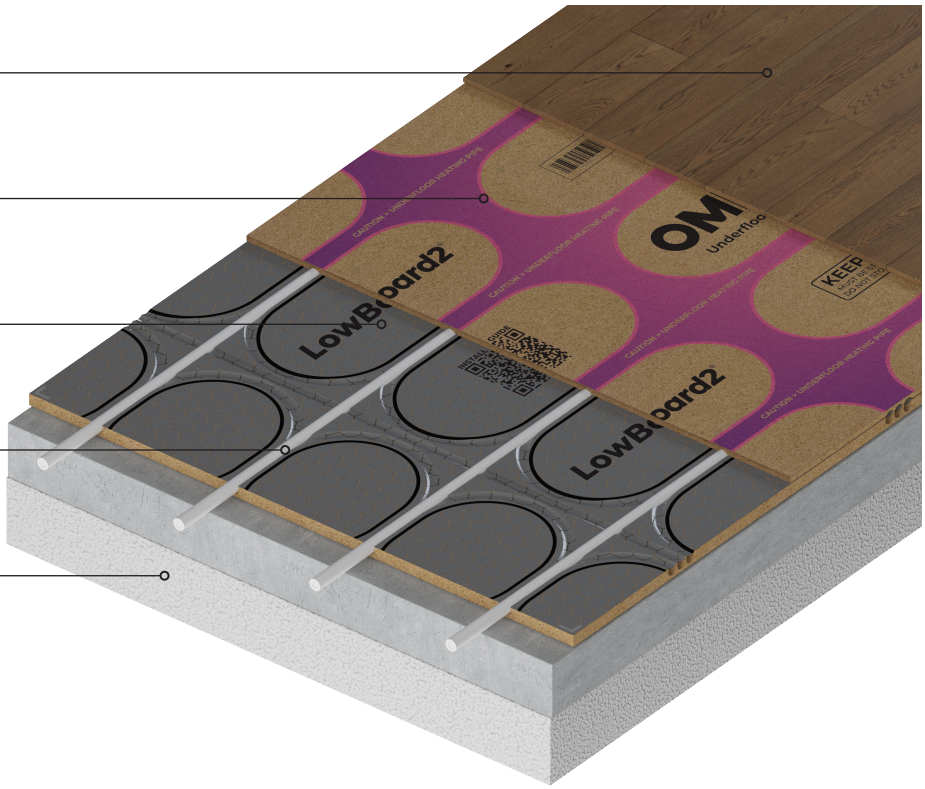
Floor finish*

Woodfibre 6mm cover panel

Woodfibre 12mm lower panel

OMNIFLO 12mm pipe

Subfloor*



1. Product / System Overview

1.3 Product Functionality

PRINTED COVER PANEL

The cover panel features a printed warning notice to indicate the location of the pipe – reducing the risk of damage on initial installation or subsequent change of floor finish.

LOCATOR TECHNOLOGY

Both the cover panel and lower panel are routed with matching channels that perfectly align around the pipework. Not only is the pipework safely encapsulated but further protection is provided by the cover panel's distinctive warning notice that is accurately aligned to indicate the pipe location.

FLUTED EXITS

By routing wide fluted exits at the edge of the LowBoard 2 panels, adjacent panels do not have to be aligned precisely when laid. The pipe can be quickly laid across adjoining panels, reducing the risk of pinching or kinking. Such damage would ultimately mean the pipe would require replacement.

OMNI-DIRECTIONAL PIPE PATTERN

OMNIE's unique routed channel patterns means the pipe can be laid precisely to any required route. This removes the need for any separate straight or loop panels meaning the installation can be quick and efficient, working easily around complex unheated areas, obstacles and room shapes.

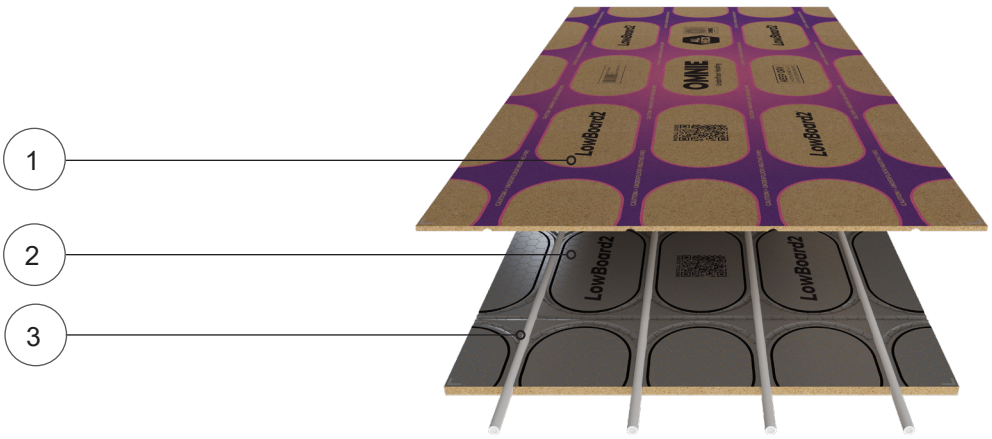
ULTRA FAST WARM UP

The design of LowBoard 2 places the water pipe closer to the floor surface to deliver a fast warm up time. This is achievable due to the matching channels of the cover panel. AL HEX aluminium diffuser technology effectively transfers heat from the pipe into the foil, in turn optimising heat transfer into the floor.

2. Technical Specifications

2.1. System Technical Information

Model illustrated: LowBoard 2 Standard featuring a 12mm woodfibre lower panel with a 6mm woodfibre cover panel.



1 **LOWBOARD 2 standard cover panel**

Forms upper half of LowBoard 2 Standard system. Routed for 12mm pipe, the 6mm woodfibre cover panel requires 12mm woodfibre lower panel to complete the installation.

Product code	ULUW0206 OMNIE LowBoard 2 6mm woodfibre cover panel
Material	Woodfibre
Size or diameter	1200 x 600 mm
Material thickness	6mm
Product thickness (if different)	6mm
Pipe centres	150mm
Pipe channel size	12mm
Weight (approx.)	3.6kg
Max subfloor centres (for joisted/batten floors)	N/A
Fire class	N/A
Coverage per square metre	0.72 m^2

2. Technical Specifications

2 **LOWBOARD 2 deck panel**

The 12mm woodfibre deck panel forms the lower half of LowBoard 2 system. The deck panel requires choice of cover panel to complete installation.

Product code	ULLW0212 OMNIE LowBoard 2 12mm woodfibre lower panel
Material	Woodfibre + AL HEX Aluminium Layer
Size or diameter	1200 x 600 mm
Material thickness	12mm
Product thickness (if different)	12mm
Pipe centres	150mm
Pipe channel size	12mm
Weight (approx.)	5.3kg
Max subfloor centres (for joisted/batten floors)	N/A
Fire class	N/A
Coverage per square metre	0.72m^2

3 **OMNIFLO pipe**

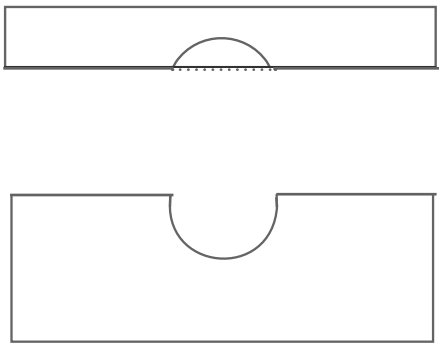
Five-layer construction achieves high oxygen tightness, good thermal stability and mechanical strength. Outer PE-RT layer protects against damage.

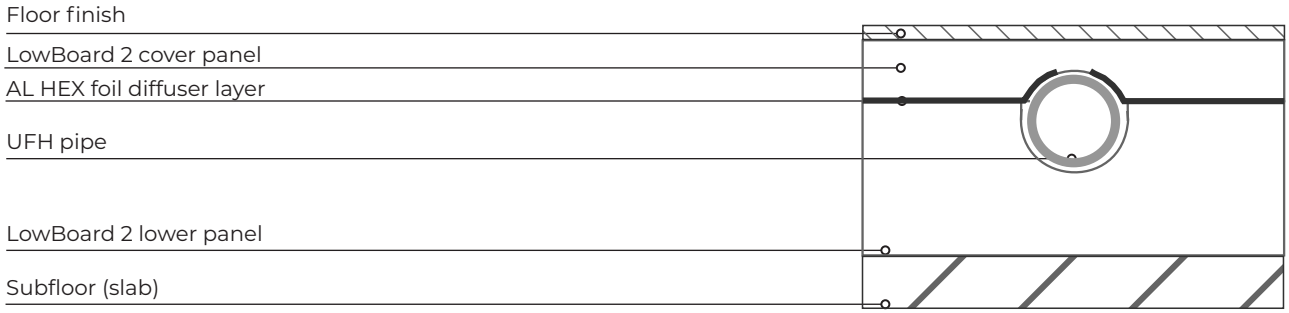
Material	PE-RT
Size or Diameter	12 mm
coverage per square metre	6.7m/m^2 of pipe at 150mm centres (approx)

2. Technical Specifications

2.2 System Sectional Drawing

LowBoard 2 Standard featuring a lower 12mm woodfibre deck panel with a 6mm woodfibre cover panel.

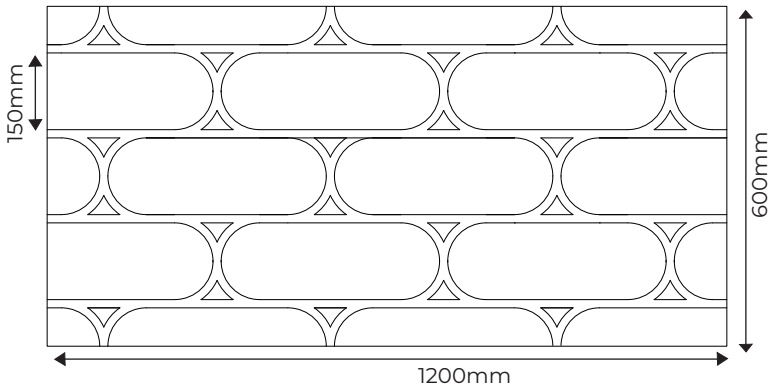




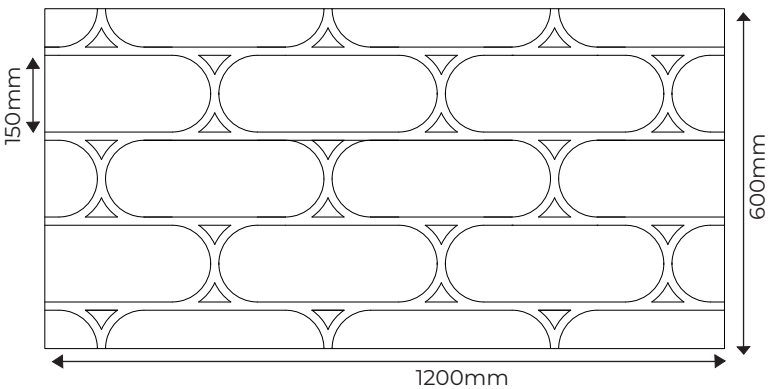
2.3 System Topdown Drawing

Drawing with dimensions and explanations.

Woodfibre cover panel



Woodfibre lower panel



2. Technical Specifications

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OMNIE's UFH systems have been extensively tested and measured. We express this product performance data two simple indicators to allow easy comparison – this is called the 50/50 Performance Benchmark.

Heat Output at 50°C Flow Water Temperature - This is a power rating, expressing what the heat output will be when the product is operating at a 50°C flow water temperature in the UFH pipework. The higher, the more power that is available.

Flow Water Temperature at 50 W/m² Heat Output - This is an efficiency rating, expressing the flow water temperature required to achieve a 50 W/m² heat output. The lower, the more efficient the heat source will be.

PRODUCT TESTING INFORMATION

Products have been independently tested. The outputs from pipe loops have been considered as well as straight sections.

- Outputs stated are based on a nominal 1 Tog floor finish, as if it were a carpet (a subfloor and support structure is required).
- Subfloor is insulated to the minimum stipulated by BS1264.
- Figures stated at a room temperature of 20°C and with a water flow and return dT of 7°C.

APPLICATION

- The published data is only a benchmark and not a statement of performance for a given project.
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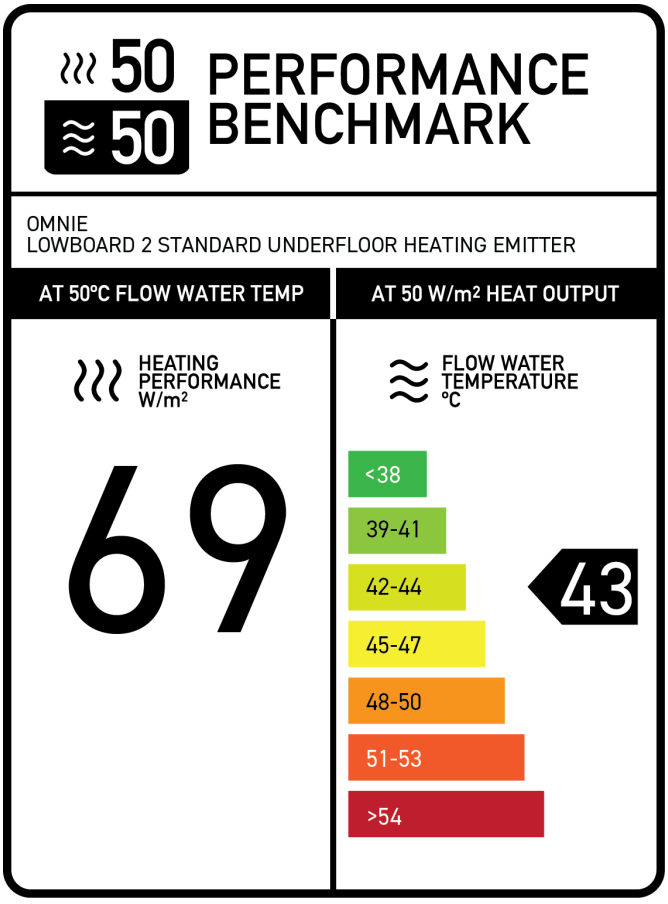

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3.1 Before you start

As OMNIE continues to develop and improve, it is recommended you check the OMNIE website (omnie.co.uk) for the latest information and instructions.

Where there are unheated flooring areas, blank and unrouted plain cover panels should be utilised. Do not use the printed cover panels for these unpiped/unheated areas.

Please read all stages of this install guide before proceeding with the installation.

Storage
If it is necessary to store the system once you have taken delivery, ensure it is kept in the following conditions:

- A dry, weathertight area.
- Out of direct sunlight.
- Away from sharp objects or chemical spillages.
- All panels must be stacked horizontally and raised off the ground and STORED FLAT.
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- Ensure that all areas are correctly prepared, dry and protected from the weather.

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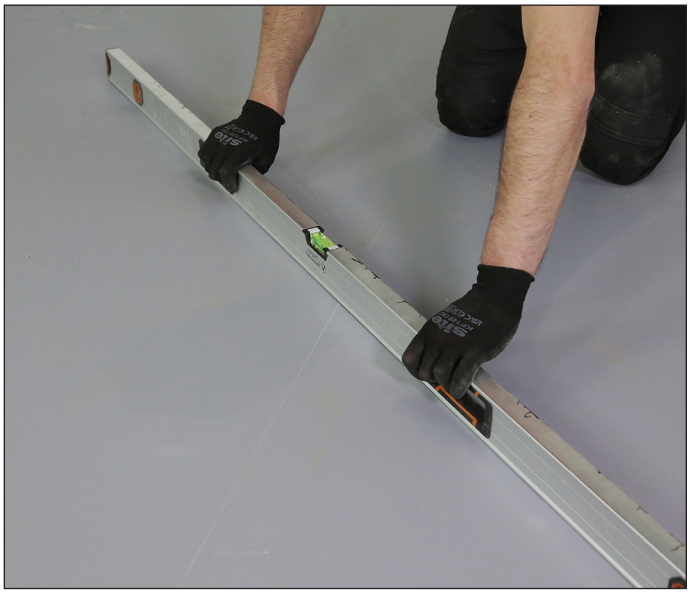

Ensure existing slab/floor deck meets at least SR2 (5mm deviation in 2m) requirements for floor regularity (BS8204) and preferably SR1 (3mm deviation in 2m).

IMPORTANT INFORMATION

The floor finish supplier/manufacturer may have their own requirements which should always take precedents.

Any undulations in the floor will transfer through the LowBoard 2 system. If laying on a solid floor, a thin layer of non-compressive insulative matting can be laid prior to fitting LowBoard 2 to provide some resistance when laying over a floor. (Not applicable when laying tiles or decorative finishes see note above).

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3.3 Installation of the deck panels

Following the OMNIE CAD design (if applicable) there will usually be a marked start point to lay the first panel (generally the furthest point from the door).

Leave a 10mm expansion gap between all LowBoard 2 panels and the wall edge (using a spacer).

RULE: LowBoard 2 panels can only be staggered in brick formation in fixed increments, 300mm (1/4), 600mm (1/2), and 900mm (3/4), this is important to maintain the cross-channel alignment.

Continue laying the panels along the floor in a 'run'. On following runs offset the panels by one channel increment to maintain the cross-panel alignment, be sure to keep return loops at the end of the run.

Referring to the OMNIE CAD design (if applicable). Battens will be required to create channels for flow and return pipework, the number of channels depends on the number of circuits exiting the room/area. Add batten supports between pipes to sufficiently bridge any gaps created. (Channel gaps must not exceed 75mm).

Top Tip – use a line of adhesive between the LowBoard 2 panels to reduce movement in the floor.

IMPORTANT INFORMATION

Some offcuts may need to be rotated 180° to maintain the cross-panel channels.

Where a pipe exits off a board into a flow and return channel, it may be necessary to cut/route a curve at the exit. This will allow the pipe to turn through 90°, this will relieve tension on the pipe and avoid the risk of kinking.

Accommodating multiple flow and returns

If within a room/area there are multiple flows and returns that cannot be accommodated in the pre-routed channel, use the following method:

For creating flow and return runs where pipe exits the end of the LowBoard 2 panels, lay 30mm x 12mm battens with a 75mm gap between battens. This will need to be repeated if more flow and return exit are required (see diagram).

Where the cover panel extends over the flow and return batten area, this will need to be clearly marked, this is to alert other trades to where UFH pipe is located.

Creating flow and return runs between panels

Leave a 150mm space between LowBoard 2 panels with a 30mm x 12mm battens along each edge of the panels and a middle 30mm x 12mm batten to create two flow and return access channel for two pipes in each run (see diagram).

Multiple flow and returns between panels

For extra flow and returns you can increase the space between the boards to a maximum of 300mm by adding 30mm x 12mm battens along both panel edges and a further two 30mm x 12mm battens spaced accordingly (see diagram) this will allow three flow and return runs each able to contain four pipes, twelve pipes in total.

It is important to follow the specific spacing to allow the cover panel to locate correctly after pipe has been installed.

3. Installation Guidance

3.4 Use of LowBoard 2 manifold cover boards

To aid the flow and return pipes route back to the UFH manifold there is an OMNIE LowBoard 2 “manifold cover boards”.

An estimated amount has been included for use where flow and return pipework converges and needs to be covered. This is supplied as a 12mm woodfibre manifold lower board and a 6mm woodfibre manifold cover panel. The manifold cover panels is 1200mm x 600mm but can be cut in half to create two identical 1200mm x 300mm long units.

Following the OMNIE CAD design (if applicable) you should pre-determine where this panel is required, usually in transit areas i.e., halls, utility’s and plant rooms, where flow and return pipework from all zones meet the manifold cover panel. These panels will require fixing to the subfloor.

If at any point the pipework leaves a panel and re-enters another panel set away from it, sufficient secure battens will be required between, so any span created is no greater than 75mm.

Routing manifold cover panels

It is possible to further route these panels to allow pipe to curve (75mm minimum pipe radius) into the desired channels. When doing this you must mirror route its respective cover panel to match so it fits flush and secure over the manifold cover panels and pipework.

3.5 Pipe installation

Starting at the manifold and referring to the OMNIE CAD design, insert the pipe into the LowBoard 2 panels, continue laying the pipe until all circuits have been laid.

The minimum temperature for laying the pipe should be +5°C.

NOTE: If the pipe work is kinked during the installation, the coil must be replaced or the pipe repaired with an OMNIE connector (if possible) and then pressure tested. No connections should be made unless fully accessible following the completion of the finished floor.

3.6 Pressure Testing

Once the LowBoard 2 lower panels and pipe have been laid, the circuits should be hydraulically pressure tested and kept under pressure while the LowBoard 2 cover panels are installed.

If this is not possible, the pressure test must be carried out for a second time once the covering deck has been installed.

Refer to OMNIE’s pressure test guide for full pressure testing guidelines (GTG-OMKT0012-0124).

3. Installation Guidance

3.7 Laying the cover panels

Cover panels should be offset by minimum of one increment in both directions (see diagram). This will naturally create an overlapping brick formation over the LowBoard 2 panels and pipe. Trim excess material accordingly, continue until the floor is complete.

IMPORTANT INFORMATION

If printed LowBoard 2 cover panels are used on un-heated areas, be aware there may not be enough printed LowBoard 2 cover panels complete the floor so careful planning as to where the use of the plain cover panels are required.

With products supplied there will be a quantified number of un- printed and un-routed plain cover panels, 1200mm x 600mm 6mm woodfibre panels. These must be used for unheated areas i.e.. under kitchen units baths, toilets and some bedroom cupboards (areas where there is no UFH pipe).

If plain cover panels are used to cover flow and return pipework then the visible surface must be clearly marked for others and future trades to see.
Secure all LowBoard 2 cover panels with at least one 18mm screw in all safe segments of the board (25 screws on a full panel).

Marking the cover panels for pipework spans

Anywhere a cover panel spans flow and return pipework you will need to mark on the cover panel that this is a danger area for screws/nails. This should be marked as clear as possible for others and future trades to see.

3.8 Notes on Start-up

During the initial heat up, the mixing valve should be set to supply temperature of between 20°C and 25°C which needs to be maintained for at least three days. After this period, the flow temperature can then be increased to the design maximum and should be held for a further four days to complete the process.

Always refer to the flooring manufacturer's instructions.

OMNIE.

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Pynes Hill, Exeter, Devon EX2 5AZ

OMNIE Limited is part of the
Ridgespear Group of companies
whose address is Melrose House,
Pynes Hill, Exeter, Devon, EX2 5AZ

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01392 36 36 05

OMNIE.

Technical
Product Guide

System Information &
Installation Guidance

Low build-up overlay underfloor heating system for existing insulated timber or concrete floors.

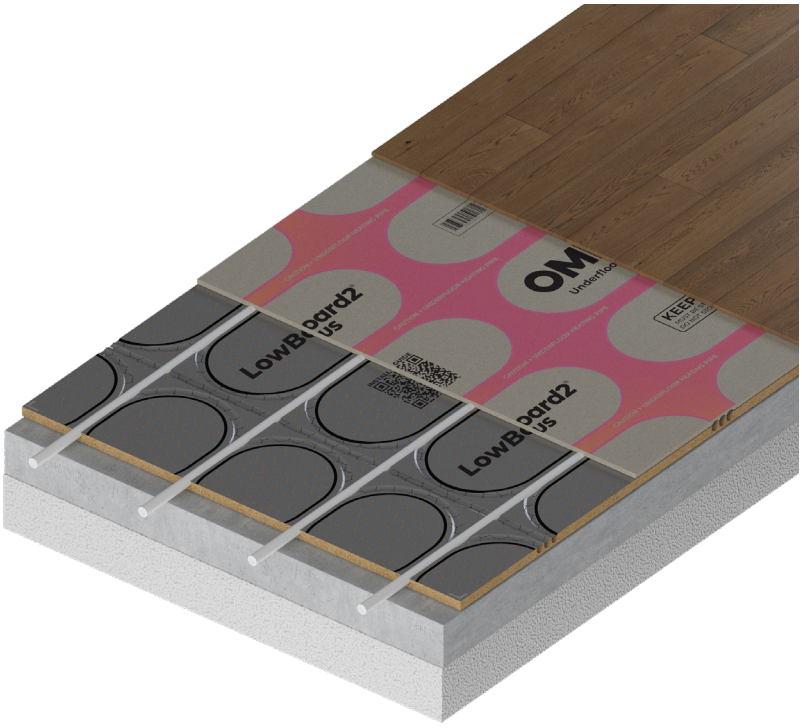
TPG-OMKT0005-0224

LowBoard2® Plus

LowBoard 2 is a low build-up underfloor heating system, designed to be overlaid on existing insulated timber or concrete floors.

The LowBoard 2 Plus system comprises of a 12mm woodfibre lower panel with bonded layer of AL HEX aluminium diffuser foil, plus a 8mm cement particle board cover panel.

The system is comprised of lower panel and upper covering panel. These panels encapsulate the warm water UFH pipe. Both lower panel and cover panel are routed with matching channels that perfectly align around the pipework. The system provides a surface ready for the floor finish to be laid over.



CONTENTS:

SYSTEM INFORMATION:

To use this system you will require the following OMNIE products:

ULUH0208 OMNIE LowBoard 2 8mm cement particle board cover panel
ULLW0212 OMNIE LowBoard 2 12mm woodfibre lower panel
UP12XXXX* OMNIFLO pipe - 12mm
UTSC0120 OMNIE 20mm cover panel screws

*Product code as required

1. Product / System Overview

1.1 Features

LowBoard 2 provides a fully-encased low build-up underfloor heating system that is overlaid on existing concrete or timber floors.

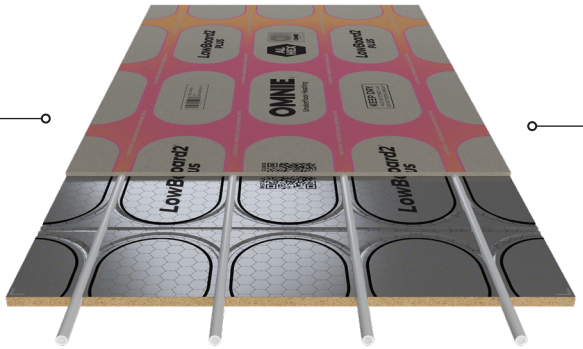
LowBoard 2 includes innovative features to speed up construction time, reduce installation risk and deliver the best possible heating performance.

This Standard model features a lower 12mm woodfibre lower panel with an 8mm cement particle board cover panel. If an insulation layer is required select the LowBoard 2 Insulate system. For insulation and increased performance select LowBoard 2 Insulate Plus.

AL HEX diffuser technology for fast warm up and even heat distribution.

Printed top panel shows pipe is beneath the floor.

Ultra-thin profile. Only 20mm in depth to finished floor level.



Locator Technology. Panels are pre-routed to locate easily over the pipe.

Fluted exits mean panels do not have to align precisely reducing risk of kinking or damage.

Omni-directional pipe pattern allows pipe to lay in multiple directions.

1.2 Isometric View

This drawing is an illustration of a typical floor build up and is shown for information only. The items shown with an asterix (*) within the floor construction are specified and designed by others and are not part of the OMNIE system.

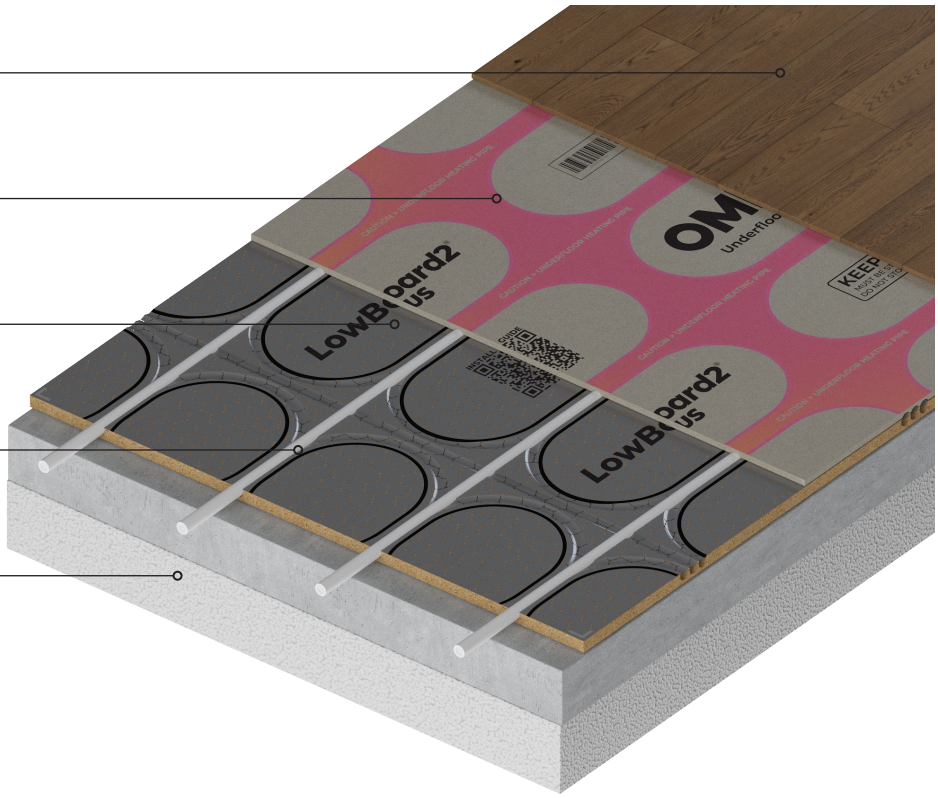
Floor finish*

Cement particle board 8mm cover panel

Woodfibre 12mm lower panel

OMNIFLO 12mm pipe

Subfloor*



1. Product / System Overview

1.3 Product Functionality

PRINTED COVER PANEL

The cover panel features a printed warning notice to indicate the location of the pipe – reducing the risk of damage on initial installation or subsequent change of floor finish.

LOCATOR TECHNOLOGY

Both the cover panel and lower panel are routed with matching channels that perfectly align around the pipework. Not only is the pipework safely encapsulated but further protection is provided by the cover panel's distinctive warning notice that is accurately aligned to indicate the pipe location.

FLUTED EXITS

By routing wide fluted exits at the edge of the LowBoard 2 panels, adjacent panels do not have to be aligned precisely when laid. The pipe can be quickly laid across adjoining panels, reducing the risk of pinching or kinking. Such damage would ultimately mean the pipe would require replacement.

OMNI-DIRECTIONAL PIPE PATTERN

OMNIE's unique routed channel patterns means the pipe can be laid precisely to any required route. This removes the need for any separate straight or loop panels meaning the installation can be quick and efficient, working easily around complex unheated areas, obstacles and room shapes.

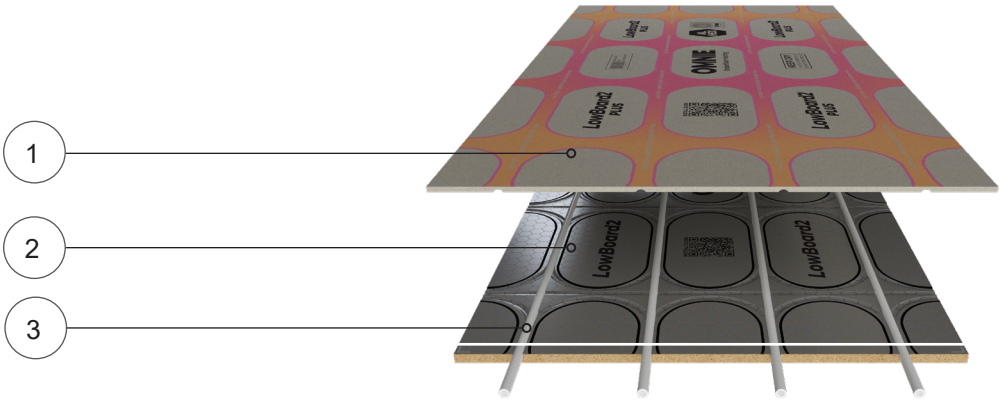
ULTRA FAST WARM UP

The design of LowBoard 2 places the water pipe closer to the floor surface to deliver a fast warm up time. This is achievable due to the matching channels of the cover panel. AL HEX aluminium diffuser technology effectively transfers heat from the pipe into the foil, in turn optimising heat transfer into the floor.

2. Technical Specifications

2.1. System Technical Information

Model illustrated: LowBoard 2 Plus featuring a 12mm woodfibre lower panel with a 8mm cement particle board cover panel.



1 **LOWBOARD 2 Plus cover panel**

Forms upper half of LowBoard 2 Plus system. Routed for 12mm pipe, the 8mm cement particle board cover panel requires 12mm woodfibre lower panel to complete the installation.

Product code	ULUH0208 OMNIE LowBoard 2 8mm cement particle board cover panel
Material	Cement
Size or diameter	1200 x 600 mm
Material thickness	8mm
Product thickness (if different)	8mm
Pipe centres	150mm
Pipe channel size	12mm
Weight (approx.)	7.4kg
Max subfloor centres (for joisted/batten floors)	N/A
Fire class	A (EN 13501)
Coverage per square metre	0.72 m^2

2. Technical Specifications

2 **LOWBOARD 2 deck panel**

The 12mm woodfibre deck panel forms the lower half of LowBoard 2 system. The deck panel requires choice of cover panel to complete installation.

Product code	ULLW0212 OMNIE LowBoard 2 12mm woodfibre lower panel
Material	Woodfibre
Size or diameter	1200 x 600 mm
Material thickness	12mm
Product thickness (if different)	12mm
Pipe centres	150mm
Pipe channel size	12mm
Weight (approx.)	5.3kg
Max subfloor centres (for joisted/batten floors)	N/A
Fire class	N/A
Coverage per square metre	0.72m^2

3 **OMNIFLO pipe**

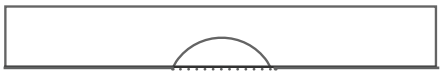
Five-layer construction achieves high oxygen tightness, good thermal stability and mechanical strength. Outer PE-RT layer protects against damage.

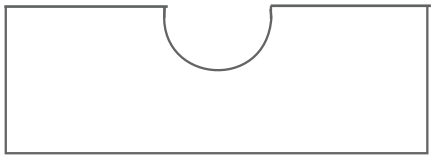
Material	PE-RT
Size or Diameter	12 mm
coverage per square metre	6..7 m/m^2 of pipe at 150mm centres (approx)

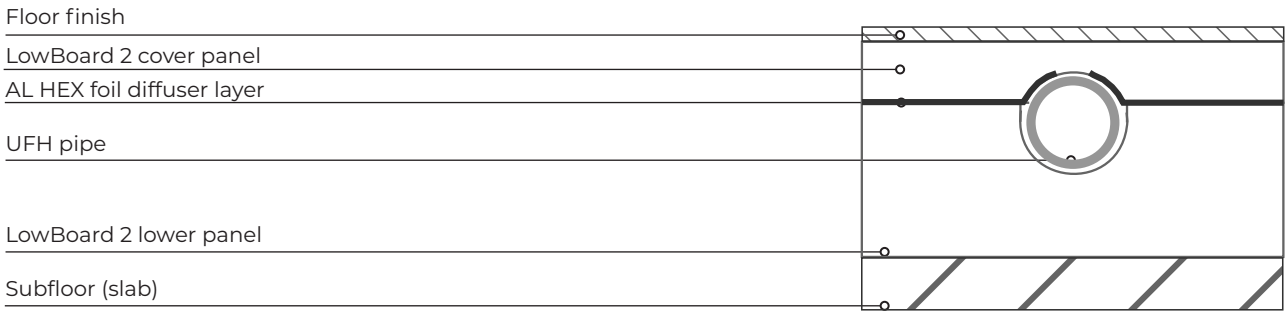
2. Technical Specifications

2.2 System Sectional Drawing

LowBoard 2 Standard featuring a lower 12mm woodfibre deck panel with a 6mm woodfibre cover panel.







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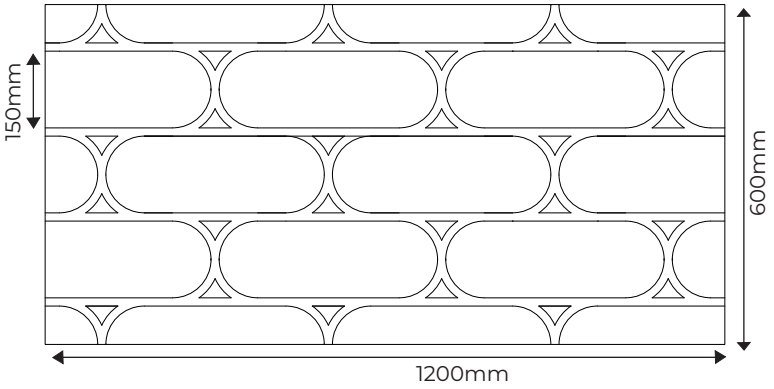
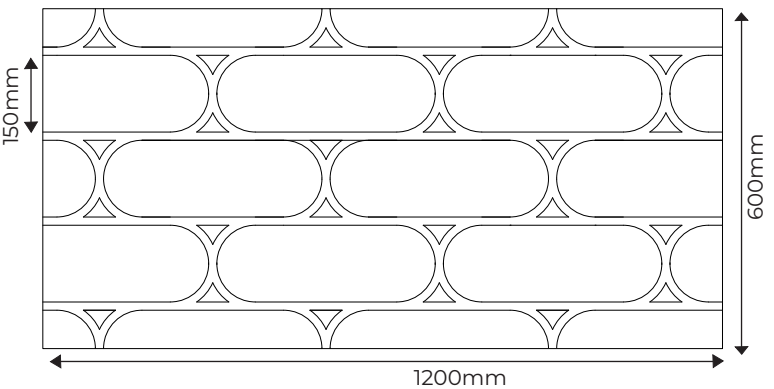
Drawing with dimensions and explanations.

Cement particle board cover panel



Woodfibre lower panel



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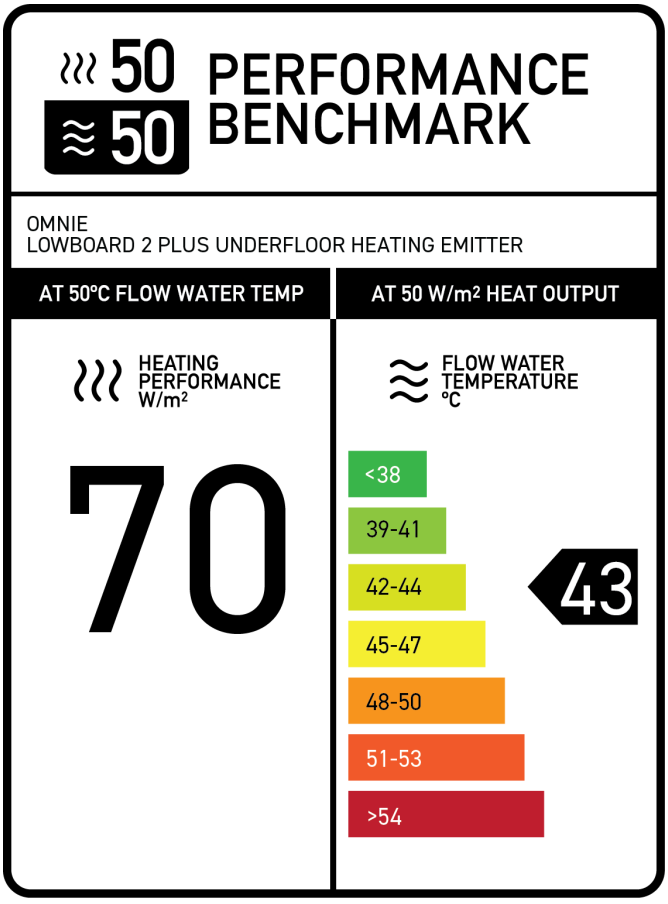

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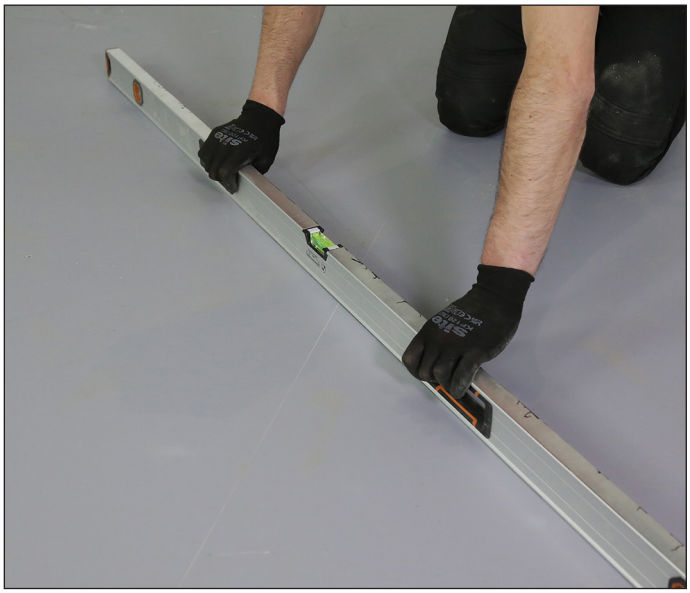

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Where the cover panel extends over the flow and return batten area, this will need to be clearly marked, this is to alert other trades to where UFH pipe is located.

Creating flow and return runs between panels

Leave a 150mm space between LowBoard 2 panels with a 30mm x 12mm battens along each edge of the panels and a middle 30mm x 12mm batten to create two flow and return access channel for two pipes in each run (see diagram).

Multiple flow and returns between panels

For extra flow and returns you can increase the space between the boards to a maximum of 300mm by adding 30mm x 12mm battens along both panel edges and a further two 30mm x 12mm battens spaced accordingly (see diagram) this will allow three flow and return runs each able to contain four pipes, twelve pipes in total.

It is important to follow the specific spacing to allow the cover panel to locate correctly after pipe has been installed.

3. Installation Guidance

3.4 Use of LowBoard 2 manifold cover boards

To aid the flow and return pipes route back to the UFH manifold there is the OMNIE LowBoard 2 manifold cover board, used where flow and return pipework converges and needs to be covered.

This is supplied as a 12mm woodfibre manifold lower panel and a 8mm cement particle board manifold cover panel. The manifold cover boards are 1200mm x 600mm but can be cut in half to create two identical 1200mm x 300mm long units.

Following the OMNIE CAD design (if applicable) you should pre-determine where this board is required, usually in transit areas i.e., halls, utility and plant rooms, where flow and return pipework from all zones meet the manifold cover board. These boards will require fixing to the subfloor.

If at any point the pipework leaves a panel and re-enters another panel set away from it, sufficient secure battens will be required between, so any span created is no greater than 75mm.

Routing manifold cover panels

It is possible to further route these panels to allow pipe to curve (75mm minimum pipe radius) into the desired channels. When doing this you must mirror route its respective cover panel to match so it fits flush and secure over the manifold cover panels and pipework.

3.5 Pipe installation

Starting at the manifold and referring to the OMNIE CAD design, insert the pipe into the LowBoard 2 panels, continue laying the pipe until all circuits have been laid.

The minimum temperature for laying the pipe should be +5°C.

NOTE: If the pipe work is kinked during the installation, the coil must be replaced or the pipe repaired with an OMNIE connector (if possible) and then pressure tested. No connections should be made unless fully accessible following the completion of the finished floor.

3.6 Pressure Testing

Once the LowBoard 2 lower panels and pipe have been laid, the circuits should be hydraulically pressure tested and kept under pressure while the LowBoard 2 cover panels are installed.

If this is not possible, the pressure test must be carried out for a second time once the covering deck has been installed.

Refer to OMNIE's pressure test guide for full pressure testing guidelines (GTG-OMKT0012-0124).

3. Installation Guidance

3.7 Laying the cover panels

Cover panels should be offset by minimum of one increment in both directions (see diagram). This will naturally create an overlapping brick formation over the LowBoard 2 panels and pipe. Trim excess material accordingly, continue until the floor is complete.

IMPORTANT INFORMATION

If printed LowBoard 2 cover panels are used on un-heated areas, be aware there may not be enough printed LowBoard 2 cover panels complete the floor so careful planning as to where the use of the plain cover panels are required.

With products supplied to a system design there may be a quantified number of un-printed and un-routed plain cover panels, 1200mm x 600mm 8mm cement particle board panels. These must be used for unheated areas i.e under kitchen units, baths, toilets and bedroom cupboards (areas where there is no UFH pipe).

If plain cover panels are used to cover flow and return pipework then the visible surface must be clearly marked for others and future trades to see.

Secure all LowBoard 2 cover panels with at least one 20mm screw in all safe segments of the board (25 screws on a full panel).

Marking the cover panels for pipework spans

Anywhere a cover panel spans flow and return pipework you will need to mark on the cover panel that this is a danger area for screws/nails. This should be marked as clear as possible for others and future trades to see.

3.8 Notes on Start-up

During the initial heat up, the mixing valve should be set to supply temperature of between 20°C and 25°C which needs to be maintained for at least three days. After this period, the flow temperature can then be increased to the design maximum and should be held for a further four days to complete the process.

Always refer to the flooring manufacturer's instructions.

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Technical
Product Guide

System Information &
Installation Guidance

Low build-up overlay underfloor heating system for existing uninsulated subfloors.

TPG-OMKT0006-0624

LowBoard2® Insulate

LowBoard 2 is a low build-up underfloor heating system, designed to be overlaid on uninsulated subfloors.

The LowBoard 2 Insulate system comprises of a 16mm expanded polystrene (EPS) lower panel with bonded layer of AL HEX aluminium diffuser foil, plus a 6mm woodfibre cover panel.

The system is comprised of lower panel and upper covering panel. These panels encapsulate the warm water UFH pipe. Both lower panel and cover panel are routed with matching channels that perfectly align around the pipework. The system provides a surface ready for the floor finish to be laid over.

CONTENTS:

SYSTEM INFORMATION:

To use this system you will require the following OMNIE products:

ULUW0106 OMNIE LowBoard 2 6mm woodfibre cover panel
ULHD0116 OMNIE LowBoard 2 16mm EPS lower panel
UP12XXXX* OMNIFLO pipe - 12mm
UTSH0240 OMNIE 40mm deck screws

*Product code as required

1. Product / System Overview

1.1 Features

LowBoard 2 provides a fully-encased low build-up underfloor heating system that is overlaid on existing concrete or timber floors.

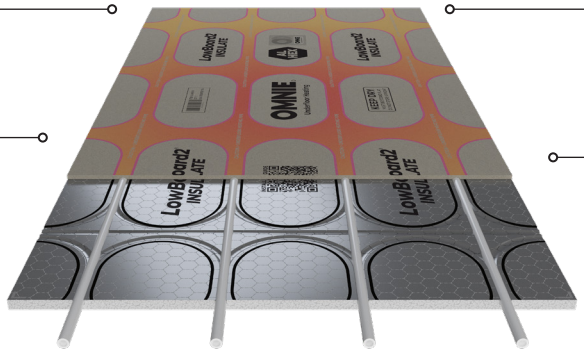
LowBoard 2 includes innovative features to speed up construction time, reduce installation risk and deliver the best possible heating performance.

This Insulate model features a lower 16mm EPS lower panel with a 6mm woodfibre cover panel. For higher heating performance select the LowBoard 2 Insulate Plus system.

AL HEX diffuser technology for fast warm up and even heat distribution.

Printed top panel shows pipe is beneath the floor.

Ultra-thin profile. Only 22mm in depth to finished floor level.



Locator Technology. Panels are pre-routed to locate easily over the pipe.

Omni-directional pipe pattern allows pipe to lay in multiple directions.

1.2 Isometric View

This drawing is an illustration of a typical floor build up used in the UK and is shown for information only. The items shown with an asterix (*) within the floor construction are specified and designed by others and are not part of the OMNIE system.

Floor finish*

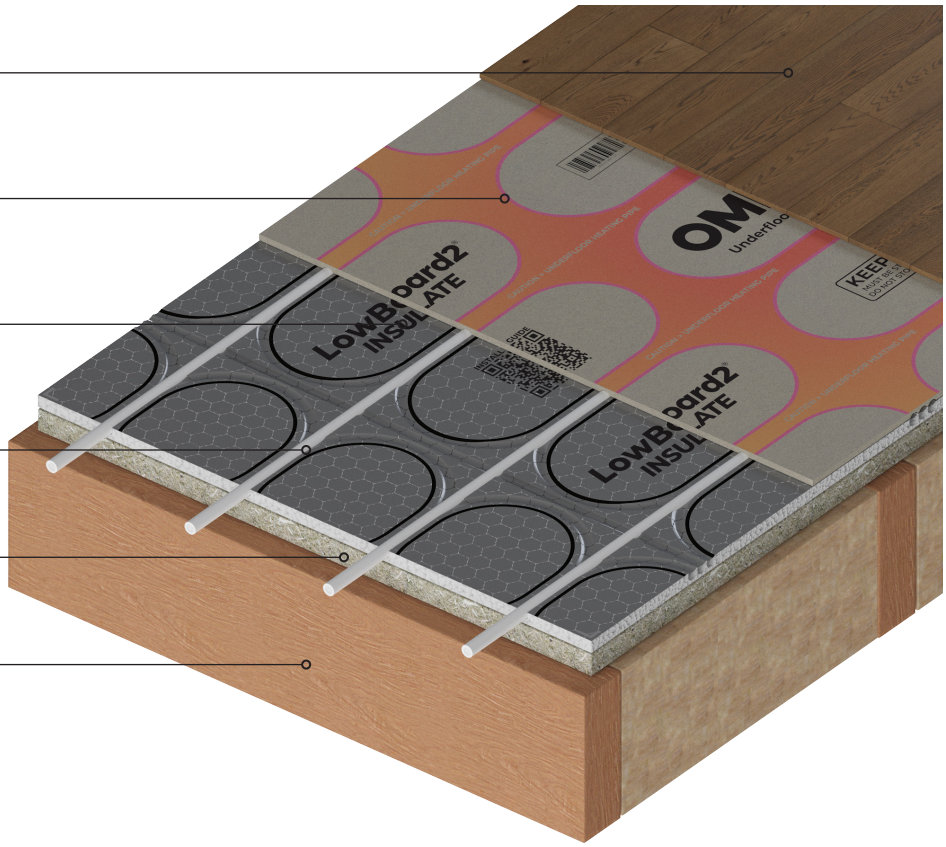
Woodfibre 6mm cover panel

EPS 16mm lower panel

OMNIFLO 12mm pipe

Chipboard subdeck*

Subfloor*



1. Product / System Overview

1.3 Product Functionality

PRINTED COVER PANEL

The cover panel features a printed warning notice to indicate the location of the pipe – reducing the risk of damage on initial installation or subsequent change of floor finish.

LOCATOR TECHNOLOGY

Both the cover panel and floor lower panel are routed with matching channels that perfectly align around the pipework. Not only is the pipework safely encapsulated but further protection is provided by the cover panel's distinctive warning notice that is accurately aligned to indicate the pipe location.

FLUTED EXITS

By routing wide fluted exits at the edge of the LowBoard 2 panels, adjacent panels do not have to be aligned precisely when laid. The pipe can be quickly laid across adjoining panels, reducing the risk of pinching or kinking. Such damage would ultimately mean the pipe would require replacement.

OMNI-DIRECTIONAL PIPE PATTERN

OMNIE's unique routed channel patterns means the pipe can be laid precisely to any required route. This removes the need for any separate straight or loop panels meaning the installation can be quick and efficient, working easily around complex unheated areas, obstacles and room shapes.

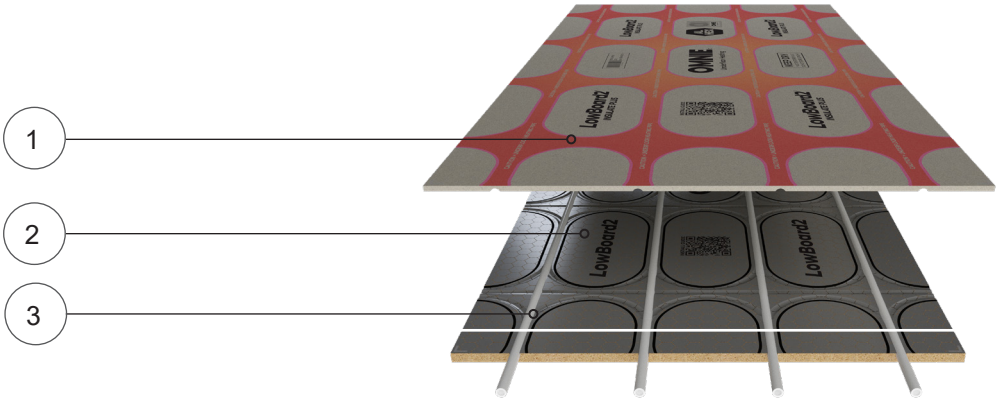
ULTRA FAST WARM UP

The design of LowBoard 2 places the water pipe closer to the floor surface to deliver a fast warm up time. This is achievable due to the matching channels of the cover panel. AL HEX aluminium diffuser technology effectively transfers heat from the pipe into the foil, in turn optimising heat transfer into the floor.

2. Technical Specifications

2.1. System Technical Information

Model illustrated: LowBoard 2 Standard featuring a 16mm EPS lower panel with a 6mm woodfibre cover panel.



1 **LOWBOARD 2 Insulate cover panel**

Forms upper half of LowBoard 2 Insulate system. Routed for 12mm pipe, the 6mm woodfibre cover panel requires 16mm EPS lower panel to complete the installation.

Product code	ULHW0106 OMNIE LowBoard 2 Insulate 6mm woodfibre cover panel
Material	Woodfibre
Size or diameter	1200 x 600 mm
Material thickness	6mm
Product thickness (if different)	6mm
Pipe centres	150mm
Pipe channel size	12mm
Weight (approx.)	3.6kg
Max subfloor centres (for joisted/batten floors)	N/A
Fire class	
Coverage per square metre	0.72 m^2

2. Technical Specifications

2 **LOWBOARD 2 lower panel**

The 16mm EPS lower panel forms the lower half of LowBoard 2 Insulate system. The lower panel requires 6mm woodfibre cover panel to complete installation.

Product code	ULHD0116 OMNIE LowBoard 2 16mm EPS lower panel
Material	16mm EPS + AL HEX Aluminium Layer
Size or diameter	1200 x 600 mm
Material thickness	16mm
Product thickness (if different)	16mm
Pipe centres	150mm
Pipe channel size	12mm
Weight (approx.)	0.7kg
Max subfloor centres (for joisted/batten floors)	N/A
Fire class	N/A
Coverage per square metre	0.72m^2

3 **OMNIFLO pipe**

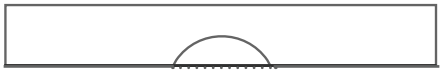
Five-layer construction achieves high oxygen tightness, good thermal stability and mechanical strength. Outer PE-RT layer protects against damage.

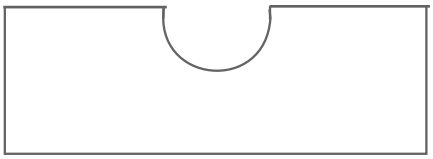
Material	PE-RT
Size or Diameter	12 mm
coverage per square metre	6.7 metres of pipe at 150mm centres (approx)

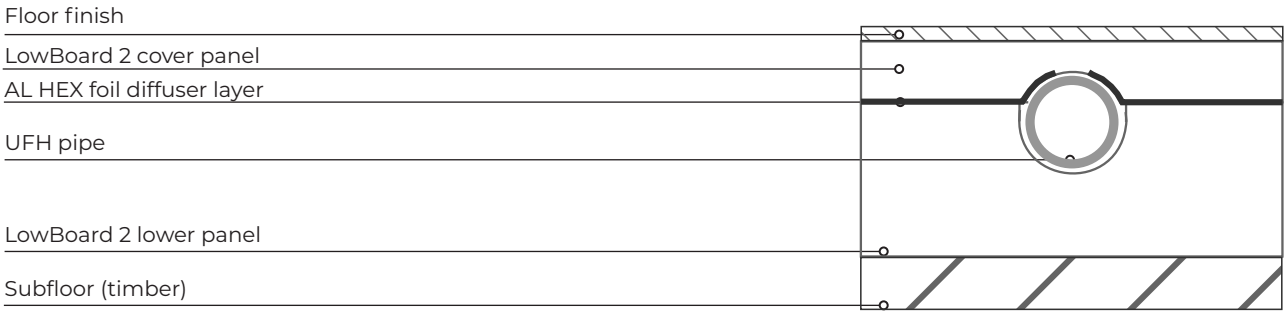
2. Technical Specifications

2.2 System Sectional Drawing

LowBoard 2 Insulate featuring a 16mm EPS lower panel with a 6mm woodfibre cover panel.



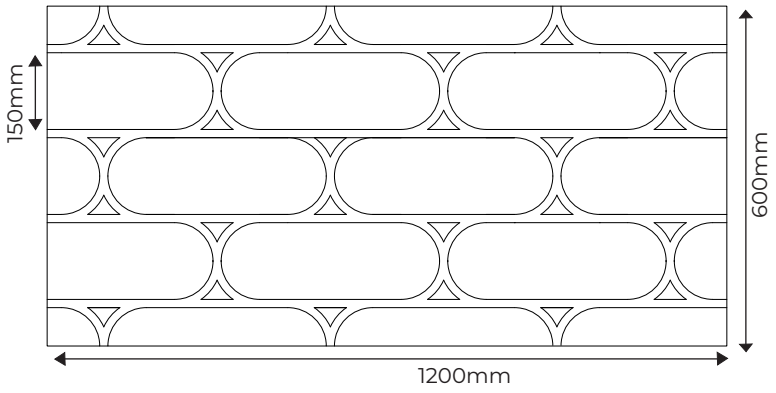




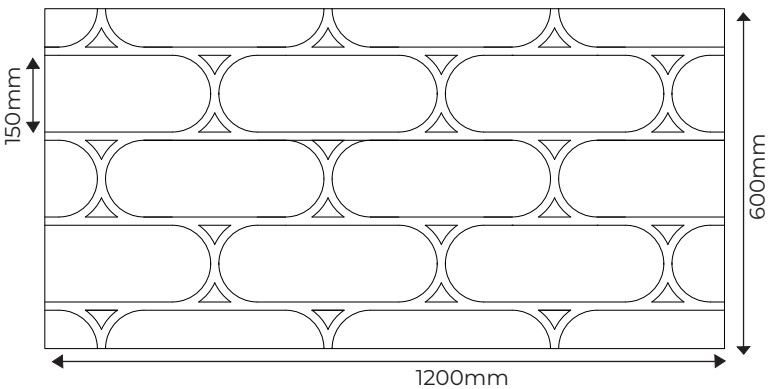
2.3 System Topdown Drawing

Drawing with dimensions and explanations.

Woodfibre cover panel



EPS lower panel



2. Technical Specifications

2.4 Performance Efficiency Label

COMPARE WITH CONFIDENCE

OMNIE has now introduced performance information on all our underfloor heating products. The information will provide you with total clarity on the efficiencies and heat outputs of our systems. This is particularly important as the UK makes the transition towards renewable heating technologies such as heat pumps that operate at lower water temperatures, so every kilowatt of energy has to count.

PERFORMANCE AND EFFICIENCY LABEL

OMNIE's UFH systems have been extensively tested and measured. We express this product performance data two simple indicators to allow easy comparison – this is called the 50/50 Performance Benchmark.

Heat Output at 50°C Flow Water Temperature - This is a power rating, expressing what the heat output will be when the product is operating at a 50°C flow water temperature in the UFH pipework. The higher, the more power that is available.

Flow Water Temperature at 50 W/m² Heat Output - This is an efficiency rating, expressing the flow water temperature required to achieve a 50 W/m² heat output. The lower, the more efficient the heat source will be.

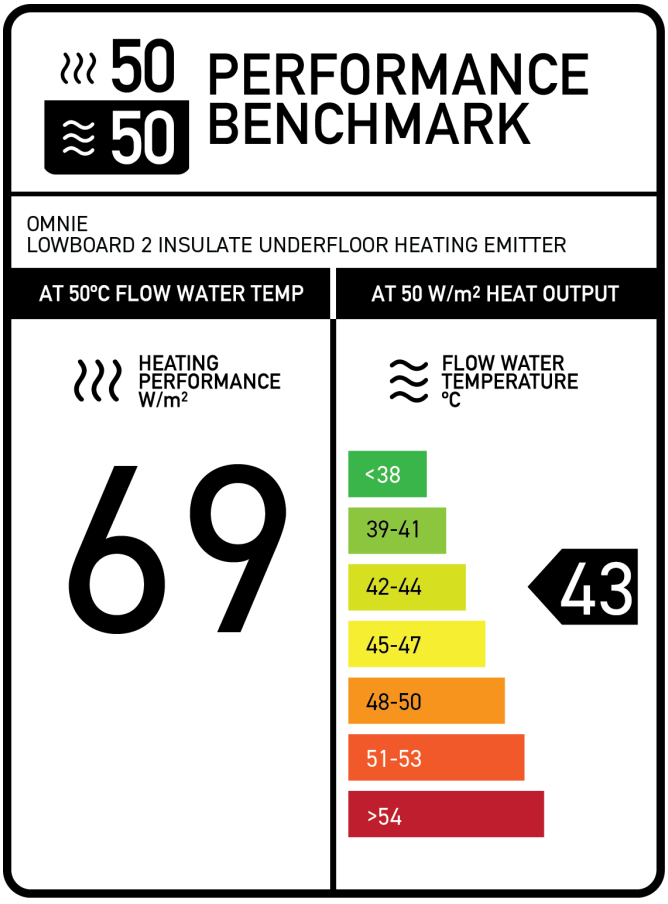
PRODUCT TESTING INFORMATION

Products have been independently tested. The outputs from pipe loops have been considered as well as straight sections.

- Outputs stated are based on a nominal 1 Tog floor finish, as if it were a carpet (a subfloor and support structure is required).
- Subfloor is insulated to the minimum stipulated by BS1264.
- Figures stated at a room temperature of 20°C and with a water flow and return dT of 7°C.

APPLICATION

- The published data is only a benchmark and not a statement of performance for a given project.
- Outputs can vary depending on materials used in the construction, such as the floor deck, insulation, or floor finish.
- Outputs will change with room temperature, flow and return temperature.
- The heat loss of a building will vary dependent on a number of factors so may be higher or lower than 50 W/m².



3. Installation Guidance

PLEASE READ THESE INSTRUCTIONS CAREFULLY AND ENSURE THAT THEY ARE CORRECTLY UNDERSTOOD. IF ASSISTANCE IS REQUIRED PLEASE CALL 01392 36 36 05

WATCH VIDEO OF THIS SYSTEM INSTALLATION ONLINE

3.1 Before you start

As OMNIE continues to develop and improve, it is recommended you check the OMNIE website (omnie.co.uk) for the latest information and instructions.

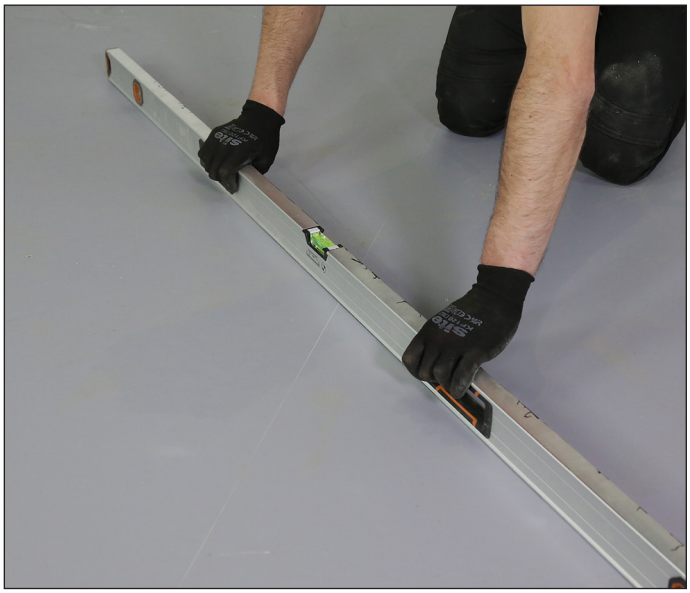
Where there are unheated flooring areas, blank and unrouted plain cover panels should be utilised. Do not use the printed cover panels for these unpiped/unheated areas.

Please read all stages of this install guide before proceeding with the installation.

Storage
If it is necessary to store the system once you have taken delivery, ensure it is kept in the following conditions:

- A dry, weathertight area.
- Out of direct sunlight.
- Away from sharp objects or chemical spillages.
- All panels must be stacked horizontally and raised off the ground and STORED FLAT.
- panels must not be exposed to moisture or high humidity.
- Ensure that all areas are correctly prepared, dry and protected from the weather.

3.2 Preparation



Ensure existing slab/floor deck meets at least SR2 (5mm deviation in 2m) requirements for floor regularity (BS8204) and preferably SR1 (3mm deviation in 2m).

IMPORTANT INFORMATION

The floor finish supplier/manufacturer may have their own requirements which should always take precedents.

WARNING - RISK OF INJURY TO PERSONS OR DAMAGE TO SYSTEM

When working with any woodfibre or insulation-based products, dust and particles become airborne and pose a hazard to health. This is particularly relevant when machining, cutting or routing. Please follow the relevant guidelines in the product safety datasheets (available on request) on reducing the risk of dust inhalation.

3.3 Installation of the lower panels

Following the OMNIE CAD design (if applicable) there will usually be a marked start point to lay the first panel (generally the furthest point from the door).

Leave a 10mm expansion gap between all LowBoard 2 panels and the wall edge (using a spacer).

RULE: LowBoard 2 panels can only be staggered in brick formation in fixed increments, 300mm (1/4), 600mm (1/2), and 900mm (3/4), this is important to maintain the cross-channel alignment.

Continue laying the panels along the floor in a 'run'. On following runs offset the panels by one channel increment to maintain the cross-panel alignment, be sure to keep return loops at the end of the run.

IMPORTANT INFORMATION

Some offcuts may need to be rotated 180° to maintain the cross-panel channels.

Where a pipe exits off a board into a flow and return channel, it may be necessary to cut/route a curve at the exit. This will allow the pipe to turn through 90°, this will relieve tension on the pipe and avoid the risk of kinking.

Accommodating multiple flow and returns

If within a room/area there are multiple flows and returns that cannot be accommodated in the pre-routed channel, use the following method:

For creating flow and return runs where pipe exits the end of the LowBoard 2 panels, lay 30mm x 12mm battens with a 75mm gap between battens. This will need to be repeated if more flow and return exit are required (see diagram).

Where the cover panel extends over the flow and return batten area, this will need to be clearly marked, this is to alert other trades to where UFH pipe is located.

Creating flow and return runs between panels

Leave a 150mm space between LowBoard 2 panels with a 30mm x 12mm battens along each edge of the panels and a middle 30mm x 12mm batten to create two flow and return access channel for two pipes in each run (see diagram).

Multiple flow and returns between panels

For extra flow and returns you can increase the space between the boards to a maximum of 300mm by adding 30mm x 12mm battens along both panel edges and a further two 30mm x 12mm battens spaced accordingly (see diagram) this will allow three flow and return runs each able to contain four pipes, twelve pipes in total.

It is important to follow the specific spacing to allow the cover panel to locate correctly after pipe has been installed.

3. Installation Guidance

Adhesive fixing method for LowBoard 2 Insulate

Where screws cannot be used to fix through the cover and lower panels into the subfloor to hold the system in place, adhesives are an alternative and can be used to bond the system to the subfloor, and the lower and cover panels together.

Bonding LowBoard 2 Insulate lower panel to a subfloor

There are different methods that can be used when fixing down the LowBoard 2 Insulate lower panel to a subfloor. It is always best to apply some of the chosen adhesive to a small area of the insulate deck panel to confirm there is no significant reaction occurring between the materials. Floor primer may be needed depending on the condition of the floor.

Contact Adhesive – suitable for a flat and level subfloor to SR1 standard

This is a fast way of bonding the panel to the subfloor, but the floor needs to be level and smooth, to SR1 standard (3mm gap in a floor with 2m straight edge laid over), across the entire area for this method to work well. If there are gaps between panel and subfloor greater than SR1 the lower panel may not properly bond to the subfloor. A consistent and even coverage of adhesive should be applied to the subfloor. The Insulate lower panel is then adhered to the subfloor.

Example products or equivalent:
Soudal contact adhesive spray
Tuskbond ONE – sprayable contact adhesive

Polyurethane foam adhesive – suitable for subfloor with some minor undulations

This is a type of expanding foam designed for bonding a large variety of building materials together. This type of foam has a low level of expansion and forms a highly sticky and compressible foam. Apply over the back of the insulate panel and press the panel down onto the floor. This method of gluing is able to accommodate some undulations in the subfloor, up to SR2 standard (5mm gap with 2m straight edge). Always follow the adhesive manufacturing recommendations regarding application techniques and drying times.

NOTE: This is not standard expanding foam. This must be a low expanding, yet high grab foam.

Example products or equivalent:
Soudal Soudabond easy adhesive foam
Soudal adhesive foam

Flexible Tile Adhesive – suitable for an uneven subfloor.

This is a good way of bonding the panel down if the floor is uneven or has any movement. Applying a layer of flexible adhesive absorbs undulations in the subfloor and provides a firm but flexible anchor to the Insulate lower panel. Remember if using a tile adhesive, the final height of the LowBoard 2 system will increase by the thickness of tile adhesive used. Apply the tile adhesive to the floor and press the panel down into the tile adhesive. A floor primer may be necessary before applying an adhesive. Wait for the adhesive to dry before completing the installation.

Example products or equivalent:
Soudal wall & floor tile adhesive
Mapei super flexible white tile adhesive

3. Installation Guidance

Bonding LowBoard 2 Cover panel to the Insulate Deck panel

With the Insulate lower panel in place the cover panel needs to be bonded to the lower panel. For this application use contact adhesive and spray the lower panel with a consistent and even coverage. The cover panel can then be applied to the lower panel and adjusted to be in the correct position before the glue hardens.

Example products or equivalent:
Soudal contact adhesive spray
Tuskbond ONE sprayable contact adhesive

3.4 Pipe installation

Starting at the manifold and referring to the OMNIE CAD design, insert the pipe into the LowBoard 2 panels, continue laying the pipe until all circuits have been laid.

The minimum temperature for laying the pipe should be +5°C.

NOTE: If the pipe work is kinked during the installation, the coil must be replaced or the pipe repaired with an OMNIE connector (if possible) and then pressure tested. No connections should be made unless fully accessible following the completion of the finished floor.

3.5 Pressure Testing

Once the LowBoard 2 lower panels and pipe have been laid, the circuits should be hydraulically pressure tested and kept under pressure while the LowBoard 2 cover panels are installed.

If this is not possible, the pressure test must be carried out for a second time once the covering deck has been installed.

Refer to OMNIE's pressure test guide for full pressure testing guidelines (GTG-OMKT0012-0124).

3.6 Laying the cover panels

Cover panels should be offset by minimum of one increment in both directions (see diagram). This will naturally create an overlapping brick formation over the LowBoard 2 panels and pipe. Trim excess material accordingly, continue until the floor is complete.

IMPORTANT INFORMATION

If printed LowBoard 2 cover panels are used on un-heated areas, be aware there may not be enough printed LowBoard 2 cover panels complete the floor so careful planning as to where the use of the plain cover panels are required.

With products supplied there will be a quantified number of un- printed and un-routed plain cover panels, 1200mm x 600mm 6mm woodfibre panels. These must be used for unheated areas i.e.. under kitchen units baths, toilets and

some bedroom cupboards (areas where there is no UFH pipe).

Cover panels should be offset by minimum of one increment in both directions (see diagram). This will naturally create an overlapping brick formation over the LowBoard 2 panels and pipe. Trim excess material accordingly, continue until the floor is complete.

If printed LowBoard 2 cover panels are used on un-heated areas, be aware there may not be enough printed LowBoard 2 cover panels complete the floor so careful planning as to where the use of the plain cover panels are required.

With products supplied there will be a quantified number of un- printed and un-routed plain cover panels, 1200mm x 600mm 6mm woodfibre panels. These must be used for unheated areas i.e.. under kitchen units baths, toilets and some bedroom cupboards (areas where there is no UFH pipe).

If plain cover panels are used to cover flow and return pipework then the visible surface must be clearly marked for others and future trades to see. Secure all LowBoard 2 cover panels in place.

Anywhere a cover panel spans flow and return pipework you will need to mark on the cover panel that this is a danger area for screws/nails. This should be marked as clear as possible for others and future trades to see.

If you are able to, use optional 40mm deck fixing screws to secure lower panel to subfloor as required. Care should be taken to check and avoid any pipe or cables below. OMNIE recommend using a minimum of x15 screws per panel and following finished floor manufacturer's recommendations.

3.7 Bonding the cover panel to the Insulate lower panel

With the Insulate lower panel in place the cover panel needs to be bonded to the lower panel. For this application use contact adhesive and spray the lower panel with a consistent and even coverage. The Cover panel can then be applied to the lower panel and adjusted to be in the correct position before the glue hardens.

3.8 Notes on Start-up

During the initial heat up, the mixing valve should be set to supply temperature of between 20°C and 25°C which needs to be maintained for at least three days. After this period, the flow temperature can then be increased to the design maximum and should be held for a further four days to complete the process.

Always refer to the flooring manufacturer's instructions.

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Technical
Product Guide

System Information & Installation Guidance

Low build-up overlay underfloor heating system for existing uninsulated subfloors.

TPG-OMKT0007-0624

LowBoard2® Insulate Plus

LowBoard 2 is a low build-up underfloor heating system, designed to be overlaid on uninsulated subfloors.

The LowBoard 2 Insulate Plus system comprises of a 16mm expanded polystrene (EPS) lower panel with bonded layer of AL HEX aluminium diffuser foil, plus a 8mm cement particle board cover panel.

The system is comprised of lower panel and upper covering panel. These panels encapsulate the warm water UFH pipe. Both lower panel and cover panel are routed with matching channels that perfectly align around the pipework. The system provides a surface ready for the floor finish to be laid over.

CONTENTS:

SYSTEM INFORMATION:

To use this system you will require the following OMNIE products:

ULHP0108 OMNIE LowBoard 2 8mm cement particle board cover panel
ULHD0116 OMNIE LowBoard 2 16mm EPS lower panel
UP12XXXX* OMNIFLO pipe - 12mm
UTSH0240 OMNIE 40mm deck screws

*Product code as required

1. Product / System Overview

1.1 Features

LowBoard 2 provides a fully-encased low build-up underfloor heating system that is overlaid on existing concrete or timber floors.

LowBoard 2 includes innovative features to speed up construction time, reduce installation risk and deliver the best possible heating performance.

This Insulate Plus model features a lower 16mm EPS lower panel with a 8mm cement particle board cover panel.

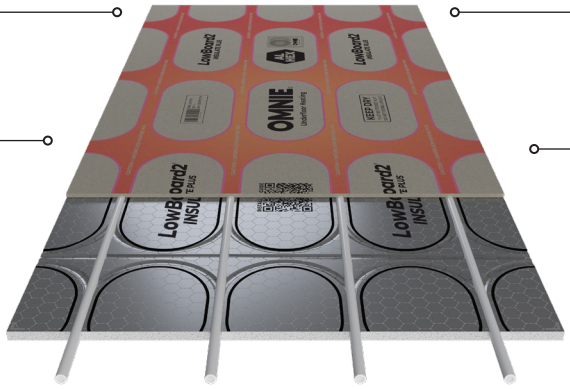
AL HEX diffuser technology for fast warm up and even heat distribution.

Printed top panel shows pipe is beneath the floor and where to affix.

Low profile. Only 24mm in depth to finished floor level.

Locator Technology. Panels are pre-routed to locate easily over the pipe.

Omni-directional pipe pattern allows pipe to lay in multiple directions.



1.2 Isometric View

This drawing is an illustration of a typical floor build up and is shown for information only. The items shown with an asterix (*) within the floor construction are specified and designed by others and are not part of the OMNIE system.

Floor finish*

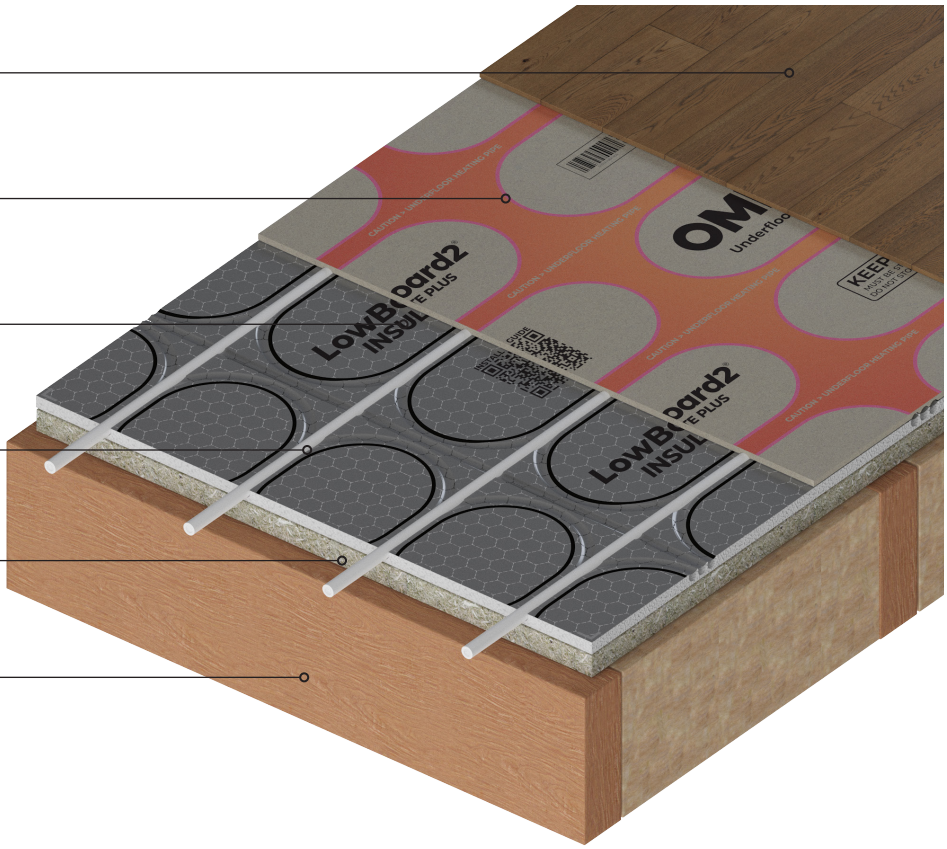
Cement particle board 8mm cover panel

EPS 16mm lower panel

OMNIFLO 12mm pipe

Chipboard subdeck*

Subfloor*



1. Product / System Overview

1.3 Product Functionality

PRINTED COVER PANEL

The cover panel features a printed warning notice to indicate the location of the pipe – reducing the risk of damage on initial installation or subsequent change of floor finish.

LOCATOR TECHNOLOGY

Both the cover panel and floor lower panel are routed with matching channels that perfectly align around the pipework. Not only is the pipework safely encapsulated but further protection is provided by the cover panel's distinctive warning notice that is accurately aligned to indicate the pipe location.

FLUTED EXITS

By routing wide fluted exits at the edge of the LowBoard 2 panels, adjacent panels do not have to be aligned precisely when laid. The pipe can be quickly laid across adjoining panels, reducing the risk of pinching or kinking. Such damage would ultimately mean the pipe would require replacement.

OMNI-DIRECTIONAL PIPE PATTERN

OMNIE's unique routed channel patterns means the pipe can be laid precisely to any required route. This removes the need for any separate straight or loop panels meaning the installation can be quick and efficient, working easily around complex unheated areas, obstacles and room shapes.

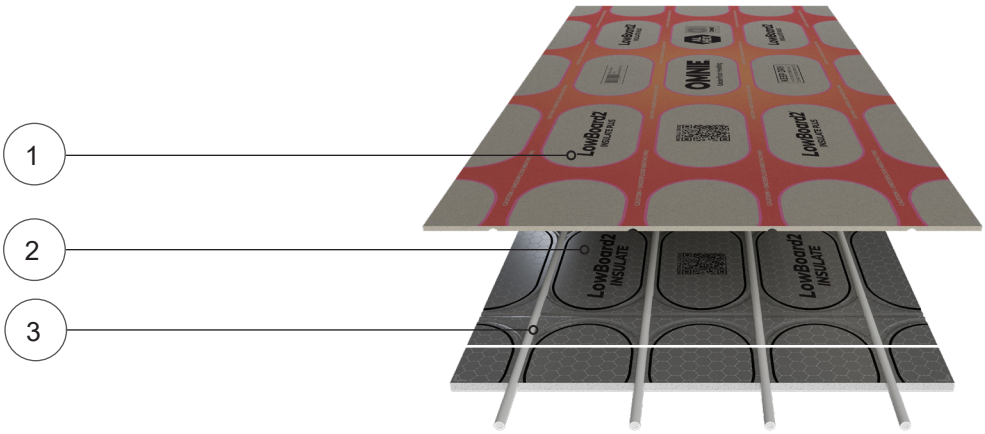
ULTRA FAST WARM UP

The design of LowBoard 2 places the water pipe closer to the floor surface to deliver a fast warm up time. This is achievable due to the matching channels of the cover panel. AL HEX aluminium diffuser technology effectively transfers heat from the pipe into the foil, in turn optimising heat transfer into the floor.

2. Technical Specifications

2.1. System Technical Information

Model illustrated: LowBoard 2 Insulate Plus featuring a 16mm EPS lower panel with a 8mm cement particle board cover panel.



1 **LOWBOARD 2 Insulate cover panel**

Forms upper half of LowBoard 2 Insulate Plus system. Routed for 12mm pipe, the 8mm cement particle board cover panel requires 16mm EPS lower panel to complete the installation.

Product code	ULHP0108 OMNIE LowBoard 2 8mm cement particle board cover panel
Material	Cement particle board
Size or diameter	1200 x 600 mm
Material thickness	8mm
Product thickness (if different)	8mm
Pipe centres	150mm
Pipe channel size	12mm
Weight (approx.)	7.4kg
Max subfloor centres (for joisted/batten floors)	N/A
Fire class	A (EN 13501)
Coverage per square metre	0.72 m^2

2. Technical Specifications

2 **LOWBOARD 2 Insulate lower panel**

The 16mm EPS lower panel forms the lower half of LowBoard 2 Insulate system. The lower panel requires 8mm cement particle board cover panel to complete installation.

Product code	ULHD0116 OMNIE LowBoard 2 16mm EPS lower panel
Material	16mm EPS + AL HEX Aluminium Layer
Size or diameter	1200 x 600 mm
Material thickness	16mm
Product thickness (if different)	16mm
Pipe centres	150mm
Pipe channel size	12mm
Weight (approx.)	0.7kg
Max subfloor centres (for joisted/batten floors)	N/A
Fire class	A (EN 13501)
Coverage per square metre	0.72m^2

3 **OMNIFLO pipe**

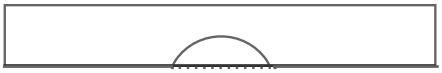
Five-layer construction achieves high oxygen tightness, good thermal stability and mechanical strength. Outer PE-RT layer protects against damage.

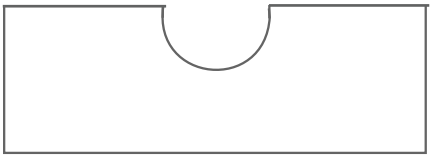
Material	PE-RT
Size or Diameter	12 mm
coverage per square metre	6.7 metres of pipe at 150mm centres (approx)

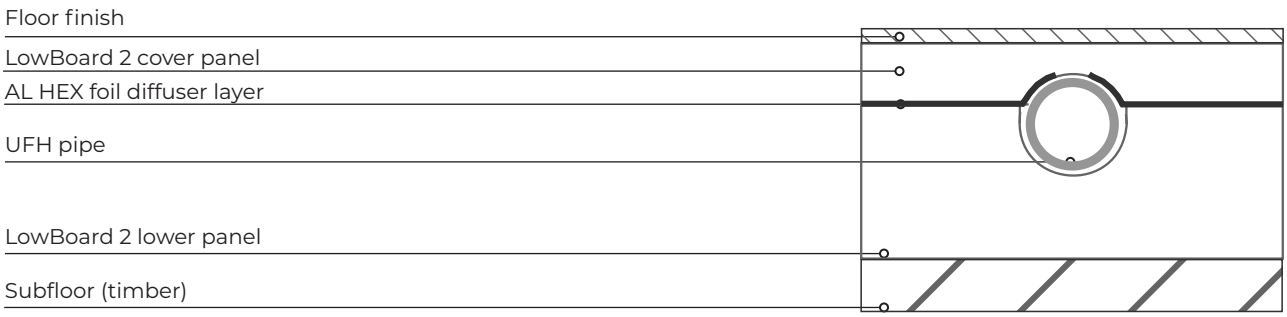
2. Technical Specifications

2.2 System Sectional Drawing

LowBoard 2 Insulate Plus featuring a 16mm EPS lower panel with a 8mm cement particle board cover panel.



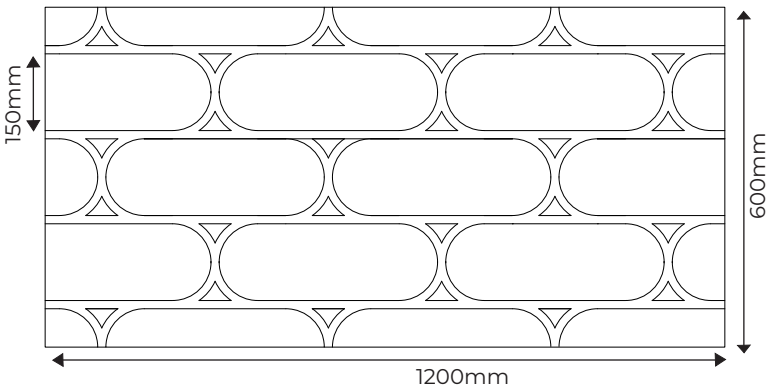




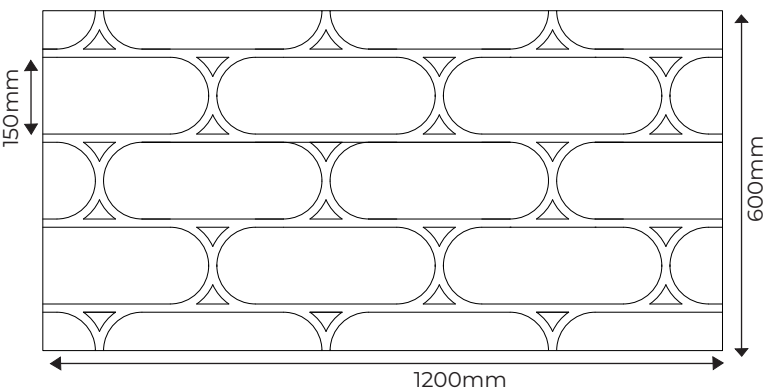
2.3 System Topdown Drawing

Drawing with dimensions and explanations.

Woodfibre cover panel



EPS lower panel



2. Technical Specifications

2.4 Performance Efficiency Label

COMPARE WITH CONFIDENCE

OMNIE has now introduced performance information on all our underfloor heating products. The information will provide you with total clarity on the efficiencies and heat outputs of our systems. This is particularly important as the UK makes the transition towards renewable heating technologies such as heat pumps that operate at lower water temperatures, so every kilowatt of energy has to count.

PERFORMANCE AND EFFICIENCY LABEL

OMNIE's UFH systems have been extensively tested and measured. We express this product performance data two simple indicators to allow easy comparison – this is called the 50/50 Performance Benchmark.

Heat Output at 50°C Flow Water Temperature - This is a power rating, expressing what the heat output will be when the product is operating at a 50°C flow water temperature in the UFH pipework. The higher, the more power that is available.

Flow Water Temperature at 50 W/m² Heat Output - This is an efficiency rating, expressing the flow water temperature required to achieve a 50 W/m² heat output. The lower, the more efficient the heat source will be.

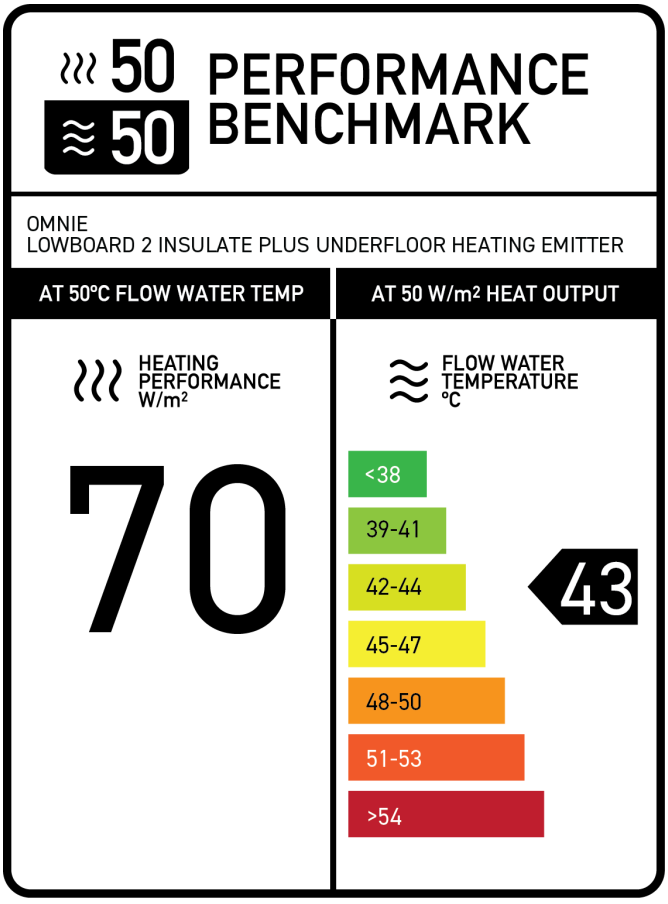
PRODUCT TESTING INFORMATION

Products have been independently tested. The outputs from pipe loops have been considered as well as straight sections.

- Outputs stated are based on a nominal 1 Tog floor finish, as if it were a carpet (a subfloor and support structure is required).
- Subfloor is insulated to the minimum stipulated by BS1264.
- Figures stated at a room temperature of 20°C and with a water flow and return dT of 7°C.

APPLICATION

- The published data is only a benchmark and not a statement of performance for a given project.
- Outputs can vary depending on materials used in the construction, such as the floor deck, insulation, or floor finish.
- Outputs will change with room temperature, flow and return temperature.
- The heat loss of a building will vary dependent on a number of factors so may be higher or lower than 50 W/m².



3. Installation Guidance

PLEASE READ THESE INSTRUCTIONS CAREFULLY AND ENSURE THAT THEY ARE CORRECTLY UNDERSTOOD. IF ASSISTANCE IS REQUIRED PLEASE CALL 01392 36 36 05

WATCH VIDEO OF THIS SYSTEM INSTALLATION ONLINE

3.1 Before you start

As OMNIE continues to develop and improve, it is recommended you check the OMNIE website (omnie.co.uk) for the latest information and instructions.

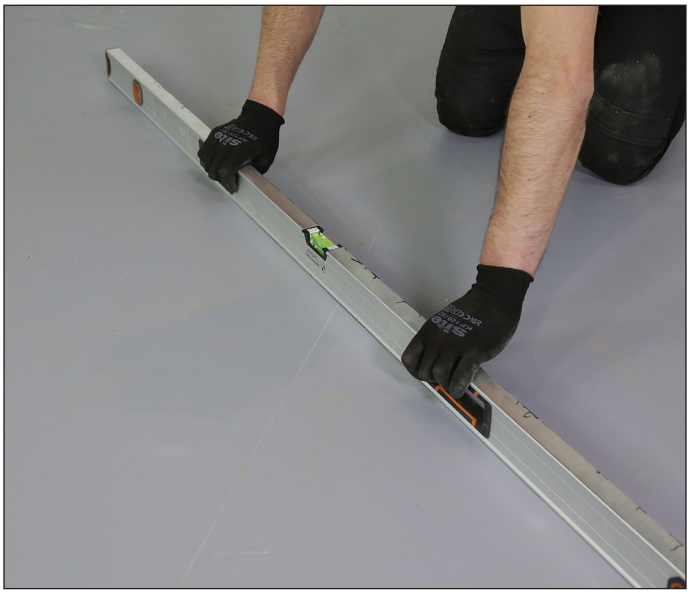
Where there are unheated flooring areas, blank and unrouted plain cover panels should be utilised. Do not use the printed cover panels for these unpiped/unheated areas.

Please read all stages of this install guide before proceeding with the installation.

Storage
If it is necessary to store the system once you have taken delivery, ensure it is kept in the following conditions:

- A dry, weathertight area.
- Out of direct sunlight.
- Away from sharp objects or chemical spillages.
- All panels must be stacked horizontally and raised off the ground and STORED FLAT.
- panels must not be exposed to moisture or high humidity.
- Ensure that all areas are correctly prepared, dry and protected from the weather.

3.2 Preparation



Ensure existing slab/floor deck meets at least SR2 (5mm deviation in 2m) requirements for floor regularity (BS8204) and preferably SR1 (3mm deviation in 2m).

IMPORTANT INFORMATION

The floor finish supplier/manufacturer may have their own requirements which should always take precedents.

WARNING - RISK OF INJURY TO PERSONS OR DAMAGE TO SYSTEM

When working with any woodfibre or insulation-based products, dust and particles become airborne and pose a hazard to health. This is particularly relevant when machining, cutting or routing. Please follow the relevant guidelines in the product safety datasheets (available on request) on reducing the risk of dust inhalation.

3.3 Installation of the lower panels

Following the OMNIE CAD design (if applicable) there will usually be a marked start point to lay the first panel (generally the furthest point from the door).

Leave a 10mm expansion gap between all LowBoard 2 panels and the wall edge (using a spacer).

RULE: LowBoard 2 panels can only be staggered in brick formation in fixed increments, 300mm (1/4), 600mm (1/2), and 900mm (3/4), this is important to maintain the cross-channel alignment.

Continue laying the panels along the floor in a 'run'. On following runs offset the panels by one channel increment to maintain the cross-panel alignment, be sure to keep return loops at the end of the run.

IMPORTANT INFORMATION

Some offcuts may need to be rotated 180° to maintain the cross-panel channels.

Where a pipe exits off a board into a flow and return channel, it may be necessary to cut/route a curve at the exit. This will allow the pipe to turn through 90°, this will relieve tension on the pipe and avoid the risk of kinking.

Accommodating multiple flow and returns

If within a room/area there are multiple flows and returns that cannot be accommodated in the pre-routed channel, use the following method:

For creating flow and return runs where pipe exits the end of the LowBoard 2 panels, lay 30mm x 12mm battens with a 75mm gap between battens. This will need to be repeated if more flow and return exit are required (see diagram).

Where the cover panel extends over the flow and return batten area, this will need to be clearly marked, this is to alert other trades to where UFH pipe is located.

Creating flow and return runs between panels

Leave a 150mm space between LowBoard 2 panels with a 30mm x 12mm battens along each edge of the panels and a middle 30mm x 12mm batten to create two flow and return access channel for two pipes in each run (see diagram).

Multiple flow and returns between panels

For extra flow and returns you can increase the space between the boards to a maximum of 300mm by adding 30mm x 12mm battens along both panel edges and a further two 30mm x 12mm battens spaced accordingly (see diagram) this will allow three flow and return runs each able to contain four pipes, twelve pipes in total.

It is important to follow the specific spacing to allow the cover panel to locate correctly after pipe has been installed.

3. Installation Guidance

Adhesive fixing method for LowBoard 2 Insulate

Where screws cannot be used to fix through the cover and lower panels into the subfloor to hold the system in place, adhesives are an alternative and can be used to bond the system to the subfloor, and the lower and cover panels together.

Bonding LowBoard 2 Insulate lower panel to a subfloor

There are different methods that can be used when fixing down the LowBoard 2 Insulate lower panel to a subfloor. It is always best to apply some of the chosen adhesive to a small area of the insulate lower panel to confirm there is no significant reaction occurring between the materials. Floor primer may be needed depending on the condition of the floor.

Contact Adhesive – suitable for a flat and level subfloor to SR1 standard

This is a fast way of bonding the panel to the subfloor, but the floor needs to be level and smooth, to SR1 standard (3mm gap in a floor with 2m straight edge laid over), across the entire area for this method to work well. If there are gaps between panel and subfloor greater than SR1 the lower panel may not properly bond to the subfloor. A consistent and even coverage of adhesive should be applied to the subfloor. The Insulate lower panel is then adhered to the subfloor.

Example products or equivalent:
Soudal contact adhesive spray
Tuskbond ONE – sprayable contact adhesive

Polyurethane foam adhesive – suitable for subfloor with some minor undulations

This is a type of expanding foam designed for bonding a large variety of building materials together. This type of foam has a low level of expansion and forms a highly sticky and compressible foam. Apply over the back of the insulate panel and press the panel down onto the floor. This method of gluing is able to accommodate some undulations in the subfloor, up to SR2 standard (5mm gap with 2m straight edge). Always follow the adhesive manufacturing recommendations regarding application techniques and drying times.

NOTE: This is not standard expanding foam. This must be a low expanding, yet high grab foam.

Example products or equivalent:
Soudal Soudabond easy adhesive foam
Soudal adhesive foam

Flexible Tile Adhesive – suitable for an uneven subfloor.

This is a good way of bonding the panel down if the floor is uneven or has any movement. Applying a layer of flexible adhesive absorbs undulations in the subfloor and provides a firm but flexible anchor to the Insulate lower panel. Remember if using a tile adhesive, the final height of the LowBoard 2 system will increase by the thickness of tile adhesive used. Apply the tile adhesive to the floor and press the panel down into the tile adhesive. A floor primer may be necessary before applying an adhesive. Wait for the adhesive to dry before completing the installation.

Example products or equivalent:
Soudal wall & floor tile adhesive
Mapei super flexible white tile adhesive

3. Installation Guidance

Bonding LowBoard 2 Cover panel to the Insulate Deck panel

With the Insulate lower panel in place the cover panel needs to be bonded to the lower panel. For this application use contact adhesive and spray the lower panel with a consistent and even coverage. The cover panel can then be applied to the lower panel and adjusted to be in the correct position before the glue hardens.

Example products or equivalent:
Soudal contact adhesive spray
Tuskbond ONE sprayable contact adhesive

3.4 Pipe installation

Starting at the manifold and referring to the OMNIE CAD design, insert the pipe into the LowBoard 2 panels, continue laying the pipe until all circuits have been laid.

The minimum temperature for laying the pipe should be +5°C.

NOTE: If the pipe work is kinked during the installation, the coil must be replaced or the pipe repaired with an OMNIE connector (if possible) and then pressure tested. No connections should be made unless fully accessible following the completion of the finished floor.

3.5 Pressure Testing

Once the LowBoard 2 lower panels and pipe have been laid, the circuits should be hydraulically pressure tested and kept under pressure while the LowBoard 2 cover panels are installed.

If this is not possible, the pressure test must be carried out for a second time once the covering deck has been installed.

Refer to OMNIE's pressure test guide for full pressure testing guidelines (GTG-OMKT0012-0124).

3.6 Laying the cover panels

Cover panels should be offset by minimum of one increment in both directions (see diagram). This will naturally create an overlapping brick formation over the LowBoard 2 panels and pipe. Trim excess material accordingly, continue until the floor is complete.

IMPORTANT INFORMATION

If printed LowBoard 2 cover panels are used on un-heated areas, be aware there may not be enough printed LowBoard 2 cover panels complete the floor so careful planning as to where the use of the plain cover panels are required.

3. Installation Guidance

With products supplied there will be a quantified number of un- printed and un-routed plain cover panels, 1200mm x 600mm 6mm woodfibre panels. These must be used for unheated areas i.e.. under kitchen units baths, toilets and some bedroom cupboards (areas where there is no UFH pipe).

Cover panels should be offset by minimum of one increment in both directions (see diagram). This will naturally create an overlapping brick formation over the LowBoard 2 panels and pipe. Trim excess material accordingly, continue until the floor is complete.

If printed LowBoard 2 cover panels are used on un-heated areas, be aware there may not be enough printed LowBoard 2 cover panels complete the floor so careful planning as to where the use of the plain cover panels are required.

With products supplied there will be a quantified number of un- printed and un-routed plain cover panels, 1200mm x 600mm 6mm woodfibre panels. These must be used for unheated areas i.e.. under kitchen units baths, toilets and some bedroom cupboards (areas where there is no UFH pipe).

If plain cover panels are used to cover flow and return pipework then the visible surface must be clearly marked for others and future trades to see. Secure all LowBoard 2 cover panels in place.

Anywhere a cover panel spans flow and return pipework you will need to mark on the cover panel that this is a danger area for screws/nails. This should be marked as clear as possible for others and future trades to see.

If you are able to, use optional 40mm deck fixing screws to secure lower panel to subfloor as required. Care should be taken to check and avoid any pipe or cables below. OMNIE recommend using a minimum of x15 screws per panel and following finished floor manufacturer's recommendations.

3.7 Bonding the cover panel to the Insulate lower panel

With the Insulate lower panel in place the cover panel needs to be bonded to the deck panel. For this application use contact adhesive and spray the lowe panel with a consistent and even coverage. The cover panel can then be applied to the lower panel and adjusted to be in the correct position before the glue hardens.

3.8 Notes on Start-up

During the initial heat up, the mixing valve should be set to supply temperature of between 20°C and 25°C which needs to be maintained for at least three days. After this period, the flow temperature can then be increased to the design maximum and should be held for a further four days to complete the process.

Always refer to the flooring manufacturer's instructions.

OMNIE.

OMNIE Limited, Melrose House,
Pynes Hill, Exeter, Devon EX2 5AZ

OMNIE Limited is part of the
Ridgespear Group of companies
whose address is Melrose House,
Pynes Hill, Exeter, Devon, EX2 5AZ

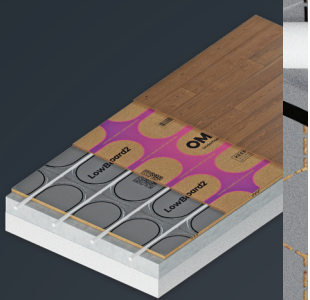
www.omnie.co.uk
01392 36 36 05

Standard

Woodfibre
Minimal build-up height

For low build-up or floating floors

Panel thickness: 18mm
Weight with water: 15kg/m2
Pipe centres: 150mm using 12mm pipe
Dimensions:
Cover Panel: 1200 x 600mm
Deck Panel: 1200 x 600mm

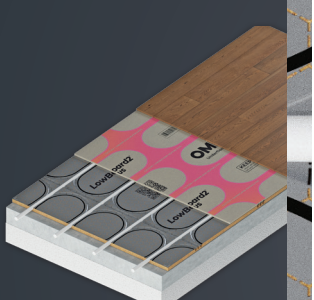


Plus

Woodfibre + Cement Particle Board
Enhanced strength and stability

For low build-up or floating floors

Panel thickness: 20mm
Weight with water: 17kg/m2
Pipe centres: 150mm using 12mm pipe
Dimensions:
Cover Panel: 1200 x 600mm
Deck Panel: 1200 x 600mm



Insulate

EPS + Woodfibre
For uninsulated subfloors

For solid or suspended
uninsulated subfloors

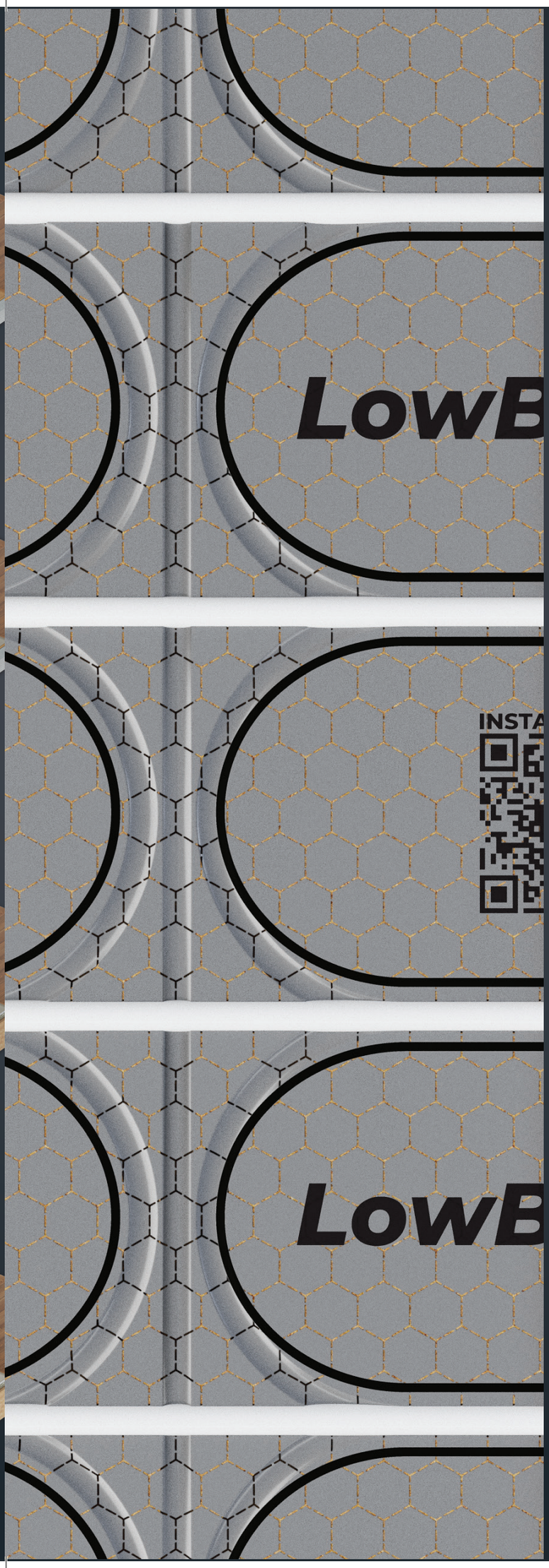
Panel thickness: 22mm
Weight with water: 15kg/m2
Pipe centres: 150mm using 12mm pipe
Dimensions:
Cover Panel: 1200 x 600mm
Deck Panel: 1200 x 600mm

Insulate Plus

EPS + Cement Particle Board
For uninsulated subfloors and
tiled floor finishes.

For solid or suspended
uninsulated subfloors

Panel thickness: 24mm
Weight with water: 17kg/m2
Pipe centres: 150mm using 12mm pipe
Dimensions:
Cover Panel: 1200 x 600mm
Deck Panel: 1200 x 600mm



OMNIE.

LowBoard2®

Thinner than a 5p piece.

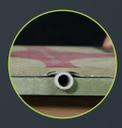
Reduces installation risk and delivers the highest heat output with the lowest possible build-up.

14% thinner than our previous model, LowBoard 2 offers a build-up height of just 18mm for a fully encased underfloor heating system to lay over an existing insulated floor.

LowBoard 2 features two distinctive routed panels that perfectly align around the water pipe, providing a surface ready for the floor finish to be laid over.

AL HEX Heat Diffuser

High heating performance and fast warm up times as the diffuser wraps around the warm water pipe.

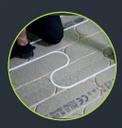


Locator Technology

Panels click in place over pipe. Pipe is encapsulated by upper and lower panels for maximum heat output.

Printed Cover Panel

Risk-free installation as pipe channel pattern is visible on surface layer.



Omni-directional Pipe Channel Pattern

Fast and flexible installation, lay the pipe in any direction.

Finished floor ready.
No additional covering layers needed.

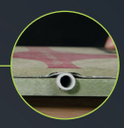
18mm

AL HEX Heat Diffuser

High heating performance and fast warm up times as the diffuser wraps around the warm water pipe.

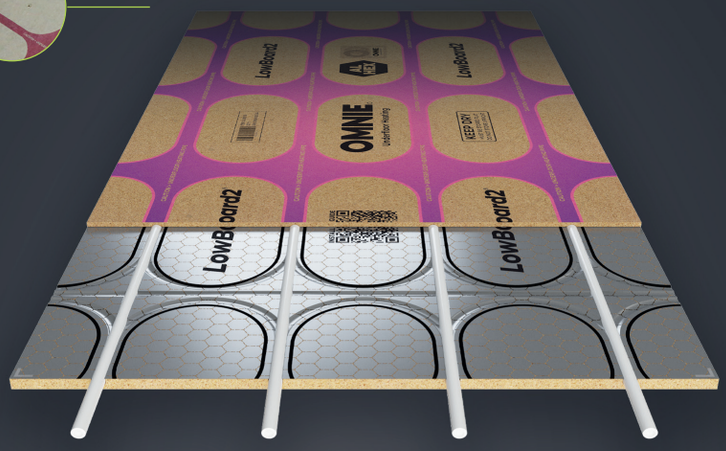
Locator Technology

Panels click in place over pipe. Pipe is encapsulated by upper and lower panels for maximum heat output.

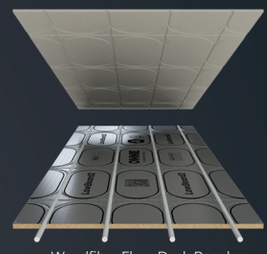


Printed Cover Panel

Risk-free installation as pipe channel pattern is visible on surface layer.



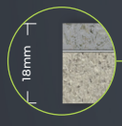
Woodfibre Cover Panel



Woodfibre Floor Deck Panel with AL HEX foil diffuser

Ultra Thin Profile

Only 18mm in depth to finished floor deck.

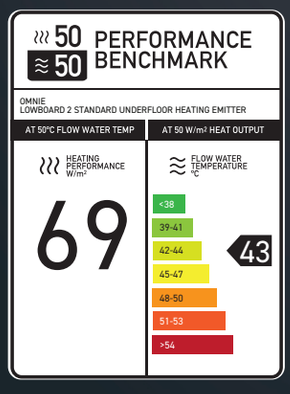


Omni-directional Pipe Channel Pattern

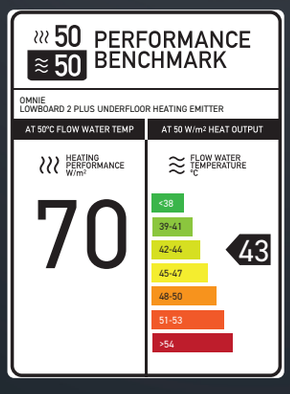
Fast and flexible installation, lay the pipe in any direction.

Fully encased underfloor heating system to lay over an existing floor with insulation option. Delivers superior heating performance while keeping installation risk and construction height to a minimum.

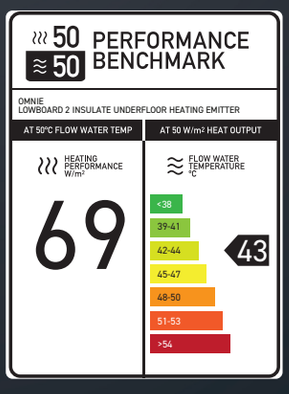
Standard



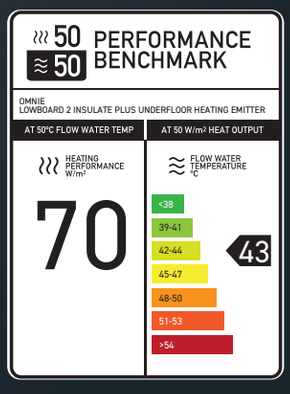
Plus



Insulate



Insulate Plus



omnie.co.uk

A RIDGESPEAR GROUP COMPANY

N > UNDERFLOOR HEATING PIPE

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Underflo

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MUST BE

DO NOT ST

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