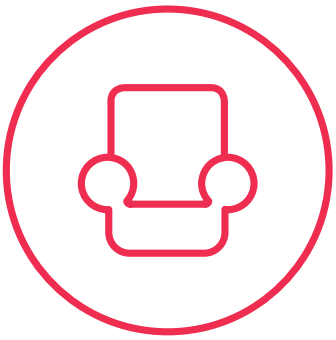
thermo Sphere

HEATING | FLOOR | TILE | STONE

Excellence in heating solutions.

The benefits of underfloor heating



Comfortable heat

Energy efficiency

Accurate control

Reduces allergy symptoms

Warm floors

Zero maintenance

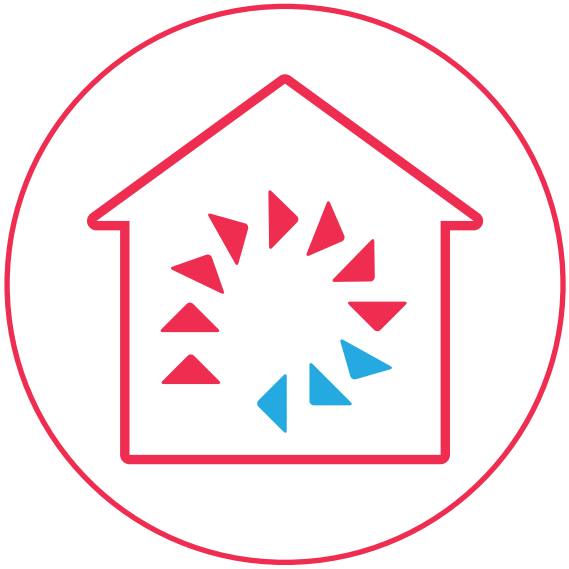
Best heating method

Rapid heat up time

Interior design freedom

What are the benefits of electric underfloor heating with tile and stone floors?

An electric underfloor heating system provides an energy efficient, on demand heating system as well as interior design flexibility that improves comfort and space for everyone.

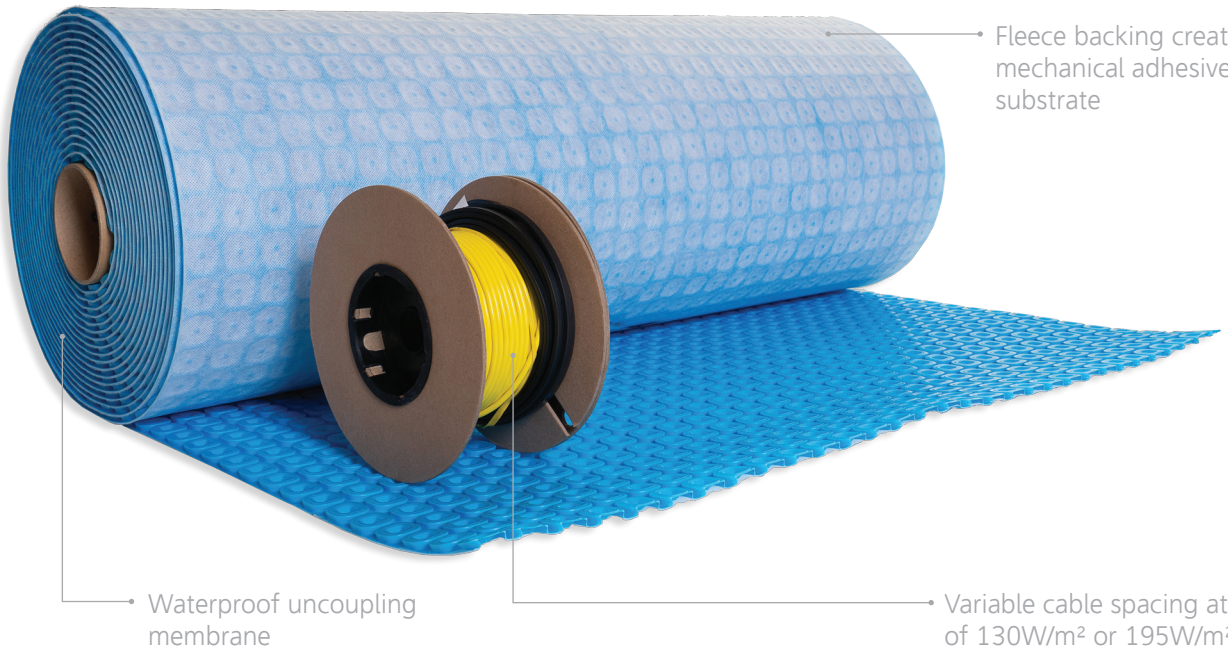


Radiators

- ✗ Inefficient convection heating
- ✗ Traditional radiators distribute heat unevenly throughout a room, resulting in drafts, hot heads and cold feet.
- ✗ Heating in this way usually means your thermostat has to be set to a higher temperature to achieve the desired comfort level, which increases heat loss and energy bills.

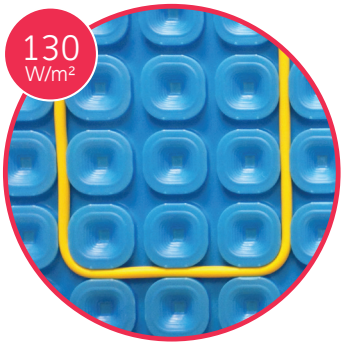
Underfloor Heating

- ✓ Improved efficiency and comfort
- ✓ Underfloor heating provides a comfortable, even temperature throughout the room.
- ✓ If the heating system is under the whole floor you can save money through lowering the ambient temperature by 2°C without loss of comfort!
- ✓ You can free up wall space creating more freedom of design for your interiors.



Combined underfloor heating and uncoupling system

ThermoSphere heating and uncoupling membrane is a proven combined electric underfloor heating and uncoupling system. Rated for extra heavy use, ThermoSphere membrane is one of the most robust heated uncoupling systems available.



130w/m²: Perfect for a primary heat source when covered 85% of the floor area

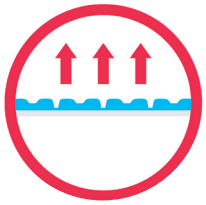
195w/m²: Designed for areas of higher heat loss like conservatories.

LIFETIME WARRANTY

ThermoSphere heating solutions are covered by our lifetime warranty when you register your system online.

ThermoSphere membrane for tile and stone floors

Quick and easy installation of a heated waterproof floor built to withstand movements in the substrate and protect your tile installation from damage.



Underfloor heating

The membrane is designed to hold ThermoSphere membrane heating cables at variable spacing depending on the required output.
Output of 130W/m² (3 dimples) or 195W/m² (2 dimples).

Uncoupling layer

Neutralises the stress caused by different rates of expansion and contraction in a tiled floor. This minimises the risk of tile delamination and cracking.

Superior vapour management

The studs and fleece backing in the membrane allow water vapour to escape effectively. This means you can save time by tiling over a substrate that is not fully cured.

Easy waterproofing

A fast and easy way to create a heated wetroom. ThermoSphere membrane can be installed on walls as well as floors and sealed with the ThermoSphere waterproofing kit.

Efficient load distribution

Heavy loads are no problem for floors that include a layer of ThermoSphere membrane. The stud structure transfers the load to the sub floor without risking cracks. Suitable for use in high traffic areas.

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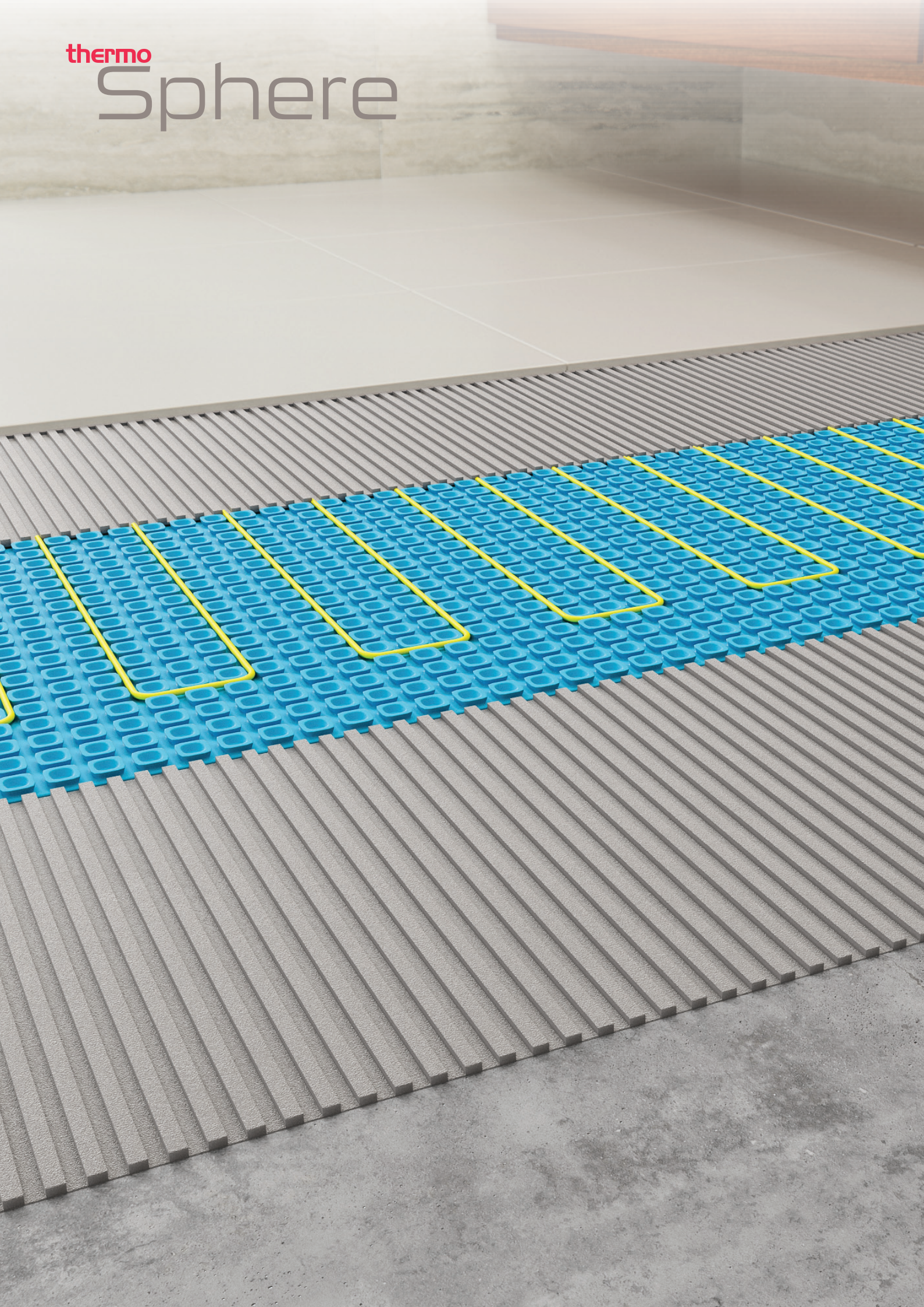
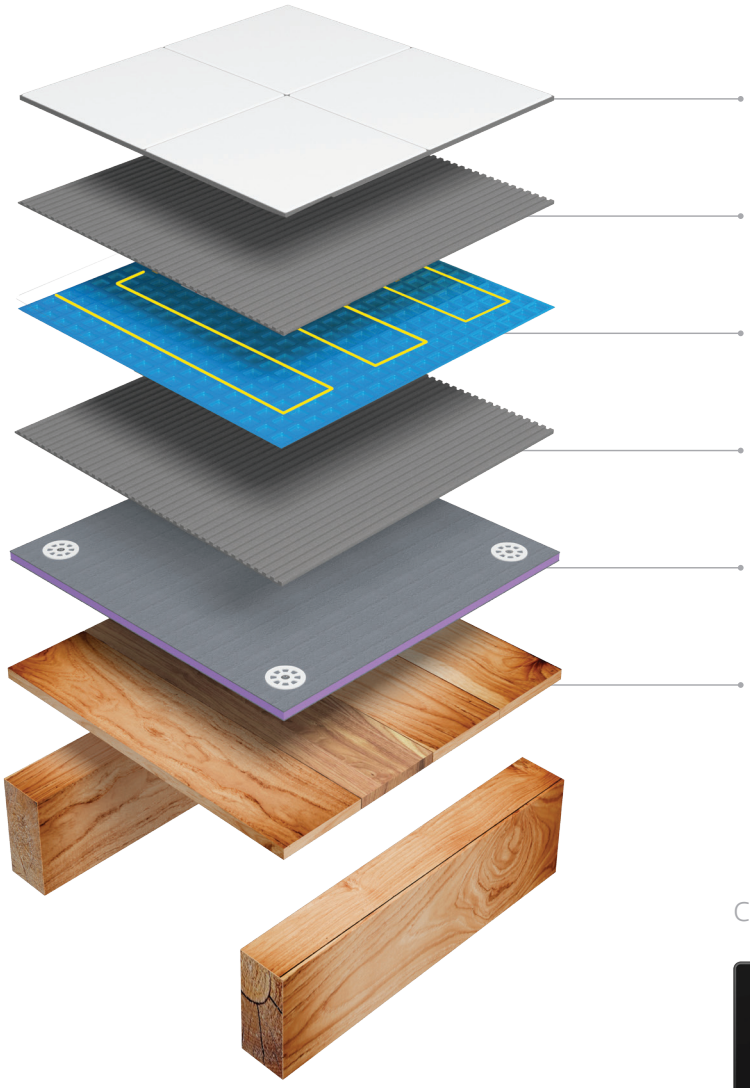
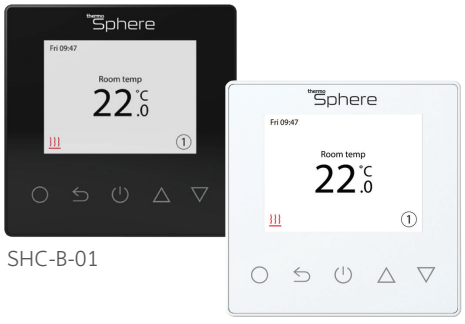


Our recommended solution

Adds just 5.5mm to a tiled floor build up. Additional timber insulation can be included if required. Tile directly over the membrane with a flexible tile adhesive.



Compatible with ThermoSphere SmartHome Control



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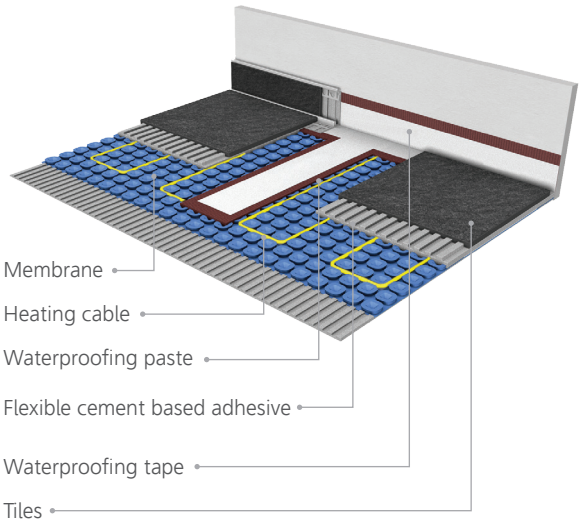
Other compatible floor build up solutions

ThermoSphere heating and uncoupling membrane is designed for use under tiles and can be installed over a variety of substrates.

Heated wetrooms installation



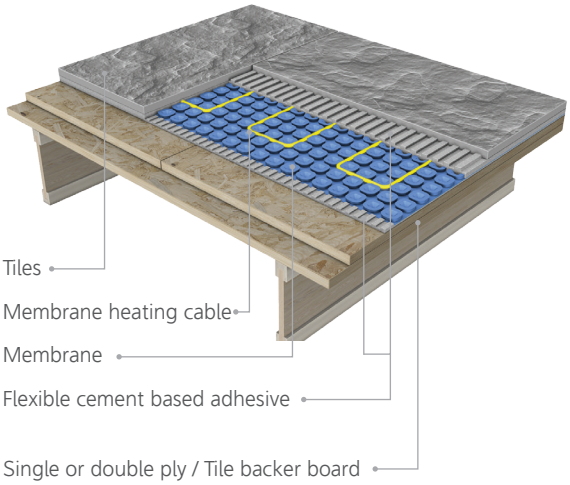
If a timber, concrete or anhydrite screed is exposed to moisture the tile layer above can become damaged and completely delaminate as a result.

Typical areas that require waterproofing include wet rooms, bath tub surrounds and showers. There are also environments where dishwashers, washing machines and water tanks are installed that could benefit from a waterproof floor if they became damaged and leaked.

Waterproofing these areas will help to prevent the delamination of tile coverings in the event of water ingress.

Install a layer of ThermoSphere membrane and seal all edges and penetrations with ThermoSphere sealing tape to create a totally waterproof subfloor.

Single or double ply over a ceiling void

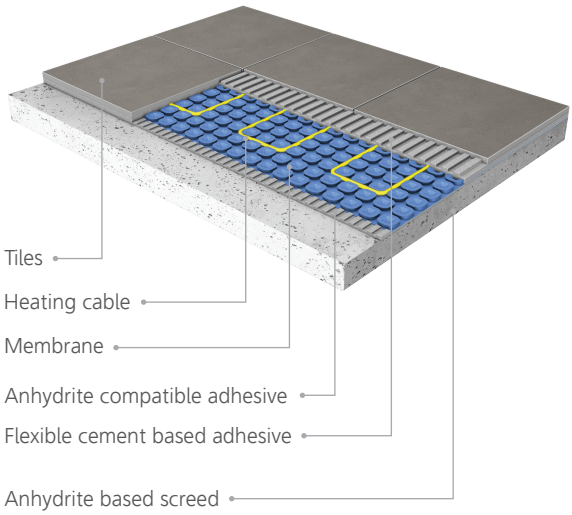


Plywood panels are vulnerable to moisture and large changes in humidity which can cause expansion, contraction, bending and deflection.

As a result the timber structure has a different coefficient of expansion to tiled finishes such as porcelain, natural stone and granite, and these changes can cause stresses and tensions in the floor fabric.

ThermoSphere membrane uncouples the tension between timber substrates and tiled finishes which allows you to install tiles on timber floors without the threat of delamination and cracking.

Anhydrite based screed installation

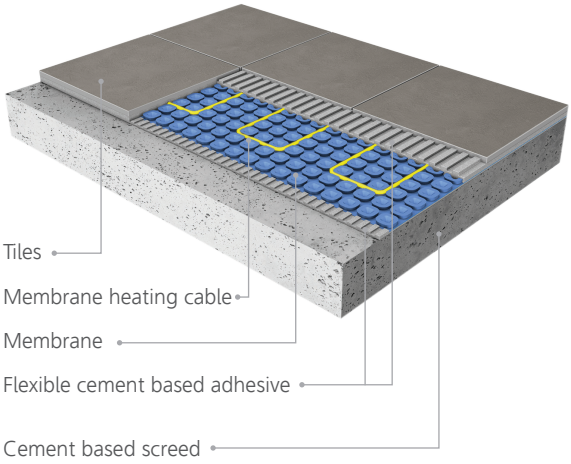


Regulations state that anhydrite (calcium sulfate) screeds must have a residual moisture level below 0.5% before tiling can begin. Failure to observe these guidelines can result in delamination and detachment of the tiles.

Anhydrite is very sensitive to humidity, has long curing times and expands/contracts at different rates to tiled floor finishes.

When installing ThermoSphere membrane and heating cable, tiles can be laid as soon as the residual moisture level falls below 2%, saving time and money. ThermoSphere membrane also prevents tensions between the substrate and floor finish, preventing cracks and delamination issues.

Insulated concrete screed substrate



The curing process of concrete screeds can bring about long term form changes in the substrate resulting in tensions between the substrate and floor finish. These tensions can lead to cracking and delamination.

Concrete expands and contracts at a different rate to tiled finishes such as porcelain, natural stone and granite, and these changes in temperature can also case stresses and tensions in the floor fabric.

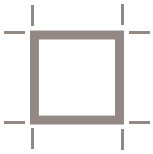
ThermoSphere membrane uncouples the tension between the substrate and tiled finish which allows you to install tiles as soon as the concrete has reached a suitable level of stability.

Specifying your system

Follow these simple steps to calculate and specify everything you need for your ThermoSphere heating and uncoupling system.

For most applications 130W/m² is sufficient as a primary heat source.

1



Measure the total floor area accurately

2

Calculate the heated area by subtracting fixtures

3

Draw your room to visualise the layout

4

Decide which output you require - 130W/m² or 195W/m² (as shown on page 4) and multiply by the sqm arrived at in step 2

5

Purchase a heating cable that provides your total output calculated in step 4

6

Purchase enough membrane to cover the whole floor area

7

Choose a thermostat to control your system

8

Register the warranty online and share your install with us online

ThermoSphere membrane

Specify enough membrane to cover the whole floor

Stock Code	Description	Size	Unit
HDM-005	Decoupling Membrane 5m²	5 x 1m	Roll
HDM-015	Decoupling Membrane 15m²	15 x 1m	Roll

ThermoSphere membrane heating cables

Select a cable to fit the heated area at the output per m² that you require. Use 3 row spacing for 130Wm² or 2 row spacing for 195Wm²

Stock Code	Length (m)	Area 130Wm² (m²)	Area 195Wm² (m²)	Output (W)	Resistance (Ω)
HDMC-012-0150	12	1.15	0.8	150	352.7
HDMC-018-0225	18	1.73	1.15	225	235.1
HDMC-025-0300	25	2.31	1.54	300	176.3
HDMC-031-0375	31	2.88	1.92	375	141.1
HDMC-037-0450	37	3.46	2.31	450	117.6
HDMC-050-0600	50	4.62	3.08	600	88.2
HDMC-061-0750	61	5.77	3.85	750	70.5
HDMC-075-0900	75	6.92	4.62	900	58.8
HDMC-100-1200	100	9.23	6.15	1200	44.1
HDMC-125-1500	125	11.54	7.69	1500	35.3
HDMC-150-1800	150	13.85	9.23	1800	29.4
HDMC-200-2400	200	18.46	12.31	2400	22.0

Waterproofing accessories

Stock Code	Description	Coverage		Size	Unit
HDM-WP-01	Waterproofing Paste	Joins: 300g/lm	Membrane: 4kg/m²	5kg	Bucket
HDM-WT-01	Waterproofing Tape	10lm		10m	Roll

Installation overview

Spread adhesive on the substrate

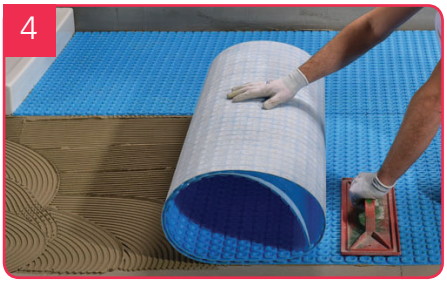
Mix a compatible flexible cement based tile adhesive according to the manufacturer instructions and spread over the substrate using a 6mm notched trowel.

Apply membrane

Cut a length of membrane suitable for your room and lay over the adhesive. Press the membrane down immediately using a trowel or roller with even pressure.

Check adhesive coverage

Peel back a small section of the membrane to check that the back side is fully covered in adhesive. In the case of partial coverage, apply more adhesive or adjust the mix.

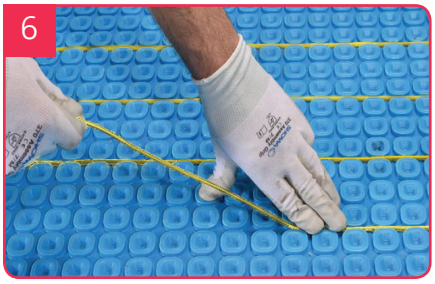


Cut and lay the next sheet of membrane

Follow steps 1-3 to lay sheets of membrane until the floor is totally covered, without overlapping. Align the dimples to facilitate heating cable installation.

Installing cold tails and floor temperature sensor

Insert the cold tail and temperature sensor(s) into the conduit from the base of the wall up to the thermostat electrical back box.



Heating cable in the membrane

Press the heating cable into the membrane using a float or roller. Observe the recommended spacing of 2 or 3 rows. Take care not to damage the cable.

130W/m² cable spacing

For an output of 130W/m² use 3 row spacing. Never cross the heating cables.

195W/m² cable spacing

For an output of 195W/m² use 2 row spacing. Never cross the heating cables.

Waterproofing

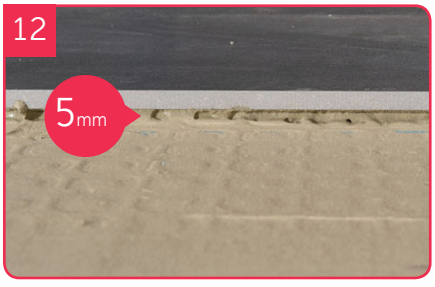
Cut a length of waterproofing fixing tape and apply strong pressure to push it into the adhesive layer to ensure a good seal. Avoid creating any creases.

Spread adhesive on the membrane

Tiles can be laid immediately after installing the heating cables. Use the flat side of the trowel to fill the cavities of the membrane with class S2 adhesive. Apply another layer of adhesive large enough for one tile with a trowel.

Apply adhesive to the back of the tile

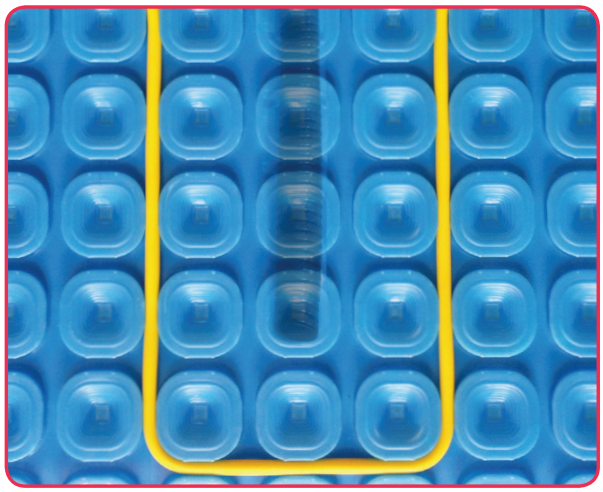
Apply adhesive to the back of the tile with the notched trowel and lay tiles on the layer of adhesive previously applied. Remove some tiles and check the back of the tile is fully covered with adhesive. Apply more if required.



Check adhesive thickness

According to building regulations, heating cables must be covered with a 5mm layer of adhesive. Check that your adhesive layer complies with these guidelines.

Floor sensor probe location



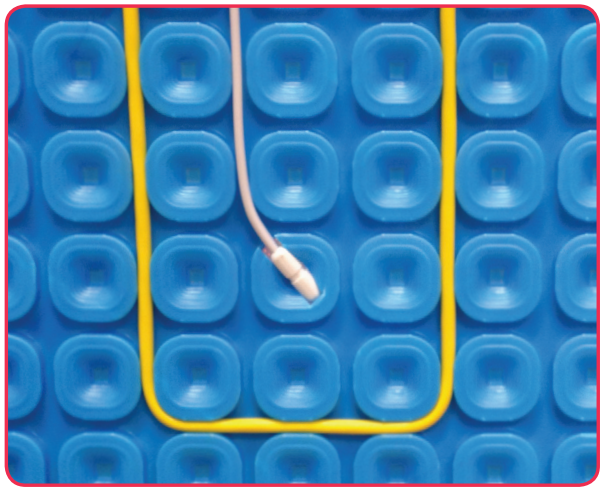
Method 1: Sensor under the membrane

If you have purchased a ThermoSphere control the sensor and conduit will be included in the box.

The floor sensor should be installed inside the supplied conduit, directly in the floor below the membrane.

The end of the sensor should be positioned in between two runs of heating cable, away from temperature influences such as water pipes and large glazed elevations.

Angle of the conduit between wall and floor should be minimum radius of 50mm curve.



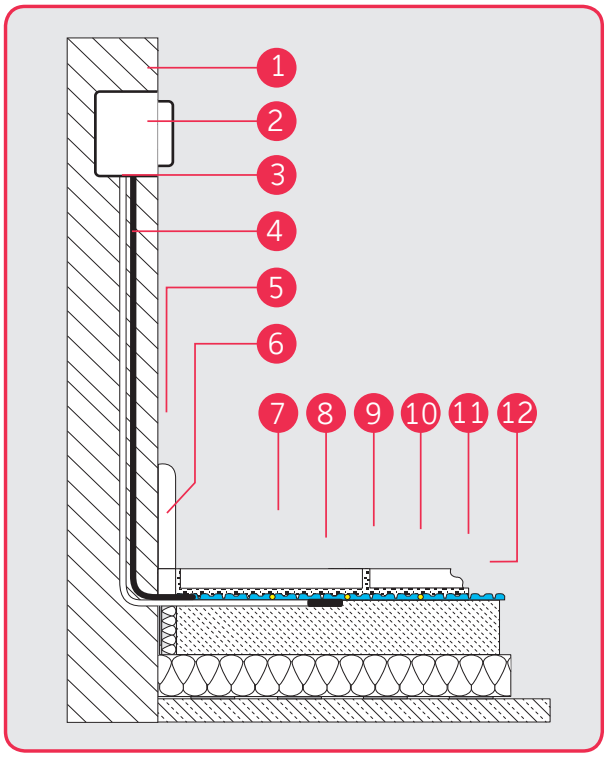
Method 2: Sensor in the membrane

If you have purchased a ThermoSphere control the sensor and conduit will be included in the box.

The floor sensor should be directly in between the dimples on the membrane. To fit the end of the sensor, you'll need to cut a groove into one of the dimples to hold the sensor probe in place.

The end of the sensor should be positioned in between two runs of heating cable, away from temperature influences such as water pipes and large glazed elevations.

When installing the sensor in the membrane you should install a spare sensor as it will be embedded in tile adhesive and cannot be changed. Do not connect the spare sensor to your thermostat until needed.



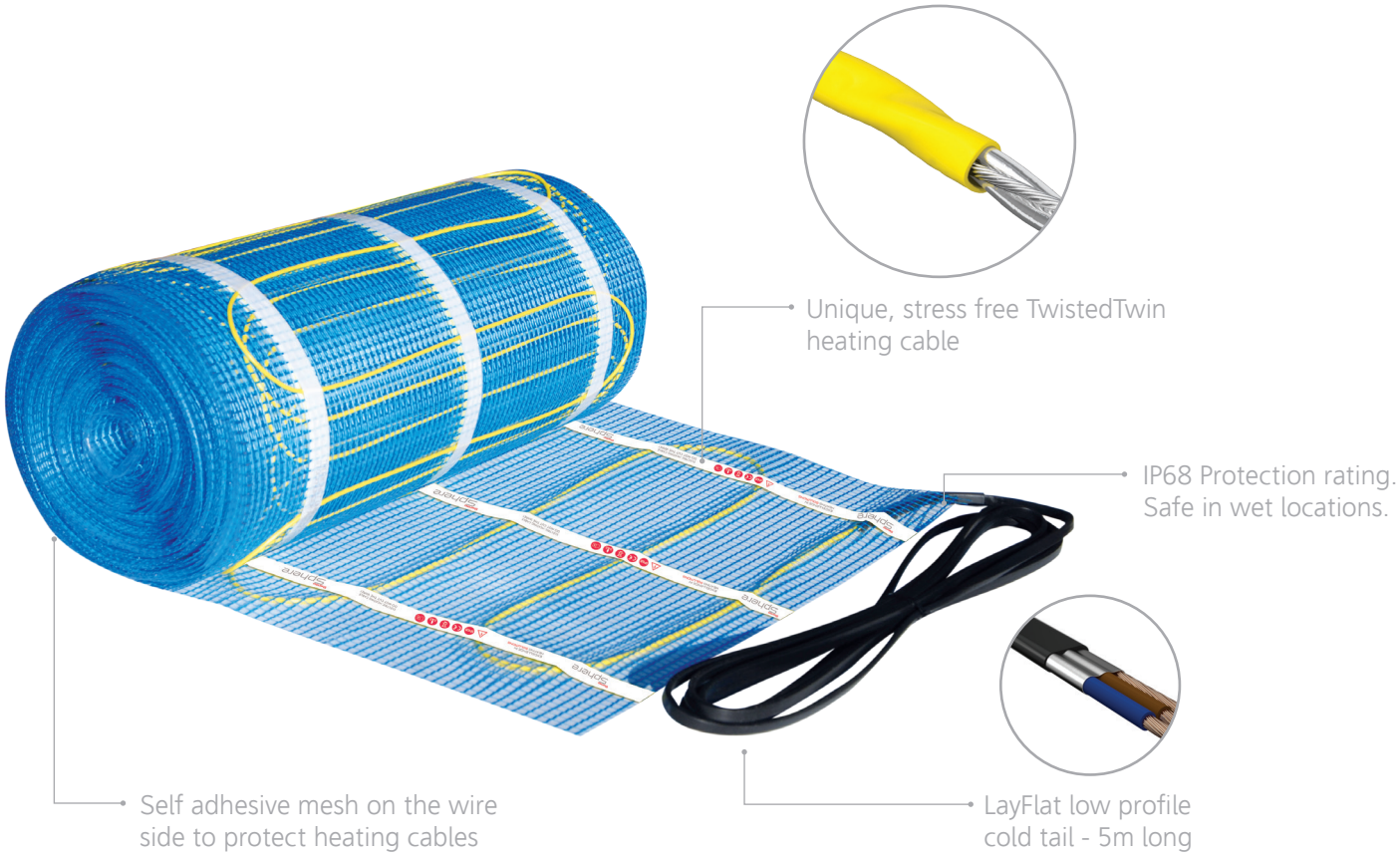
Thermostat location and floor build up

1. Thermostat and back box
2. Existing wall structure
3. Sensor probe and conduit
4. Heating cable cold tail
5. Skirting board
6. Edge insulation strip or perimeter movement joint
7. Tiled floor finish
8. Floor temperature sensor (installed under membrane)
9. Flexible tile adhesive
10. Heating cable
11. Uncoupling membrane
12. Prepared substrate

Extending the cold tail and sensor probe

Cold tails can be extended using a twin core and earth electrical flex, suitably sized to take the load of your heating system.

The sensor probe can be extended, to a maximum of 50m, using a twin core 0.75mm flex.



Electric underfloor heating mesh

ThermoSphere mesh stands alone as the very best electric underfloor heating mesh. The self adhesive backing speeds up installation by holding the mesh to the substrate for easy self levelling and tile fixing. Our TwistedTwin cable construction creates a longer lasting heating cable by minimising stresses within the cable construction. It also elimantes electro magnetic field (EMF) making ThermoSphere mesh the safest and most reliable choice.

LIFETIME WARRANTY

ThermoSphere heating solutions are covered by our lifetime warranty when you register your system online.

Electric underfloor heating mesh designed for easy installation under tile and stone floors

TwistedTwin cable construction

The unique stress free cable construction creates a longer lasting heating cable with zero electromagnetic field.

Full self adhesive mesh

The self adhesive mesh speeds up installation by holding ThermoSphere mesh to the substrate for easy self levelling and tile fixing.

Heating cable protection

ThermoSphere mesh is installed wire-side-down which means the heating cable is protected from damage during installation by the hard wearing mesh.

Low profile cold tail

Lay flat, technology makes installing ThermoSphere mesh easy. The cold tail is only 4mm thick so can be concealed within the tile adhesive layer.

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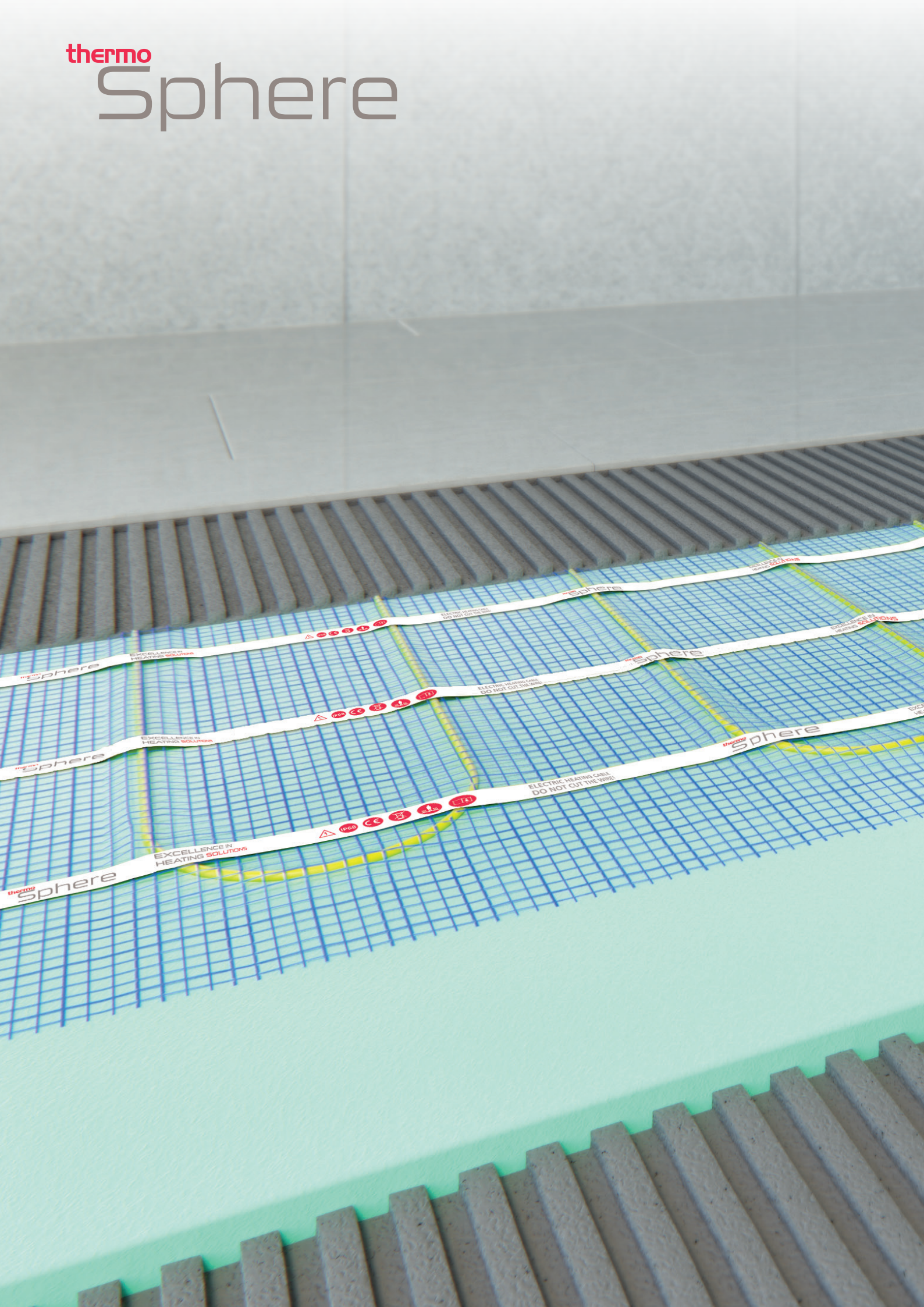
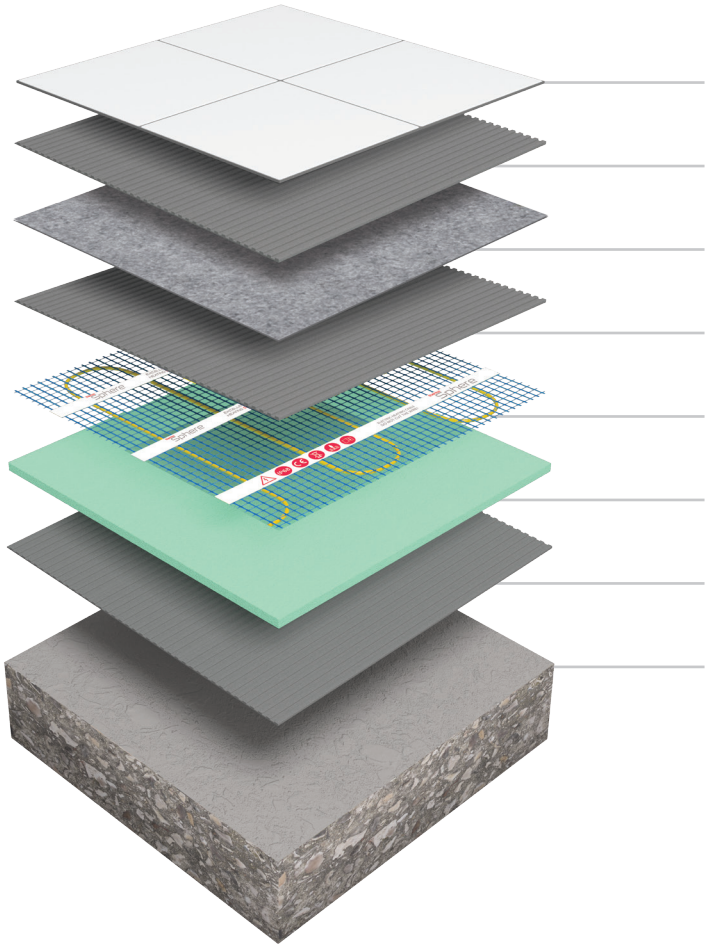
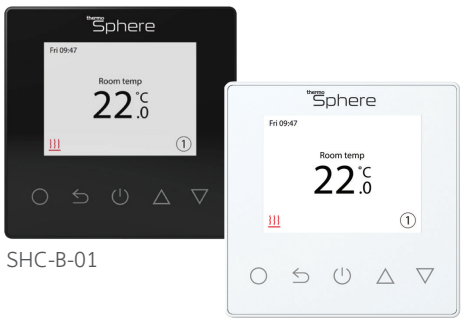


Our original solution

ThermoSphere mesh is designed for installation under tiled and stone floors. The heating cable is protected by the mesh and can be tiled over directly.



Compatible with ThermoSphere SmartHome Control



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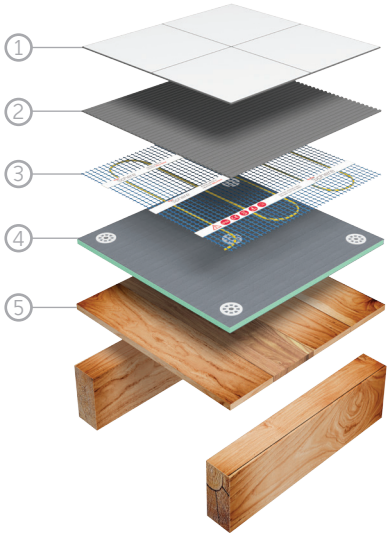
*Uncoupling membrane should be installed with underfloor heating as referenced in BS 5385-5:2009

Other floor build up solutions

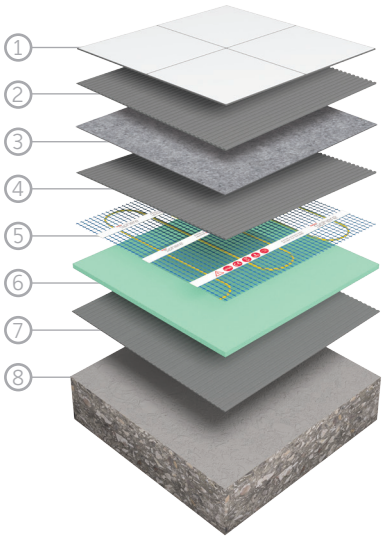
Electric underfloor heating mesh is recommended for tile and stone floors, but can be used in almost any type of floor specification including carpet, vinyl, even wet rooms.

Tiled floor finish on a timber substrate



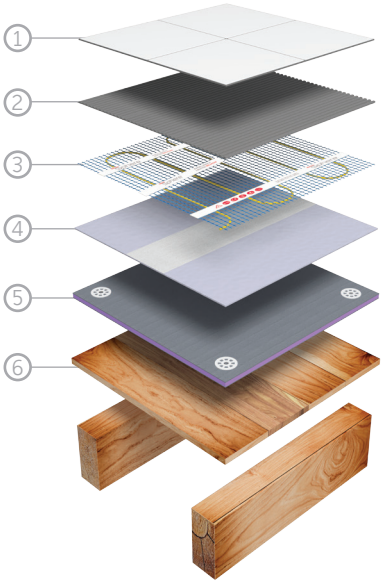
1. Tiled floor finish
2. Flexible tile adhesive
3. Heating mesh
4. Coated insulation
5. Timber substrate

Tiled floor finish on a concrete substrate



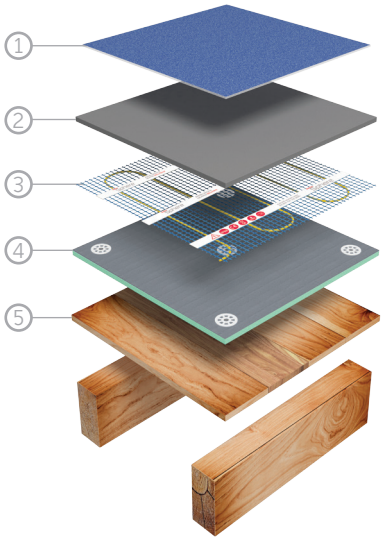
1. Tiled floor finish
2. Flexible tile adhesive
3. Uncoupling membrane
4. Flexible tile adhesive
5. Heating mesh
6. Uncoated insulation
7. Flexible tile adhesive
8. Prepared concrete substrate

Tiled floor finish with a waterproof tanking layer



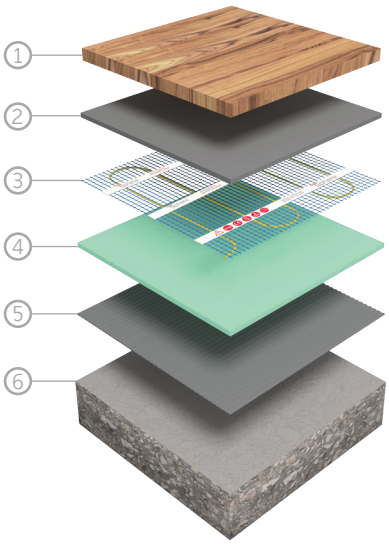
1. Tiled floor finish
2. Flexible tile adhesive
3. Heating mesh
4. Waterproof tanking system
5. Coated insulation
6. Timber substrate

Vinyl floor finish with self levelling compound



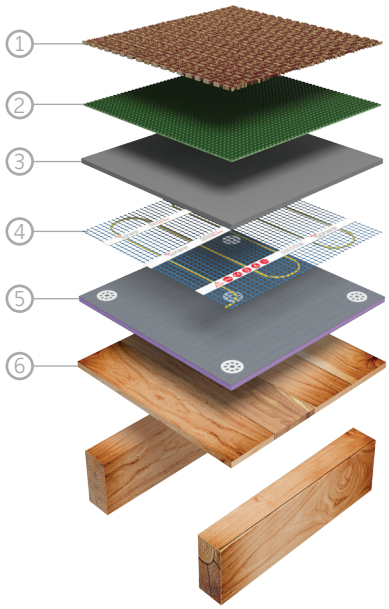
1. Bonded vinyl floor finish
2. Flexible self levelling compound**
3. Heating mesh
4. Coated insulation
5. Timber substrate

Engineered timber floor with levelling compound



1. Engineered timber floor finish
2. Flexible self levelling compound**
3. Heating mesh
4. Uncoated insulation
5. Flexible tile adhesive
6. Prepared concrete substrate

Carpet and underlay on a timber substrate



1. Carpet floor finish[1]
2. Low tog underlay[1]
3. Flexible self levelling compound**
4. Heating mesh
5. Coated insulation
6. Timber substrate

**Minimum recommended thickness of 10mm. above cables.

[1]Max tog rating of carpet and underlay: 2.5 Tog.

ThermoSphere mesh 100W/m²

The self adhesive mesh speeds up installation by holding the mesh to the substrate for easy self levelling and tile fixing and the TwistedTwin cable construction creates a long lasting electric underfloor heating system.

Stock Code	Size (m)	Area (m²)	Output (W)	Resistance (Ω)
TSM-100-0150	3 x 0.5	1.5	150	353
TSM-100-0200	4 x 0.5	2.0	200	265
TSM-100-0250	5 x 0.5	2.5	250	212
TSM-100-0300	6 x 0.5	3.0	300	176
TSM-100-0350	7 x 0.5	3.5	350	151
TSM-100-0400	8 x 0.5	4.0	400	132
TSM-100-0500	10 x 0.5	5.0	500	106
TSM-100-0600	12 x 0.5	6.0	600	88
TSM-100-0800	16 x 0.5	8.0	800	66
TSM-100-1000	20 x 0.5	10.0	1000	53

ThermoSphere mesh 200W/m²

Faster heat up time for more demanding areas. Ideal for wetrooms and conservatories.

Stock Code	Size (m)	Area (m²)	Output (W)	Resistance (Ω)
TSM-200-0100	2 x 0.5	1.0	200	265
TSM-200-0150	3 x 0.5	1.5	300	176
TSM-200-0200	4 x 0.5	2.0	400	132
TSM-200-0250	5 x 0.5	2.5	500	106
TSM-200-0300	6 x 0.5	3.0	600	88
TSM-200-0350	8 x 0.5	4.0	800	66
TSM-200-0400	10 x 0.5	5.0	1000	53
TSM-200-0500	12 x 0.5	6.0	1200	44
TSM-200-0600	14 x 0.5	7.0	1400	38
TSM-200-0700	16 x 0.5	8.0	1600	33
TSM-200-0800	18 x 0.5	9.0	1800	29
TSM-200-1000	20 x 0.5	10.0	2000	26
TSM-200-1200	24 x 0.5	12.0	2400	22

ThermoSphere mesh 150W/m²

Designed to provide a primary heat source in adequately insulated properties with 85% floor coverage.

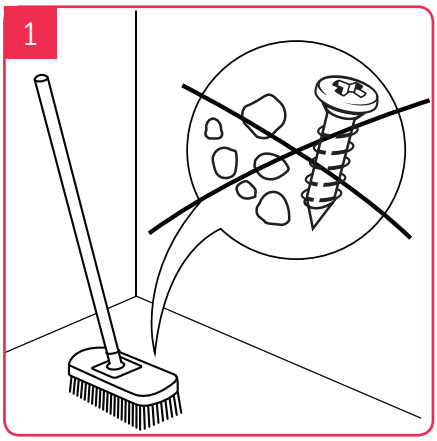
Stock Code	Size (m)	Area (m²)	Output (W)	Resistance (Ω)
TSM-150-0100	2 x 0.5	1.0	150	353
TSM-150-0150	3 x 0.5	1.5	225	235
TSM-150-0200	4 x 0.5	2.0	300	176
TSM-150-0250	5 x 0.5	2.5	375	141
TSM-150-0300	6 x 0.5	3.0	450	118
TSM-150-0350	7 x 0.5	3.5	525	101
TSM-150-0400	8 x 0.5	4.0	600	88
TSM-150-0450	9 x 0.5	4.5	675	78
TSM-150-0500	10 x 0.5	5.0	750	71
TSM-150-0600	12 x 0.5	6.0	900	59
TSM-150-0700	14 x 0.5	7.0	1050	50
TSM-150-0800	16 x 0.5	8.0	1200	44
TSM-150-0900	18 x 0.5	9.0	1350	39
TSM-150-1000	20 x 0.5	10.0	1500	35
TSM-150-1200	24 x 0.5	12.0	1800	29
TSM-150-1400	28 x 0.5	14.0	2100	25
TSM-150-1600	32 x 0.5	16.0	2400	22

LIFETIME WARRANTY

ThermoSphere heating solutions are covered by our lifetime warranty when you register your system online.

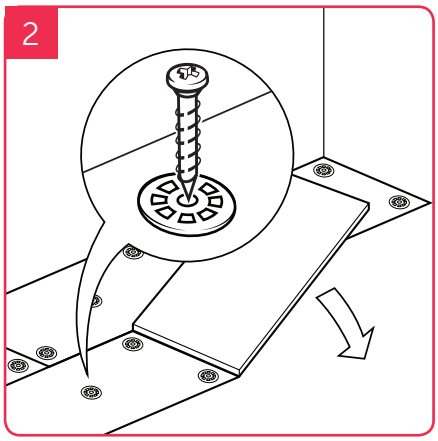
Installation overview

ThermoSphere electric underfloor heating mesh is quick and easy to install. This overview gives a guide to the basics. Always read the instructions in full before attempting your own installation.



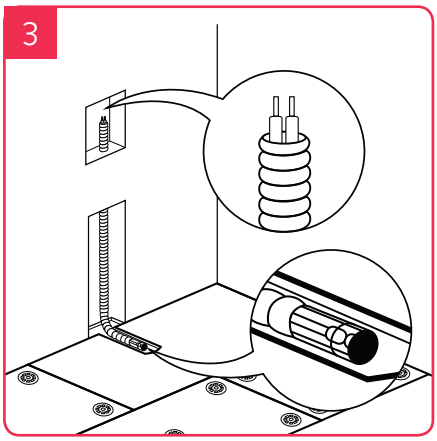
Prepare substrate

Ensure the substrate is clean, dry, stable and free from debris



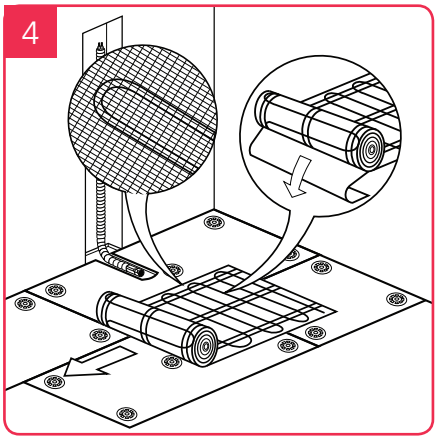
Lay insulation

Install insulation boards according to the manufacturer guidelines



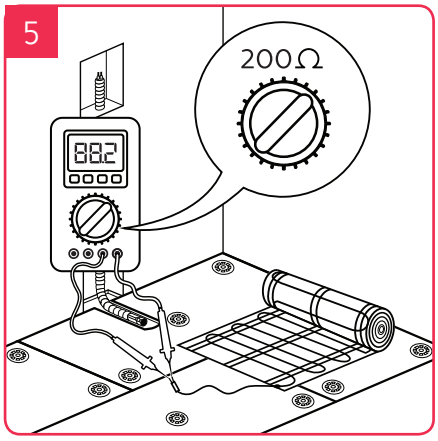
Run cold tail to thermostat

Ensure the electric cold tail can reach the thermostat connection point



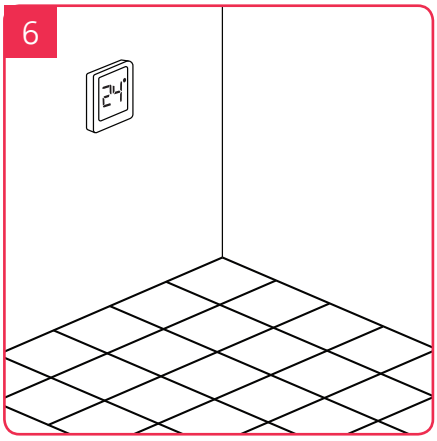
Roll out mesh matting

Roll out the underfloor heating mesh using the cut and return technique



Test system and connect

Perform resistance tests as directed in the installation manual



Install floor finish

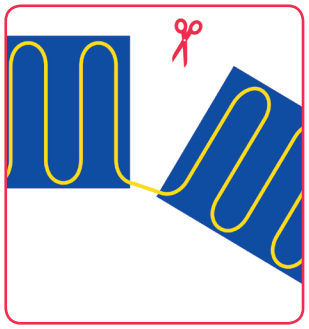
Lay your floor finish in accordance to the manufacturers instructions

This is an illustrative guide only. Read the instruction manual that is supplied with every ThermoSphere system, in full, before attempting to install a heating system. Search "ThermoSphere" on Youtube and watch the videos.

Cut-and-return installation explained

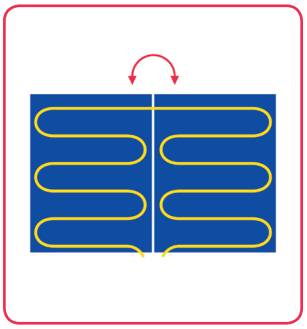
Every room is different and you will usually need to modify your mesh in some way to fully cover your desired heated area. The diagrams on this page will help you to manipulate your mesh safely and avoid causing any damage during installation.

Cutting the mesh



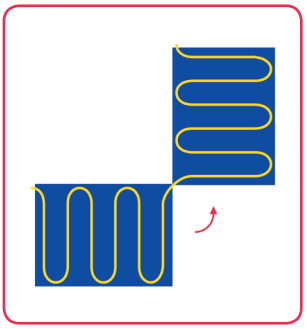
Use scissors to carefully cut the blue mesh

Turn 180°



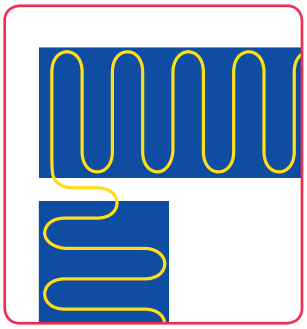
Turn the mesh through 180° parallel to the first run

Turn 90°



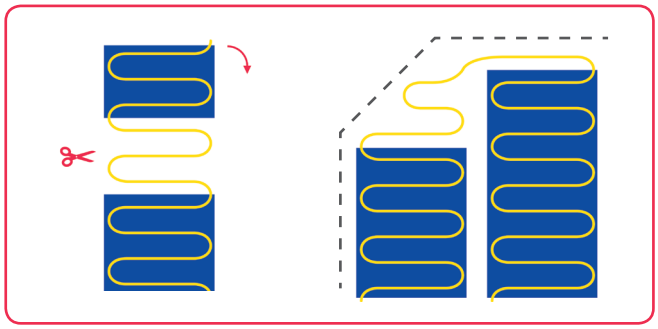
Turn the mesh through 90° for a more simple turn

Alternative 90°



Release cable from the mesh for an alternative 90° turn

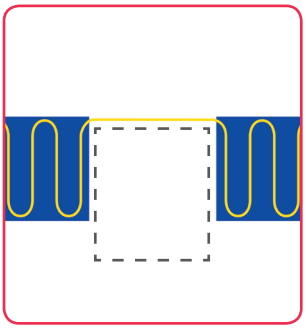
Staggered 180°



Remove the cable from the mesh and tape* in place for awkward areas such as angled walls

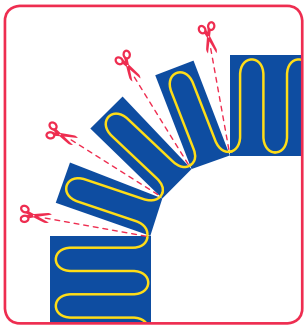
*Use small pieces of tape (max 10mm) and ensure there are no air voids around the cable..

Avoid an obstacle



Remove the mesh to avoid permanent fixtures

Curved fan turn



Cut mesh into sections to make a curved turn

NEVER CUT THE HEATING CABLE! When performing any of these mesh modifications it is vital that you do not cut or damage the heating cable. Damaging the cable will void your warranty. Do not use tape larger than 10mm over the heating cable. Take care is using tape to adhere cables so that there are no voids in the adhesive or screed.

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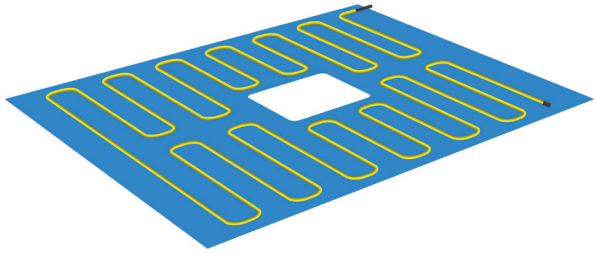
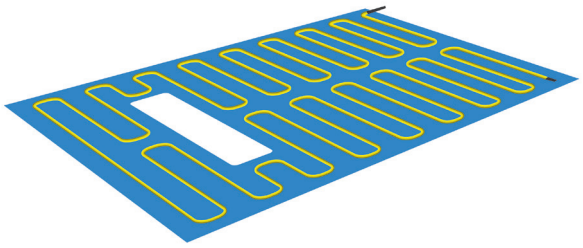
Shower tray heating mats

Eliminate cold corners and mould breeding grounds simply and effectively. ThermoSphere mesh is available in a range to suit popular shower trays. The mesh is are designed to accommodate drainage and can be covered with a levelling compound or tiled directly over. Rated at IP68 and safe for use in wet locations.



STMC-150-0100 with central standard drain



STML-150-0108 with linear drain

Stock Code	Drain	Size (M)	Area (M²)	Output (W)	Resistance (Ω)
STMC-150-0100	Standard	1.0 x 1.0	1.00	150	352
STMC-150-0120	Linear	1.2 x 0.9	1.08	150	352
STML-150-0108	Standard	1.5 x 0.8	1.20	150	352
STMC-150-0108	Standard	1.2 x 0.9	1.08	150	352

Wall heating mats

ThermoSphere wall heating mesh can be safely installed in the walls of your bathroom or shower cubicle to create the ultimate in comfort and luxury. This also speeds up the drying process in the shower room helping to reduce mould and mildew build up.

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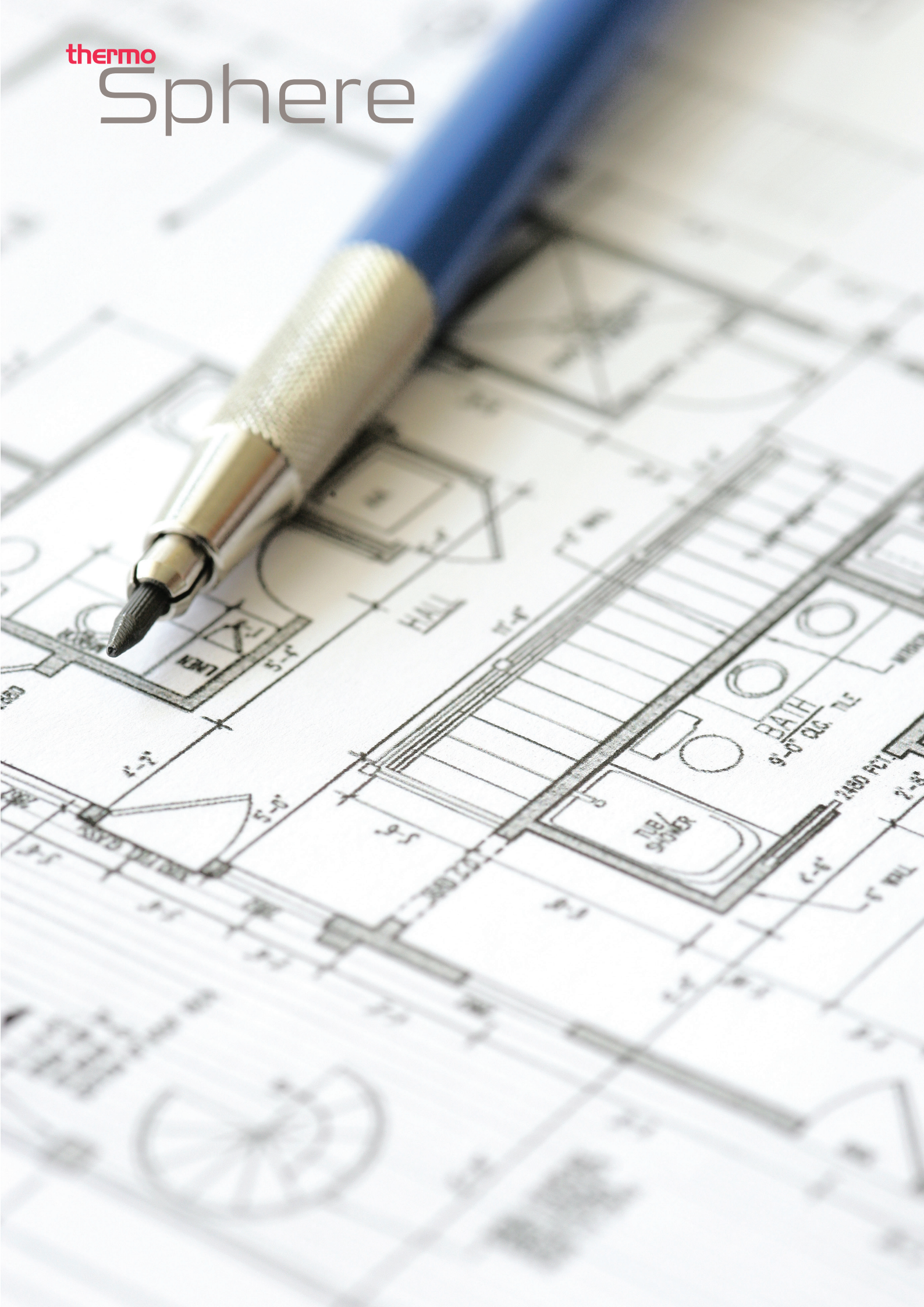
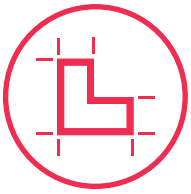


We can design and manufacture ThermoSphere underfloor heating mesh to your bespoke requirements.

Our unique position as a UK based electric underfloor heating manufacturer gives us the ability to tailor an electric underfloor heating mesh to fit your exact specification.



Step 1: Specifications

Send us your floor plan and desired heating output per m².

Step 2: Solution design

Our designers and engineers in the UK and Germany will design a bespoke heating solution that fits your room perfectly and provides exactly the right amount of heat.

Step 3: Bespoke manufacture

Once approved, the mesh goes into production. After manufacture it goes through a robust testing procedure to ensure 100% quality and satisfaction, covered by our lifetime guarentee

Step 4: Logistics

The bespoke mesh is delivered to your choice of address. We can deliver direct to anywhere in the world.

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Excellence in heating solutions.