

thermo  
Sphere

HEATING | FLOOR | TILE | STONE

Time-saving self adhesive backing for quick and easy installation on plywood and chipboard floors



Live well...



HDM-SA-001 1 x 1m 1m<sup>2</sup>  
hello@thermosphere.com | 0800 019 5899

HDM-SA-001 SA Membrane Wrap SEP20 V1.0

## Self adhesive heating and uncoupling membrane

### Substrate preparation

Self adhesive membrane is only recommended for use inside on plywood, and chipboard substrates that are flat and smooth.

Before installing ThermoSphere Self Adhesive Membrane the substrate must be stable, level, load bearing, clean, dry and free from any dust or substances that may weaken the bond between the membrane and substrate.

ThermoSphere Self Adhesive Membrane should never be installed over irregular or uneven surfaces such as cement coated tile backer boards, coated insulation boards, or bare screeds. The fleece backed membrane with tile adhesive is recommended for these applications.

### Compatible adhesives

You must use an adhesive suitable for the specific type of substrate in your project. The adhesive must bond strongly to the substrate and set mechanically into the anchoring fleece on the under side of ThermoSphere Membrane.

A standard flexible adhesive is suitable for most substrates. It is possible to use an acrylic based emulsion adhesive in cases where the substrate is not compatible with standard dry set tile adhesives.

Any adhesive used for tiling over ThermoSphere Membrane must be suitable for use with electric underfloor heating systems.

It is the installer's responsibility to check the compatibility of all materials.

### Information about the heating cables

It is important not to install heating cables in areas under permanent fixtures such as toilets, kitchen units, walls and pillars.

- Never cut or shorten the heating cables.
- Heating cables must not touch or cross over.
- Heating cables must not cross expansion joints.
- Never join heating cables in series.
- A suitably rated earth leakage circuit breaker (30mA) must be included in the electrical installation.
- ThermoSphere Membrane cables should not be installed at temperatures below 5°C.
- Never kink the cold tail connection sleeves.
- Never kink ThermoSphere Membrane heating cables. The smallest permissible bending radius is five times the outside diameter of the heating cable.

Heating cables must be installed at least 60mm away from water pipes, pillars and other conductive construction components.

Heating cables and temperature sensors must be installed away from other heat sources such as lighting equipment and chimney breasts and flues.

Wear suitable footwear with rubber soles when installing ThermoSphere Membrane and step on the cables as little as possible. If high traffic is expected use boards to cover and protect the heating cables and uncoupling membrane.

### Covering the heating cables

The entire length of ThermoSphere Membrane heating cable, end terminations and cold tail connection sleeves must be fully embedded in the tile adhesive or levelling compound. Failure to do so may result in product failure and will void any warranty. Do not use tapes over any part of the heating cable.

Regulations state the requirement for a minimum 5mm adhesive layer over the heating cables. The heating/cold tail connection and end termination must also be fully covered in a suitable tile adhesive.

### Floor finishes and coverings

Once the heating cables have been installed and tested, tiles can be installed with the thin set method, using a thin set adhesive that meets the requirements of the covering. A compatible flexible self levelling compound can be used if required.

Then use the notched trowel to apply the adhesive. The tiles are fully embedded in this layer.

Built-in cabinets, permanent fixtures and partition walls should not be installed over the heated areas.

No penetrating attachment parts (anchored screws for doorstops etc.) may be set up in areas where heating cables are installed.

Additional layers (rugs) thicker than 10mm are not recommended. They cause heat accumulation which could result in damage to the heating cables and floor finish.

For thermal efficiency, floor coverings should not be more than 30mm thick.

You must read the full ThermoSphere Membrane installation guide, included in every ThermoSphere heating cable box, before attempting installation.

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## Installing the self adhesive membrane



**1. Prepare the substrate**  
Ensure the plywood or chipboard substrate is inside, clean, dry, stable and ready for tiling. Do not use with cement, anhydrite or other porous or uneven substrate types.



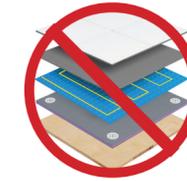
**2. Apply membrane**  
Lay in position over the substrate. Remove the corner of the protective layer and fix in position. Remove the rest of the protective layer and press down. Use a 25KG roller to ensure good adhesion.



**5. Protecting the installed membrane**  
If heavy foot traffic or mechanical loads are expected, it is recommended that you protect the membrane with boards or planks to prevent damage and ensure bonding.

### Substrate compatibility:

- ✓ Plywood
- ✓ Chipboard
- ✗ OSB
- ✗ Bare screeds
- ✗ Coated insulation boards
- ✗ Coated tile backer boards
- ✗ Self levelling compounds

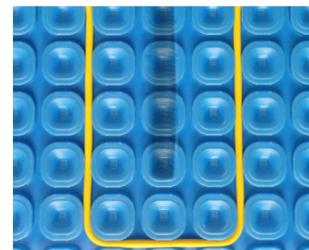


**Not for use over cement coated tile backer boards or coated insulation boards**



If your substrate is not compatible with self adhesive membrane we recommend using regular ThermoSphere membrane which can be adhered to most substrates with flexible tile adhesive.

## Floor sensor installation

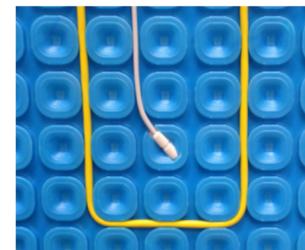


### Under the membrane

The sensor and conduit will be included in the box with your ThermoSphere control.

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

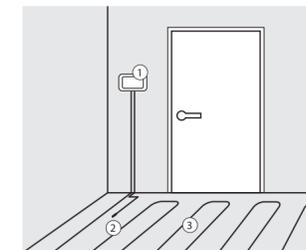


### In the membrane (Recommended)

The floor sensor should be laid 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.



### Thermostat and sensor location

When installing ThermoSphere Membrane in wet areas such as bathrooms and wet rooms, take care to place the thermostat in line with local regulations for 230V supply.

The thermostat should be placed outside of zones 0, 1 and 2 - at least 60cm from any water sources.

1. Thermostat
2. Floor sensor probe
3. ThermoSphere Membrane heating cable



ThermoSphere sensor probes are not polarity sensitive. Either colour wire can be connected to either of the sensor probe ports on the back of your thermostat.

**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.**

## Cable installation



**Correct heating cable spacing**  
Heating cables should be installed in runs spaced between every second (195W/m<sup>2</sup>) or third (130W/m<sup>2</sup>) row. The heating cables should never cross.



**Incorrect heating cable spacing**  
Single cable spacing is not advised. It can cause overheating and possibly damage the floor finish and building fabric. The heating cable should also be no closer than 60mm from building elements and permanent fixtures such as walls, baths, columns and kitchen units.



**1. 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.



**2. Install heating cable in the membrane**  
Press the ThermoSphere heating cable into the membrane using a float or roller. Observe the recommended spacing of 3 dimples for 130W/m<sup>2</sup> and 2 dimples for 195W/m<sup>2</sup>. Take care not to damage the cable.

## Waterproofing

Typical areas that require waterproofing include wet rooms, bath surrounds and showers. Waterproofing these areas will help to prevent the delamination of tile coverings in the event of water loss.

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

Consult the full ThermoSphere Membrane heating cable installation guide for full waterproofing instructions.



ThermoSphere Membrane heating cables must be properly tested before installing. To ensure no damage has been done to the cables. You must also test them after they've been laid, and again once the floor finish has been applied. To perform these test you'll need a multimeter and insulation tester.



Test results must be logged and passed on to the end user to facilitate warranty registration. See full installation guide included with the cable for full instructions.

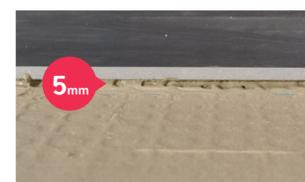
## Laying the floor finish



**1. Spread adhesive on the substrate**  
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 C2 adhesive. Apply another layer of adhesive large enough for one tile with a trowel. A flexible self levelling compound can be used if desired.



**2. Apply adhesive to the back of the tile**  
Apply adhesive to the back of the tile with the notched trowel and lay on the adhesive previously applied to the membrane. Occasionally remove a tile to check the back of the tile is fully covered with adhesive. Apply more adhesive if required.



**3. Check adhesive thickness**  
According to building norms, heating cables must be covered with a 5mm layer of adhesive as a minimum. Check that your adhesive layer complies with these guidelines.



**4. Complete the testing procedure**  
After laying the tiles, repeat all of the tests and record the values to allow the end user to register their warranty online at [www.thermosphere.com](http://www.thermosphere.com).

## Other floor finishes

In some cases it may be necessary to install other floor finishes such as laminate, engineered board, vinyl or carpet over ThermoSphere Membrane.

Before doing so you should check that your desired floor finish and any adhesives used are suitable for use with electric underfloor heating.

You must also ensure the thermostat is set up to limit the temperature to the manufacturer's maximum temperature guidelines.

**ThermoSphere Membrane must be covered with a 10mm layer of flexible self levelling compound before installing floor finishes other than tiles.**

## Self levelling compound

ThermoSphere Membrane underfloor heating systems can be covered with a flexible self levelling compound before tiling if preferred. Follow the self levelling manufacturer's guidelines.



**WARNING:** Take care not to damage the heating cable with the notched trowel when applying adhesive to the membrane. Use of a rubber or plastic trowel is recommended.



**WARNING:** Full coverage on the back of the tile may vary depending on the consistency of the adhesive, the angle of application with the trowel and the back surface of the tile. If full back coverage is not achieved, remove the tile and apply the new adhesive paying attention to the consistency. In the case of large format tiles it is recommended to double spread adhesive.