

Electric tile-warming system

Model	Dimensions	Coverage	Wattage @ 230v	Amps@ 230Vac
RTS1M	2.0m x 0.5m	1.0m ²	160W	0.70A
RTS1.5M	3.0m x 0.5m	1.5m ²	240W	1.04A
RTS2M	4.0m x 0.5m	2.0m ²	320W	1.39A
RTS3M	6.0m x 0.5m	3.0m ²	480W	2.09A
RTS4M	8.0m x 0.5m	4.0m ²	640W	2.78A
RTS5M	10.0m x 0.5m	5.0m ²	800W	3.48A
RTS6M	12.0m x 0.5m	6.0m ²	960W	4.17A

IMPORTANT INFORMATION

In order to avoid damaging your new heating system, it is important to follow these rules:

1. NEVER CUT THE HEATING ELEMENT
2. NEVER SHORTEN the heating element
3. NEVER allow the heater to overlap itself or any other wire. This may cause over-heating.
4. NEVER run the sensor wire or power lead over or under the heating element.
5. NEVER place built-in units or furniture with solid bases on the heated floor area.
6. NEVER connect two heaters in series.
7. ALWAYS make certain that the system is tested before, during and after installation.
8. ALWAYS make certain that everyone involved in the installation or construction is aware of the system and the care required to protect it from damage.
9. ALWAYS keep the spacing of the heating element consistent.
10. NEVER CUT THE HEATING ELEMENT

For a full list of "general considerations * Do's and Don'ts please read the information on the following page.

Pack Contents

This floor warming system contains the following:

- Heating mat with self-adhesive tapes
- Thermostat with floor sensor wire and additional surface mounting frame.

Items required for Installation

Additional items needed for installation include:

- RCD: required for all installations
- Multi-meter: for testing the resistance of the mats
- Electrical trunking/conduit for housing the unheated power leads.
- Electrical housing, back boxes and junction boxes; back box for thermostat must be at least 35mm deep (recess mounting only)
- Permanent marker and measuring tape
- Pair of small utility scissors for cutting the fibreglass mesh

Measuring Up

Before starting the installation, please double-check that your plan has the proper room dimensions and that you have the correct size and number of heaters for the project. Once a mat has been cut, it cannot be returned.

General Considerations / Do's & Don'ts

Choice of floor covering

The Dimplex system has been designed primarily for use with stone or tiled floors. If you are considering using any other type of floor covering, such as carpet or wood laminate, please contact our customer services helpline for more information before starting your installation.

Electrical Installation: a job for the professionals

As with all electrical projects, we strongly recommend that you should not undertake any electrical work unless you are qualified to do so. All work must conform to the current IEE Wiring Regulations or equivalent local regulations for your specific geographical area.

Installing an RCD (Residual Current Device)

The Dimplex Under tile heating system must be wired via an RCD. This device should be provided as protection against indirect contact (sensitivity 30mA).

NOTE: It is possible to run the heater(s) from an existing circuit. Consult with an electrician to determine whether or not the circuit can handle the load and if it is RCD protected.

Testing the heaters

One of the most important steps in the installation is to test the heaters before, during and after the installation is complete:

Before: Use a multi-meter, check the resistance of each mat prior to the installation to ensure there is no damage to the heater. Note down the resistance value on page 7.

During: Test the resistance of each mat once they have been secured to the floor to ensure no damage has occurred during installation. Note the resistance value of all mats on page 7.

After: Test again after the floor covering has been laid to ensure no damage has occurred during the setting of the tiles.

Do's and Don'ts

Do—plan the heater layout and installation so that any drilling after tiling (e.g for fixing sanitary ware) will not damage the heaters.

Do—use ceramic tile adhesives and grouts suitable for use with under tile heating (they must contain a flexible additive).

Do—wait at least 10—14 days before switching the system on for the first time in order for the tile adhesive to dry.

Don't—ever cut or shorten the heating wire at any time.

Don't—walk over installed heaters until the final floor surface is fitted. This is when damage is most likely to occur.

Don't—store tiles or other sharp or heavy objects on the mats whilst tiling.

Don't—attempt to install the heating up walls or up a set of stairs.

Don't—install heating mats under permanent fixtures.

IMPORTANT!

If at any point during the installation you are unsure of whether a problem exists or how to solve it, please call the helpline on 0845 600 5111. Most issues are easily solved with a call.

Sizing Guide

The following table shows the area coverage of each heater. To calculate the correct mats for your project obtain the useable floor area (total floor area less space taken by permanent fixtures) then select the mat(s) to fill the space. Note, mats cannot be cut so the nearest size down from the coverage should be chosen as wire can be made to fill a slightly larger space but not squeezed into a smaller space due to overheating.

Type	Output (W)	Width (m)	Length (m)	Area Coverage (m ²)	Resistance Ω
RTS1M	160	0.5	2.0	1.0	330
RTS1.5M	240	0.5	3.0	1.5	220
RTS2M	320	0.5	4.0	2.0	165
RTS3M	480	0.5	6.0	3.0	110
RTS4M	640	0.5	8.0	4.0	82
RTS5M	800	0.5	10.0	5.0	66
RTS6M	960	0.5	12.0	6.0	55

Controls

This under-tile heating pack contains a thermostat suitable for surface or recessed wall mounting that controls the temperature of the heating system. The unit is supplied with a floor sensing probe that should be installed as per these instructions and an additional frame for surface mounting is also included.

Please see individual thermostat instructions for more details.

Technical Information

Heating Wire

Thin profile, twin insulated and earth braided, double conductor cable attached to an open weave matting with 160W/m² output.

Heating mat

The heating mat consists of a special heating cable fixed to a mat of glass fibre. The Dimplex mats are furnished with two-side adhesive tape to fix the mat to the floor after removing a protective tape. The spacing of wire on the mat is designed to give an even heat output across the floor and is terminated with a single 3m power lead at one end. This lead supplies power to the heater via the thermostat. The factory made joint between the heating wire and the cold power lead must be installed under the tiles.

Separating the element from the mesh backing

In almost all cases it may be necessary to separate the heating element from the mesh backing to fit the heating into irregular shaped areas. This can be done by peeling back the self adhesive tape to separate the cable from the mesh backing. Please ensure that whenever the wire is separated from the mesh a distance between wires of 5—6cm is maintained.

Floor sensor mounting

Proper installation of the floor sensor is critical if the thermostat and floor warming system is to work properly. The sensor, which is embedded in the adhesive, should be installed centrally between two runs of heating element and should extend a minimum of 150mm into the heated area. It is best to avoid placing the tip of the sensor in the areas prone to heat fluctuations due to drafts, sunlight, radiators or hot water pipes. You may wish to cut a groove into the floor to accept the sensor cable and the tip in order to keep them at the same height as the heating element.

Electrical Considerations

Install the RCD (Residual Current Device)

You must install a dedicated RCD if one is not already present. You may wish to use a fused spur/RCD combination unit. Consult your approved electrical installer for a suitable type.

Install electrical boxes and trunking

For installations where the unit will be recessed into the wall it is necessary to fit an electrical back box with at least 25mm depth to allow the unit to fit correctly. For installations where the thermostat will be surface mounted, an additional frame is supplied to mount directly to the wall. (RTS range only)

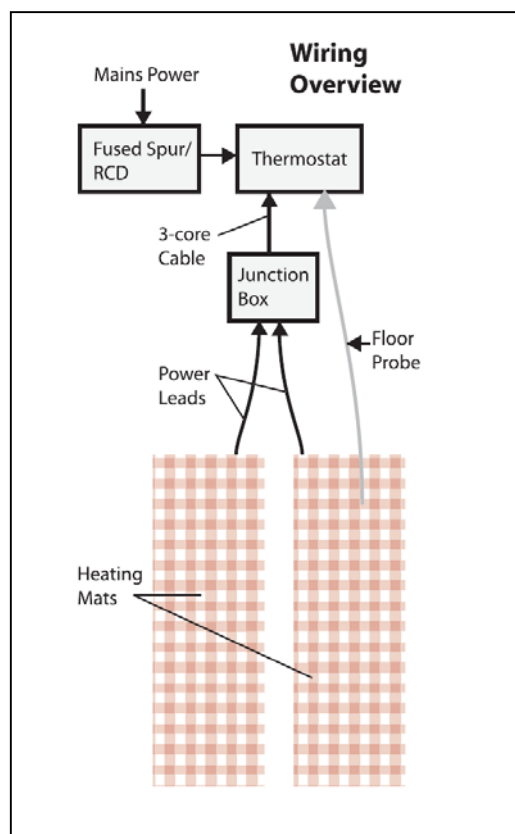
Please refer to specific thermostat instructions for more details.

If you are installing more than two heaters, an electrical junction box will be required. The wiring from the heater to the thermostat should be chased into the wall and/or protected by conduit or plastic trunking.

Connecting the thermostat

The thermostat should be connected to the main electrical supply via a fuse or circuit breaker in accordance with the wiring regulations.

The thermostat should be installed within the room or area to be heated. In the case of bathroom installations, electrical regulations prohibit the installation of the thermostat within the bathroom itself. In such cases, the thermostat should be fitted to the outside of an internal wall of the bathroom, as close as possible to the heating power supply wires.



Floor Preparation

Insulation

To ensure the optimum performance of the finished heating system, and to minimise running costs, a tile backer board should be laid directly below the heating mats.

Wooden subfloors

Ensure adequate underfloor ventilation.

Securely fix existing floorboards and if necessary, pre-level with a latex/cement self-levelling compound to give a flush fit for the subsequently applied WBP plywood.

Refer to BS5385:Part 3, clause 14.4 regarding sealing the backs and edges of the plywood.

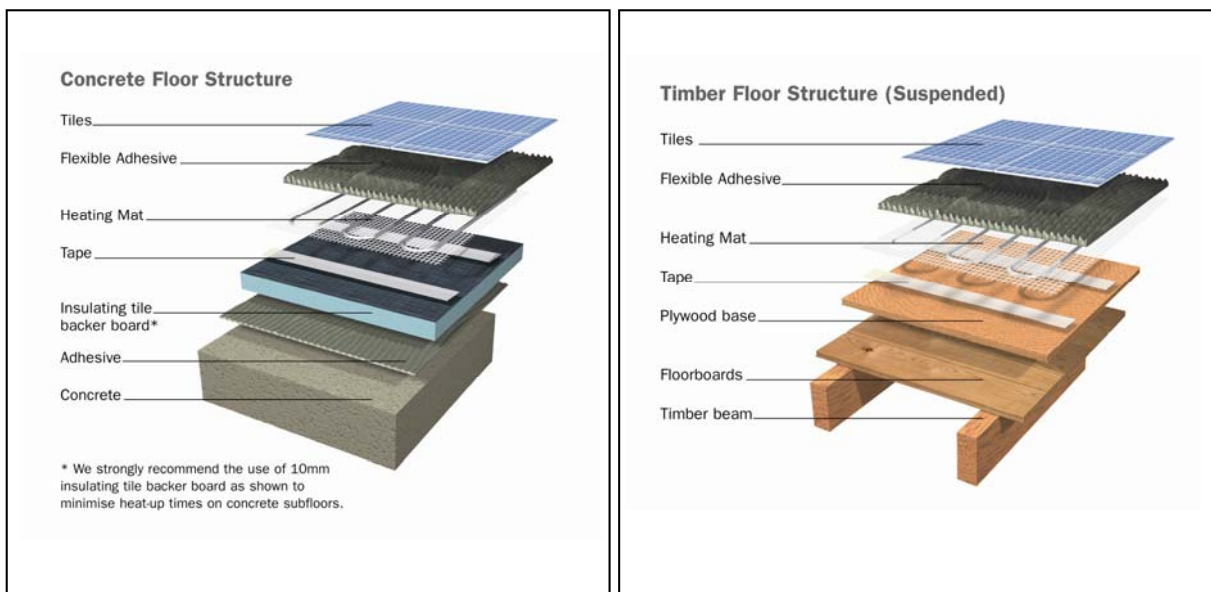
Fixing ply directly to joists will not always provide a sufficiently stable floor finish for accepting tiles; fitting tongue & groove flooring and then over-boarding with ply or tile backer board is recommended. A rigid base is essential.

The above recommendations apply to floors of small areas as advised in clause 14.4 of BS5385: Part 3: 1999.

Concrete subfloors

For best results and ease of installation, the use of an extruded polystyrene “building” or “tile backer board” with cement-based facing is recommended. Fixing of the board should be as per the manufacturer’s instructions.

After attaching the board to the sub floor, the under tile heating system may be laid directly on top of the board, and then tiled over. It is important to ensure that the tile adhesive and grout used are flexible and that the tile backer/building board has been fitted as per the manufacturer’s instructions. High quality cement-based adhesives with their flexible additives are most suitable.



Laying the mats

1. Prepare the floor

Clean the laying surface, rid it of all sharp objects, and permeate it with a suitable primer.

2. Mark the floor

Where permanent fixtures are not already fixed, mark out the areas to be covered with permanent fixtures. Do not fix mats in these areas.

Mark the positions and planned route for the power cables and floor temperature sensor. Indicate on the floor the locations where the mats will need to be flipped or turned and where loose wire (separated from the mesh) will need to be laid.

3. Mark the mat

Mark the position of any cuts, flips or turns on the mat itself. Please double check you have the right mats BEFORE proceeding with the installation.

4. Test the Heating Mat(s)

Perform the #1 test for each mat. Record the results on the test sheet (enclosed).

5. Dry fit the Mat(s)

Lay out the mats according to your plan without sticking down. This allows any last minute adjustments.

6. Fit the Mats

Starting with the mat farthest from the thermostat location, secure the mats to the subfloor using the tapes on the mat. You can also use a staple gun to fix the mesh to a plywood surface (if used) but NEVER across the heating wire itself.

If you need to remove a section of wire from the mesh backing, do so by peeling back the self adhesive tapes but always ensure wires are a minimum of 50mm apart. Once all mats are laid, check there are no loose sections or damaged wires, particularly where turns, flips or wires that have been separated from the mesh are.

7. Install the floor sensor

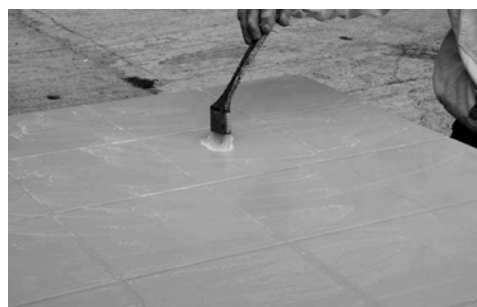
The floor sensor that comes with the thermostat should now be placed under the mesh mat positioned centrally between two heating cables and parallel to them. Ensure the sensor and wire does not cross and heating element. Test the resistance of the floor sensor with a multi-meter. Normal readings should be between 10,000—12,000 ohms depending on room temperature. If you do not get a reading do not proceed with the installation and call the helpline number on these instructions.

8. Fit the power leads

Each mat has a single power lead for connection. In order to keep the leads at the same height as the heating cable you may wish to cut or chisel a channel in the subfloor. Secure the leads to the floor surface using double-sided tape or hot glue. The power leads then go into conduit or trunking from the floor to the thermostat. The power cord may be shortened but the factory joint between the power lead and heating cable must not be altered. Always ensure the factory joint is covered with both tile adhesive and tiles.

9. Test the Heating Mat(s)

Perform test #2 for each mat and record the results on the test sheet provided.



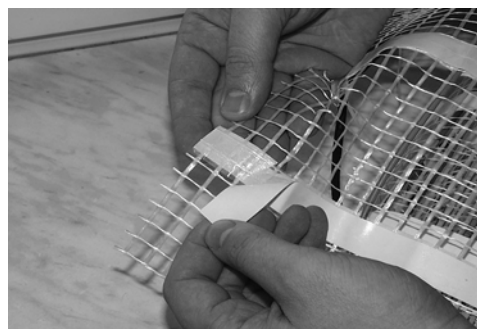
Clean and prepare the floor



Dry fit the mats



Cut a channel for the power leads



Use the self-adhesive tapes to fix to the floor

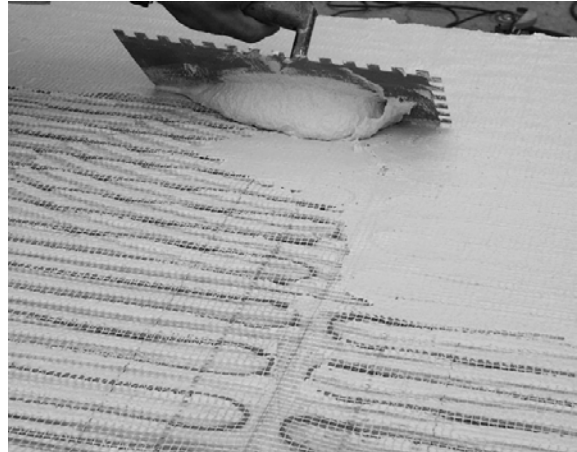
Tiling Over

When all the mats are installed and the power leads and floor sensor have been secured, it is time to begin laying your tiles. There are two methods available to you, a one-step or two-step method:

1. One-Step Method:

Apply a thick layer (5-10mm) of flexible tile adhesive directly onto the heating mats and factory joint ensuring even coverage.

Lay the tiles directly onto the adhesive layer.



2. Two-Step Method:

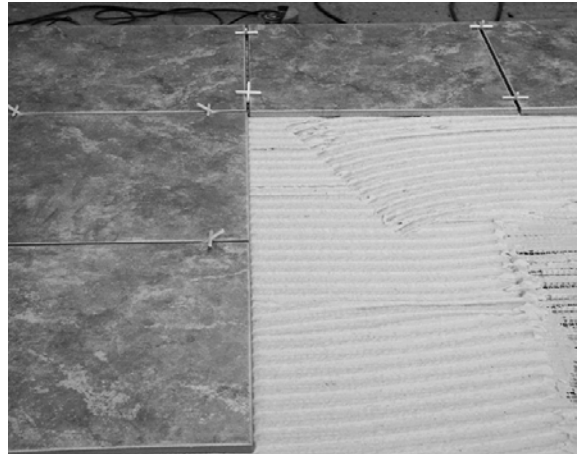
Completely cover the heating mats with a smooth layer of flexible adhesive or latex self-levelling compound and allow to dry. This must dry and will take approximately 1 day per millimetre depth. Apply a thin layer (3mm) of flexible adhesive and tile as normal.

3. Test the Heating Mat(s)

Perform test #3 for each mat and record the results on the test sheet provided.

Waiting Period

You must allow the tile adhesive and self-levelling used to dry naturally before powering up the heating system. This may take between 10—14 days dependant on the amount used. Failure to observe this guideline may cause adhesives and grouts to dry out too quickly, becoming brittle with lifting or cracked tiles a possibility.



Considerations

When choosing which method to use, keep the following in mind:

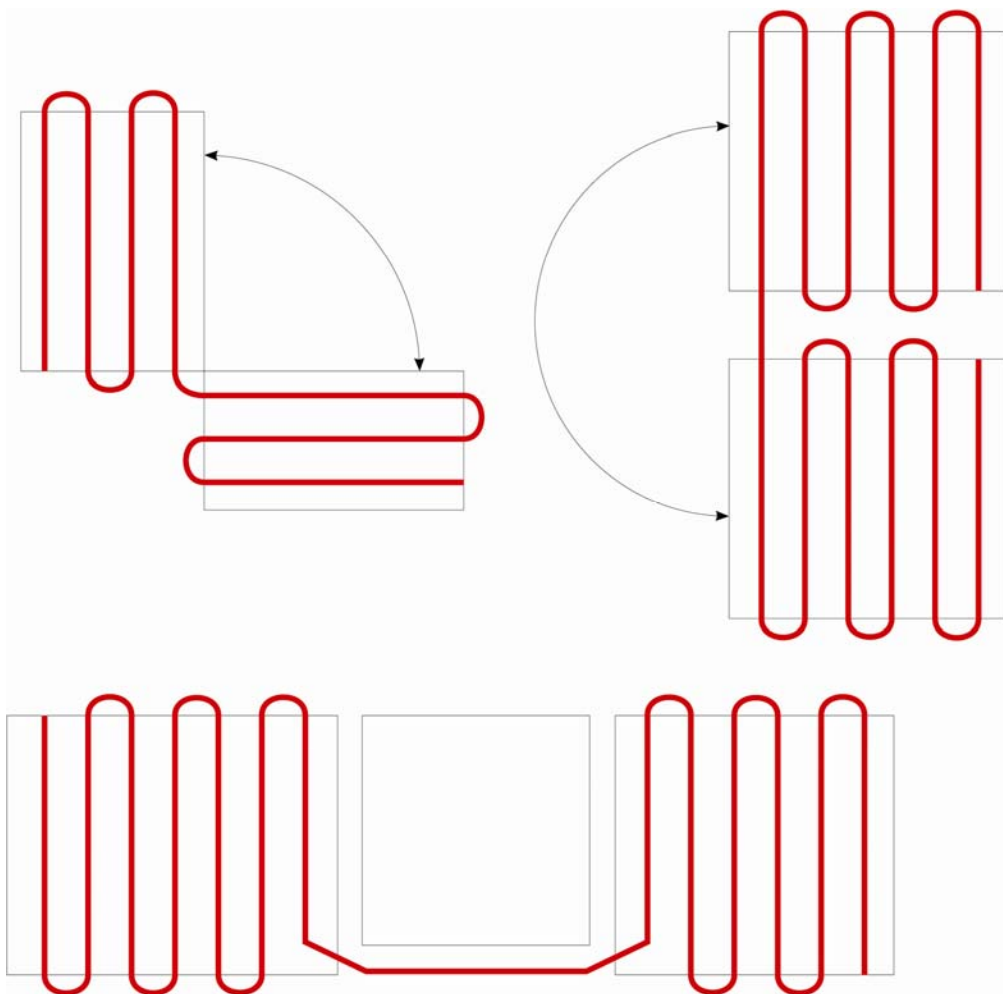
- It is easier to lay mosaic tiles using the two-step method
- If this is your first installation, you may find it easier to use the two-step method
- If the floor will not be tiled right away, it is better to use the two-step method for protecting the wire
- The one-step method is most commonly used by experienced installers of this heating system

How to Make Turns and Flips with the Matting System

The heating mats can be modified by cutting the mesh (**NOT THE WIRE**) and either flipping or turning the mat as needed. The examples below show the mat can be turned through 90°, 180° during installation.

Additionally, it may be necessary to remove the wire from the mesh backing. See the images below for examples of how this can be done.

In all cases, always remember to leave a minimum of 5cm between heating wires.



Warranty

This warranty does not affect your statutory rights.

This Dimplex Under-tile Heater is guaranteed against any fault caused by manufacturing defect for a period of 24 months from the date of purchase. There is no other warranty, express or implied. No claim can be brought against the manufacturer or its agents for any consequential damages whatsoever.

This warranty covers the cost of replacement or repair, at the discretion of the manufacturer, of the heater only.

This warranty is subject to the following conditions:

- To qualify for this warranty, please register your product by completing and returning this "Warranty Registration" form.
- In the event of a claim, proof of purchase will be required, so keep your invoice with this warranty.
- The heater has been installed and used in full compliance with the installation manual.
- The heater has been earthed and protected by an RCD at all times.
- The heater is used in conjunction with a thermostat or control system approved by Dimplex.
- The warranty form is returned to Dimplex within 30 days of the purchase of the heater(s).
- If Dimplex or its agents carry out diagnostic or remedial work as a result of a claim being made, and evidence of incorrect installation or usage of the heater becomes apparent, Dimplex or its agents shall have the right to levy reasonable charges for the work undertaken by them.

Return to: Marketing Department, Dimplex UK Ltd, Millbrook House, Grange Drive, Hedge End, Southampton, Hampshire.

Name:

Address:

Post Code:

Telephone:

Email:

Installer:

Electrician:

Date of Purchase:

Which room is the heating installed?

Sub floor type:

Production Number (*on connection lead*):

Production Date (*on connection lead*):

I hereby confirm that I have read and understood the contents of the Installation Manual and that the heater has been installed as specified therein.
I acknowledge that no claim can be brought against the manufacturer or its agents for any consequential loss or damage whatsoever.
I confirm that the heater was working prior to the commencement of tiling.

Signed:

Date:

Detach and return this page to the address above.