Warmup®

UNDERFLOOR HEATING MADE **SIMPLE** & **AFFORDABLE**™

Installation Manual:

Undertile Heating Mat

TECHNICAL HELPLINE
0845 345 2288

Warmup LIFETIME LIMITED WARRANTY

SAFETY Net™ INSTALLATION GUARANTEE

IMPORTANT
Read this manual before attempting to install your undertile heater. Incorrect installation could damage the heater and will invalidate your warranty. Complete and submit the warranty form online at www.warmup.co.uk.

GET YOUR FREE GIFT
by filling in your Guarantee information online at warmup.com

Contents

If these instructions are followed, you should have no problems. However, if you require assistance at any stage, please call our helpline on
0845 345 2288.

Warmup plc, the manufacturer of Warmup® Undertile Heating Mat, accepts no liability, expressed or implied, for any loss or consequential damage suffered as a result of installations which in any way contravene the instuctions that follow.

Do's and don'ts

DO

- Carefully read this installation manual before commencing installation.
- Consult our helpline or a competent professional if you are unsure how to proceed.
- Ensure the system is tested before, during and after installation.
- Plan your mat layout and installation so that any drilling after tiling (e.g. for fixing sanitary ware) will not damage the wiring.
- Maintain a minimum gap between the wire runs of 50mm (2 inches).
- Check that the mat is working immediately before commencing tiling.
- Take particular care when tiling not to dislodge or damage the heating wire.
- Wear gloves to prevent irritation from the fibre glass mesh.
- Ensure that the heating elements are installed at least 50mm from conductive parts of the building, such as water pipes.

DON'T

- Cut or shorten the heating element at any time.
- Install the mat under any floor other than ceramic, quarry or natural stone tiles.
- Commence installation on a concrete floor that has not been fully cured.
- Leave surplus matting rolled up under units or fixture - use the right size.
- Install the mat on stairs or up walls.
- Run the floor sensor wire or power lead over or under the heating element.
- Connect two mats in series, only connect mats in parallel.
- Commence tiling before testing the mat.
- Switch on the installed mat until 8 days after fitting to allow the tile adhesive to dry completely.
- Install the mat in temperatures less than +5°C.
- Bend the heating cable under 25mm radius

The heating must be separated from other heat sources such as luminaires and chimneys.

During the course of the installation care must be taken to ensure that no damage is caused by, for example, falling objects, sharp objects, walking on the heating element.

The maximum thermal resistance recommended between the heater and the room is 0.15m²K/W (1.5 TOG).

What you need for installation

Components NOT included as part of your Warmup®
Undertile Heating Mat Kit:

- A Warmup® OCC2 or a Warmup® Xstat thermostat with floor sensor

NOTE: Only Warmup® OCC2 or Warmup® Xstat Thermostats should be used

- Residual Circuit Device (RCD) required as part of all installations

- Multi-meter required for testing the resistance of the mat

- Electrical housing, back boxes and junction boxes (Back box for the thermostat must be at least 35mm deep)
- Electrical trunking/conduit for housing the power leads
- Permanent marker
- Measuring tape
- Tape (to secure floor sensor and loose wires)
- Pair of small utility scissors for cutting the fibreglass mesh
- Screwdrivers for electrical connections
- Gloves

Components included in your Warmup®
Undertile Heating Mat kit

- Warmup® Undertile Heating Mat
- Installation Mat

Safety - electrical considerations

Electrical Considerations

As with all electrical projects governed by Part P regulations, all mains electrical connections must be undertaken by a certified electrician. All work must conform to current IEE Wiring Regulations.

Installing a Residual Current Device (RCD)

Warmup® Undertile Heating Mat must be wired via an RCD. You must install a dedicated RCD if one is not already present. You may wish to use a fused spur/RCD. No more than 4.8kW of heating may be connected to a single 30 milliamp RCD. For larger loads use multiple RCDs or a 100 milliamp RCD.

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

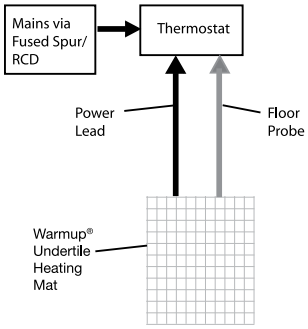
Installing Electrical Boxes and Trunking

You will require a deep (35-40mm) back box for the thermostat. If you are installing more than two heaters, a junction box will be required. The wiring from the heater to the thermostat should be protected by conduit or plastic trunking.

Connecting the Thermostat

The thermostat must be connected to the main electrical supply via a fused spur or an RCD, in accordance with IEE Wiring Regulations, by a certified electrician. The thermostat should be installed within the room or area to be heated, however, in the case of bathroom installations, electrical wiring regulations prohibit the installation of thermostats 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 cables.

NOTE: For Safety reasons you must use a fused spur that has a contact separation in all poles that will provide full disconnection under overvoltage category III conditions.



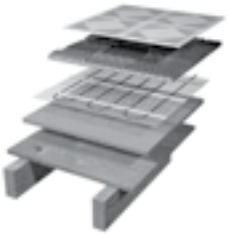
NOTE:
If you are installing more than two heaters you will require a junction box to connect the heaters with the thermostat.

Subfloor preparations

Prior to installation it is important that the subfloor is prepared correctly.

Wooden Subfloors

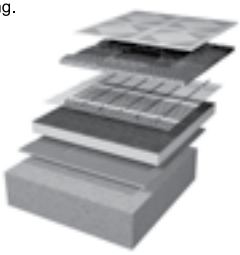
- Ensure adequate underfloor ventilation
- Existing floorboards need to be securely fixed and if necessary pre-levelled with a latex/cement self-levelling compound to give a flush fit for the subsequently applied WBP plywood or tile-backer board (Warmup® Insulation Board).
- A rigid base is essential - Fixing WBP plywood or Warmup® Insulation Board to joists will not provide a suitable stable floor finish for accepting tiles.
- Refer to BS 5385:Part 3:1999, clause 14.4 for more information on sealing the backs and edges of the WBP plywood before fixing.
- The above recommendations apply to floors of small areas as advised in clause 14.4 of BS 5385:Part 3:1999.



NOTE: Chipboard, M.F.D. and O.S.B. boards (flake boards) are not suitable for ceramic floor tiling.

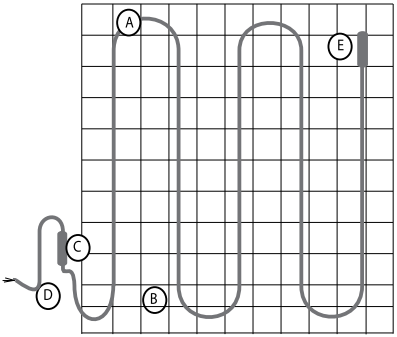
Concrete Subfloors

- Ensure you use an extruded polystyrene building or tile-backer board (Warmup® Insulation Board) if installing your mat onto a cement-based floor.
- Fixing the board should be as per manufacturer's instructions



About the mat

The mat is made up of



A - Heating Element
B - Fibreglass mesh
C - Factory-made joint
D - Power lead (3-core)
E - Termination Joint

NOTE:
The Warmup® XSTAT thermostat can switch up to 16 amps. If you are installing more than two heaters you may require a junction box. (see Page 4 - Electrical Considerations for details).

The mat is available in 2 different wattages. Each mat is designed to produce a specific amount of heat based on its length. For this reason you must never shorten the mat.

Specification for 150W Undertile Heating Mat

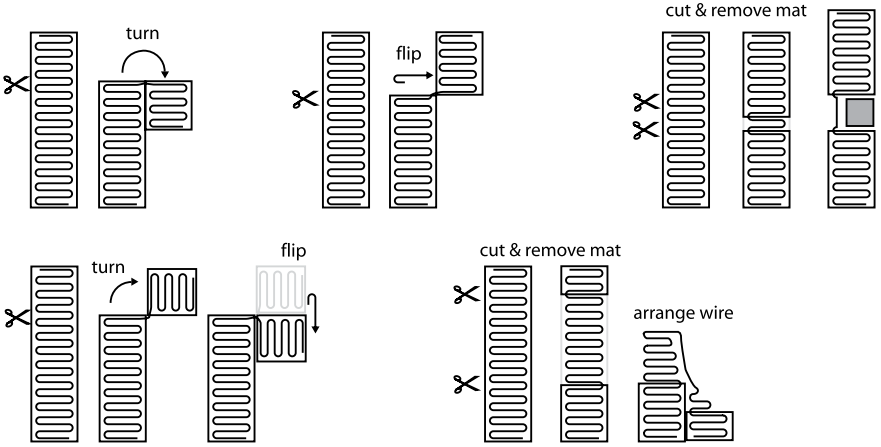
Mat Size(m^2)	Nominal Watts	Amps@230v
1	150	0.65
1.5	240	1.05
2	301	1.31
3	420	1.83
4	601	2.61
5	827	3.59
6	918	3.99
7	1043	4.54
8	1319	5.74
9	1461	6.35
10	1618	7.03
11	1775	7.72
15	2250	9.78

Specification for 200W Undertile Heating Mat

Mat Size(m^2)	Nominal Watts	Amps@230v
0.5	101	0.44
1	205	0.90
1.5	319	1.40
2	401	1.70
3	575	2.50
4	795	3.50
5	972	4.20
6	1245	5.40
7	1439	6.30
8	1546	6.70
9	1729	7.50
10	1909	8.30

How you can modify the mat

In order to fit your mat into a specific area, it may be necessary to cut and turn the mat (examples below).
NEVER cut the heating element. When cutting and flipping the mat take care not to cut or damage the heating cable.



Testing the mat

Testing the mat

One of the most important steps to be taken when installing the mat is the testing process. You must ensure that the mat is tested BEFORE, DURING and AFTER installation using a multi-meter and a 3 pin plug.

The Testing Process

The resistance (ohms) of each mat should be measured from the live (brown) wire to the neutral (blue) wire. We recommend the use of a digital multi-meter set to a range of 0-2 K ohms for testing.

NOTE: Due to the high resistance of the heating element, it may not be possible to get a continuity reading from the mat and as such, continuity testers are not recommended.

When checking resistance, make sure your hands do not touch the meter's probes as the measurement will include your internal body resistance and render the measurement inaccurate.

Make a note of the resistance readings in the table below. The table should be within +/- 5% of these measurements:

Specification for 150W Undertile Heating Mat

Mat Size(m^2)	Ohms@230VAC
0.5	352.70
1	220.00
1.5	176.00
2	126.00
3	88.00
4	64.00
5	57.60
6	50.70
7	40.10
8	36.20
9	32.70
10	29.80
15	23.51

Specification for 200W Undertile Heating Mat

Mat Size(m^2)	Ohms@230VAC
0.5	526.2
1	257.9
1.5	165.8
2	132.0
3	92.0
4	66.5
5	54.4
6	42.5
7	36.8
8	34.2
9	30.6
10	27.7

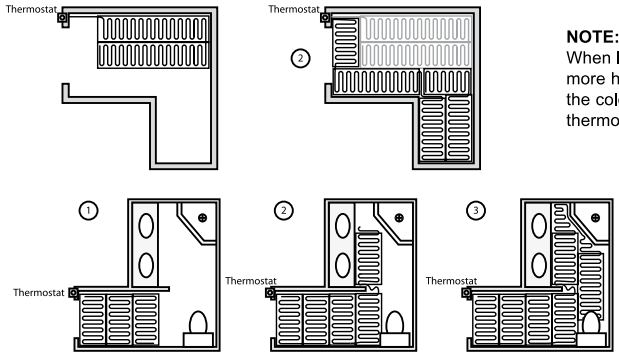
If at any time your readings are not in line with the guidelines above, or you suspect there is a problem, please call the Warmup Technical Helpline at 0845 345 2288

Before installing the mat

A

Check mat size

Please take a moment to double-check that your plan has the proper room dimensions and that you have the correct size and proper number of mats. Once the mat has been cut it cannot be returned.
Mats should run backwards and forwards between walls and obstructions as shown in the examples.



NOTE:
When laying two or more heaters, ensure the cold tails reach the thermostat.

B

Before Installation Test

Perform the first test following the steps described above to ensure that the mat has not been damaged during transport. Do not wire to a plug at this stage.

Installing the mat

1 Mark Floor and Mat

Using a permanent marker, mark out areas on the subfloor where units and fixtures will be fitted. DO NOT install the mat in any of these areas.

Start by laying the mat in the location closest to the thermostat (DO NOT affix or cut the mat yet). Mark the position of any turns or cuts that you will need to make to the loose wire on the mat and mark the postions on the floor.

Mark the positions and planned route of the power lead cables as well as the floor sensor. It is best to avoid placing the floor sensor in areas of heat fluctuations. It may be necessary to cut a channel in the floor to ensure the floor sensor is kept at the same hight as the heating element.
See picture A on page 6.

NOTE:
If you have a loose wire (wire cut away from the fibreglass mesh) make sure the loose wires are no closer than 50mm from each other, the wall or from any other wires still attached to the mesh.
All joints need to be placed on the floor beneath the tiles.
No cables may cross at any time (including the floor sensor and power lead).

2 During Installation Test

Perform the same test as described on page 6 to ensure that the heating element has not been damaged during planning.

3 Cut, turn and affix the Mat

When you have ensured that the mat has been laid correctly in step 2, start cutting and turning the mat where the marks have been made, beginning at the location closest to the thermostat. Be careful and never cut the heating cable. Affix the mat with double sided tape on the mat. Use tape to affix the loose wires.

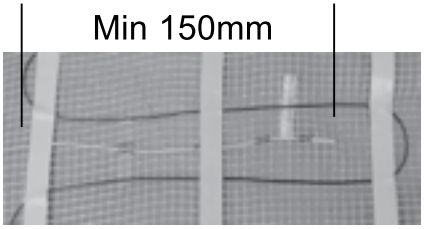
Once the mat is fitted, check to ensure there are no loose sections paying close attention to the ends of the mats and any section which has been turned.

4 After Installation Test

Perfom the same test as in step 2 and temporarily wire each heater to a fused plug via an RCD, in accordance with normal wiring regulations. Run the heater for max. 20 minutes to ensure that the element heats up and is warm to the touch.

5 Install Floor Sensor

Place the floor sensor (from the thermostat) below the fibreglass mesh between two heating elements. The floor sensor must be installed centrally between the two runs of heating element and should extend a minimum of 150mm into the heated area. Secure the floor sensor using tape.



NOTE:
At this point you should check the resistance of the floor sensor using your multi-meter (200 K ohms). You should get a reading of approximately 9 -23 K ohms depending on the room temperature. If you do not get a reading your floor sensor may be damaged. If this is the case call the Warmup Technical Helpline to request a replacement.

6 Fit Power Leads

Each mat is fitted with a single power lead for connecting the mat to the thermostat. To ensure the power lead remains at the same level as the heating element, you may need to cut or chisel a channel in the subfloor. When doing this take care not to damage the heating element. Secure the power lead in place using tape.

The power lead will go into the electrical trunking/conduit up to the thermostat. It is possible to shorten or extend the power lead but you must take care not to cut the factory made joint.

7 Tile and Grout the floor

Ensure you use ceramic tile adhesives and grouts suitable for use with undertile heating sytems (they must contain a flexible adhesive). It is important that each tile is solidly bedded in tile adhesive, with no gaps or voids beneath. (2 Part Flexible Adhesive)

NOTE:
Do not store tiles or heavy objects on the mat while tiling. Wait for 8 days to allow the adhesive to dry before you switch on the system.

Please complete the control card in the back of the manual and display at the consumer unit along with the installation instructions, heater location/layout plan and any wiring diagrams as per 17th Edition wiring regulations.

Warranty
Ver. 0708

Warmup

UNDERFLOOR HEATING MADE **SIMPLE** & **AFFORDABLE**™

Terms and conditions apply
Models: DWS heaters and PFM heaters manufactured by Warmup PLC –

THE LIFETIME ELEMENT OF THIS GUARANTEE DOES NOT EXTEND TO THERMOSTATS WHICH ARE COVERED BY SEPARATE GUARANTEES. THIS GUARANTEE DOES NOT AFFECT YOUR STATUTORY RIGHTS.

Warmup® Undertile Heater is guaranteed by WARMUP PLC ("Warmup") to be free from defects in materials and workmanship under normal use and maintenance, and is guaranteed to remain so subject to the limitations and conditions described below:

The UNDERTILE HEATER is guaranteed for the LIFETIME of the floor covering under which it is fitted, except as provided below (and your attention is drawn to the exclusions listed at the end of this guarantee).

This lifetime guarantee applies:
1. only if the unit is registered with Warmup within 30 days after purchase. Registration can be completed by filling out the card accompanying this guarantee or online at www.warmup.co.uk. In the event of a claim, proof of purchase is required, so keep your invoice and receipt – such invoice and receipt should state the exact model that has been purchased; and

2. only if the heater has been earthed and protected by a Residual Current Device (RCD) at all times:.

Thermostats are guaranteed for a period of 3 YEAR from the date of purchase, except as provided below.

Neither guarantee continues if the floor covering over the heater(s) is damaged, lifted, replaced, repaired or covered with subsequent layers of flooring.

The guarantee period begins on the date of purchase. Registration is confirmed only when a letter of confirmation is sent by Warmup PLC.

During the period of the guarantee Warmup will arrange for the heater to be repaired or (at its discretion) have parts replaced free of charge. The cost of repair or replacement is your only remedy under this guarantee which does not affect your statutory rights. Such cost does not extend to any cost other than direct cost of repair or replacement by Warmup and does not extend to costs of relaying replacing or repairing any floor covering or floor.

If the heater fails due to damage caused during installation or tiling, this guarantee does not apply. It is therefore important to check that the heater is working (as specified in the installation manual) prior to tiling.

WARMUP PLC SHALL IN NO EVENT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO EXTRA UTILITY EXPENSES OR DAMAGES TO PROPERTY.

WARMUP PLC is not responsible for:
1. Damage or repairs required as a consequence of faulty installation or application.
2. Damage as a result of floods, fires, winds, lightning, accidents, corrosive atmosphere or other conditions beyond the control of Warmup PLC.
3. Use of components or accessories not compatible with this unit.
4. Products installed outside the United Kingdom.
5. Normal maintenance as described in the installation and operating manual, such as cleaning thermostat.
6. Parts not supplied or designated by Warmup.
7. Damage or repairs required as a result of any improper use, maintenance, operation or servicing.
8. Failure to start due to interruption and/or inadequate electrical service.
9. Any damage caused by frozen or broken water pipes in the event of equipment failure.
10. Changes in the appearance of the product that does not affect its performance.

SAFETY Net™
INSTALLATION GUARANTEE

SafetyNet™ Installation Guidelines:

1. Purchase a Warmup® Undertile Heating Kit, and follow all recommended installation procedures in the Installation Manual. Failure to follow the instructions will invalidate the guarantee.

2. If you make a mistake and damage the new heater before tiling, return the damaged heater, to Warmup within 30 DAYS along with your original dated sales receipt. WARMUP WILL REPLACE ANY PRE-TILED HEATER (MAXIMUM 1 HEATER) WITH ANOTHER HEATER OF THE SAME MAKE AND MODEL – FREE.

3. If you damage the new heater during tiling, contact Warmup immediately to arrange for a site visit. You will need to show our engineer your original dated sales receipt.
WARMUP WILL NOT CHARGE YOU FOR THE FIRST SITE VISIT- ON THIS FIRST VISIT THE ENGINEER WILL ATTEMPT TO REPAIR THE DAMAGED HEATER (MAXIMUM 1 VISIT AND 1 HEATER PER RESIDENCE) FOR FREE.

Please note:
(i) Repaired heaters carry a 5 year warranty only. Under no circumstances is Warmup responsible for the repair or replacement of any tiles which may be removed or damaged in order to affect the repair.

(ii) The SafetyNet™ Installation Guarantee does not cover any other type of damage, misuse, or improper installation due to improper adhesive or subfloor conditions. Limit of one free replacement heater per customer or installer.

(iii) Damage to the heater that occurs after tiling, such as lifting a damaged tile once it has set, or subfloor movement causing floor damage, is not covered by the SafetyNet™ Installation Guarantee.

Warmup PLC, 702 Tudor Estate, Abbey Road, London NW10 7UW
T 0845 345 2288 **F** 0845 345 2299 **www.warmup.co.uk**

Business Reply
Licence Number
RLSL-HCUB-JXKB

Warmup PLC
702 Tudor Estate
Abbey Road
LONDON
NW10 7UW

Fill in your registration online at www.warmup.co.uk to choose your FREE GIFT.

Name

Address

Post code

Telephone number

E-mail

Installer name

Date of purchase

Batch No.

Serial No.

Please state which room the heater(s) is installed:

☐ Kitchen ☐ Bathroom ☐ Conservatory ☐ Hall other

hereby

confirm that I have read and understand 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.

Documentation of Ownership, Installation & Part P Electrical Connection

This form must be filled out **completely**, otherwise you may invalidate your warranty.

Owner's Name _____

Owner's Address _____

_____

Post Code _____ Telephone Number _____

Email _____

Installer's Name _____

Installer's Telephone Number _____

I hereby confirm that I have read & understood the contents of the installation manual & that the heater(s) 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(s) was working prior to tiling.

Installer's Signature _____ Date _____

Electrician's Name _____

Electrician's Address _____

_____

Electrician's Telephone Number _____

Electrician's Part P Certificate Number _____

Table of heaters installed:

Heater/Room	Model No	Serial No.	Batch No.	RCD Rating	Resistance Reading
1 - bathroom	DWS800	225543	0126855	30 Ma	63.9 ohms
2					
3					
4					
5					

Place this card in a visible spot close to the consumer unit.

Warmup

Heater Location _____

Total Wattage _____

CAUTION
Radiant Floor Heating Systems
Warming-Risk of electric shock
Electric-wiring and heating panels contained below the floor. Do not penetrate with nails, screws, or similar devices. Do not restrict the thermal emission of the heated floor.

Attention:

Do **not** cut or shorten the heating element.

Ensure that the entire heating elements including the joints are installed under the tiles in the installation.

The Heating element must be used in conjunction with a 30mA RCD.

Heater Model	Resistance Before	Resistance After	Insulation Resistance

Date _____ Signed _____ Company stamp/name _____

This form must be completed as part of the Warmup Guarantee. Ensure that the values are as per the instruction manual.

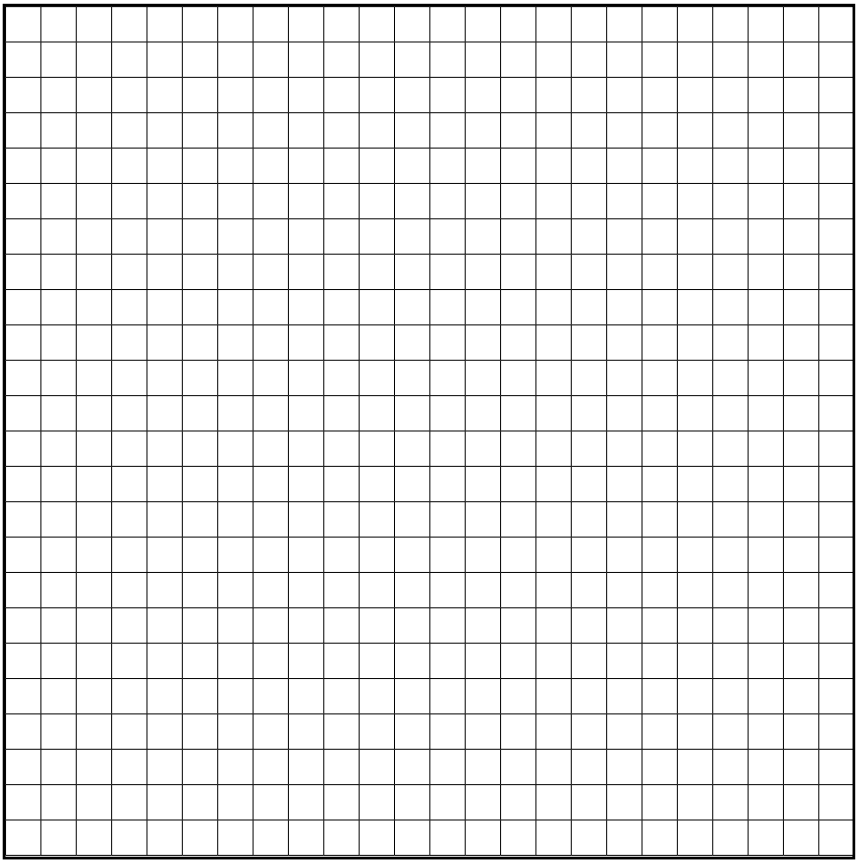
This card must be situated close to the consumer unit in a visible place.

Note: Draw a Plan showing the layout of the heater.

Warmup Plc 702 Tudor Estate Abbey Road London NW10 7UW T: 0845 345 2288 F: 0845 345 2299 www.warmup.co.uk

Notes

Note: Draw a plan showing the layout and location of the heating mat (s) .



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