

# Warmup<sup>®</sup>

The best underfloor heating - **guaranteed**<sup>™</sup>

## Installation Manual:

# Underfloor Heating Loose wire system

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**IMPORTANT**  
Read this manual before attempting to install your underfloor heater. Incorrect installation could damage the heater and will invalidate your warranty. Complete and submit your warranty form online at [www.warmup.co.uk](http://www.warmup.co.uk)



# Contents

3	Do's and don'ts
4	Heater information
5	Making electrical provision
6	Technical notes
7	Subfloor preparation
8	Wiring configuration
9	Installing multiple heaters
10	Installation
16	Notes
18	Warranty
19	Sizing guide table

## Contents supplied

1. Warmup Undertile Loose Wire Heater
2. Primer
3. Roller for applying primer
4. High adhesion fixing tape
5. Manual

Your Warmup® Undertile Loose Wire Heater has been designed so that installation is quick and straight forward, but as with all electrical systems, certain procedures must be strictly followed. Final connection to the mains electricity supply **MUST** be carried out by a part P qualified electrician.

Please check the sizing guide at the back of this manual to ensure that you have the correct heater(s) for the area to be heated.

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

### WARNING

During installation ensure no damage is caused by falling objects, sharp objects or walking on the heater wire. If the floor is not being tiled immediately, protect all heater wires with two layers of cardboard or similar. Immediately prior to tiling, test the heater wire as specified on page 14.

# Do's and don'ts

## DO

- ✓ Carefully read this installation manual before commencing installation
- ✓ Ensure the floor surface is smooth, clean and dry before priming the floor with the Warmup® primer
- ✓ Ensure good ventilation during application and drying of the primer
- ✓ Lay the wires whilst the primer is still "tacky" to ensure the greatest level of adhesion
- ✓ Plan the heater layout and installation so that any drilling after tiling (e.g. for fixing sanitary ware) will not damage the wiring
- ✓ Ensure that the control card at the back of the manual is completed and fixed at the main consumer unit along with any plans and electrical test records. As per the current BS7671 wiring regulations
- ✓ Ensure that a heat loss calculation has been carried out and heating requirements have been met if you are using the undertile heating system as a primary source of heating
- ✓ Ensure that all mains electrical connections must be undertaken by a Part "P" certified electrician. All work must conform to current IEE Wiring Regulations.
- ✓ Ensure that the heating element is protected by a 30 milliamp RCD
- ✓ Connect the heaters in parallel, not in series
- ✓ Maintain a gap between heating wire runs of at least 50mm (2 inches) at all times
- ✓ Install the floor sensor centrally between two adjacent runs of heating element
- ✓ Check that the heater is working before, during and after installation. Use a multimeter to check the resistance of the heater to see if it is in line with the resistance values on page 4
- ✓ Ensure that all of the heating element, including manufactured joints, are under a full bed of adhesive or levelling compound and covered with tiles.
- ✓ Use adhesives and grouts suitable for use with underfloor heating
- ✓ Ensure that the heating elements are installed at least 50mm from conductive parts of the building, such as hot water pipes.

## DON'T

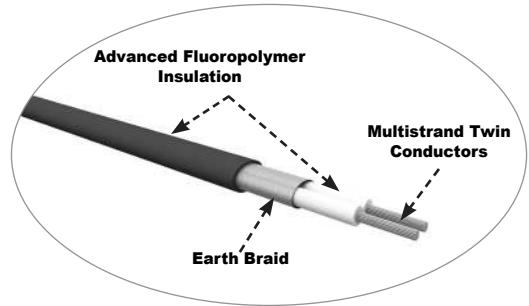
- ✗ Cut, shorten or alter the length of the heating element in any circumstances
- ✗ Cross or overlap the heating element at any point
- ✗ Install the heater on a concrete floor that has not fully dried
- ✗ Allow traffic over the primed floor or the installed heating wire before tiling
- ✗ Commence tiling before testing the Warmup® Loose Wire System
- ✗ Switch on the installed heating system until the tile adhesive has fully dried (7 days minimum)
- ✗ Install the heater in temperatures less than +5°C
- ✗ Install the heating element up stairways or walls
- ✗ Install the heating element under any units or fixed objects
- ✗ Tape over manufactured joints or the floor sensor tip to hold them in place as this may create air pockets around the joints resulting in failure of the system.
- ✗ Attempt a DIY repair if you damage the heating element. Contact Warmup immediately
- ✗ Overlap the floor sensor cable over or under the heating element
- ✗ Install the floor sensor close to other heat sources such as hot water pipes
- ✗ Leave surplus heating element under fixtures and units. Ensure you have the correct size heater for your installation
- ✗ Bend the heating element under 25mm radius
- ✗ Use the system to help dry out the wet trade
- ✗ Supply power to the heater until the heater is completely encased in tile adhesive and the tile adhesive has been given sufficient time to dry out

**The heating must be separated from other heat sources such as luminaires and chimneys.  
The maximum recommended thermal resistance between the heater and the room is 0.15m<sup>2</sup>K/W (1.5 TOG)**

# Heater Information

The heaters consist of a fixed length of heating wire terminated at one end by a sealed joint and the other end by a 3m power supply cable (cold tail).

The cores and earth braid are spliced in a waterproof joint assembly to the supply conductors and the earth conductor of the cold tail.



## Technical Information

Heater Model	Wire Colour	kW	Wire Length (m)	Amps Resistive (@230 volts)	Resistance (Ohms at 20°C)
DWS300	BLUE	0.300	22	1.3	176.0
DWS400	SILVER	0.400	32	1.7	128.0
DWS600	GREY	0.600	44	2.6	88.0
DWS800	RED	0.800	64	3.6	64.0

Note: Ohms resistance varies with ambient temperature. A tolerance of +/- 5% is allowed.

## Important

All electrical connections must conform to the current BS 7671 Wiring Regulations.

Final connections to the main electricity supply MUST be completed by a Part P qualified electrician.

# Floor Coverings

This installation manual gives instruction for installation of the Warmup underfloor heating loose wire under ceramic, quarry or natural stone tiles.

The maximum thermal resistance of the floor must not exceed 0.15 [m<sup>2</sup>K / W].

## Other Floor Coverings

It is possible to install the heating element under floor finishes such as wood or vinyl by applying a self levelling compound over the loose wire system. You must ensure that all heating cables are completely covered with a minimum of 10mm self levelling compound. It is important that the levelling compound is suitable for use with underfloor heating.

**Note:** Delicate floor finishes such as wood or vinyl have a maximum floor surface temperature of 27°C. This temperature must **NOT** be exceeded.

Please contact Warmup for further advice if you wish to install the underfloor heating loose wire under any floor finishes other than ceramic, quarry or natural stone tiles.

# Making electrical provision for the heater

## Install the RCD

The electrician must install a dedicated 30 milliamp RCD or use an existing RCD. The electrician may wish to use a combination 'double pole switched' fused-spur/RCD. No more than 4.8kW of heating may be connected to each 30 milliamp RCD. For larger loads, use multiple RCD's.

**Note:** It is possible to run the heater(s) from an existing circuit. The electrician will be able to determine whether or not the circuit can handle the load and if it is RCD protected.

## Install electrical boxes and trunking

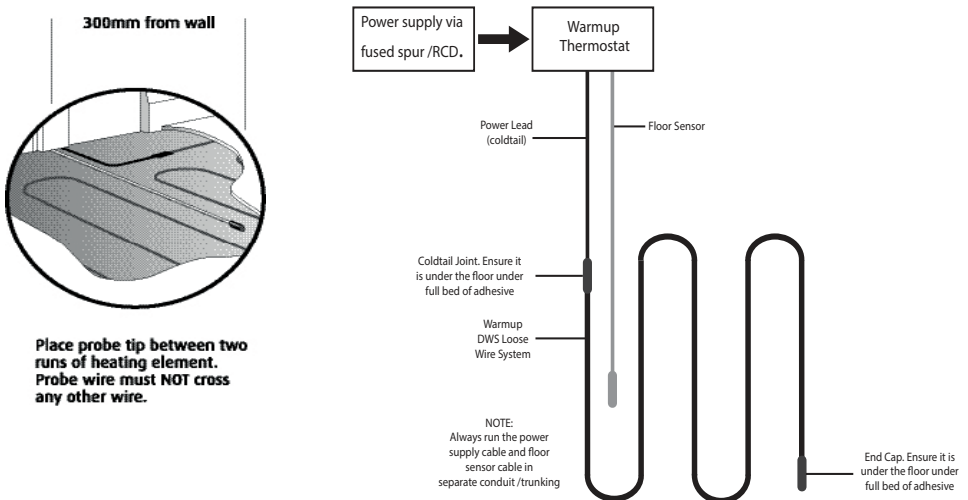
You will require a deep (35mm) back box for the Warmup® Thermostat. If you are installing more than two heaters, a junction box will also be necessary. The wiring to the thermostat should be chased into the wall and protected by conduit or plastic trunking.

## Connecting the Warmup® Thermostat

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

The thermostat should be installed within the rooms 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 to the undertile heating as possible, for example in an adjacent airing cupboard.

**Note:** The floor sensor can be extended up to 50m.



**NOTE:** Do not tape over the tip of the sensor when securing in place as this may result in inaccurate temperature readings.

# Technical Notes

To fully utilise the long-term durability of ceramic tiling, whether heated or not, it is important that the design, construction and preparation of the subfloor is carried out correctly.

It is essential that the subfloor be sufficiently rigid to support the ultimate weight that it will have to bear without movement or deflection.

The choice of products for subfloor preparation and tile will vary depending on the existing subfloor, preferred tiling system and choice of tile. This document is only intended to be an outline guide to laying ceramic floor tiles. Further help regarding floor preparation and tile application is available from the tile adhesive manufacturers.

Comprehensive information can be found in the following British Standards with which all installations should comply:

BS 7671: "The IEE Wiring Regulations" (latest edition)  
BS 8204: "Concrete bases and screed to receive in-situ flooring" 1987  
BS 5385: "Wall and floor tiling" Part 3: 1989 and Part 4: 1992  
BS 8000: "Workmanship" Section 11.1:1989 and section 11.2:1990

Copies can be obtained from: British Standards Institute, 389 Chiswick High Road, London, W4 4AL or for a token fee, may be viewed at most Public Libraries. Ensure the most up-to-date versions are seen. Alternatively, you may wish to seek professional advice; e.g. an architect.

## Subfloor Preparation

Prior to installation, it is important that the subfloor is properly prepared.

Timber subfloor: boards must be over boarded by a suitable tile-backer board or over boarded with WBP plywood (18mm thickness minimum) screwed down at 200mm centres.

Insulated concrete floor: This must be completely dry (can take 8 weeks), smooth and level.

Subfloor previously covered in vinyl, cork or carpeting: all old flooring and adhesive must be removed.

If bitumen asphalt is present as adhesive residues it must be removed. If the bitumen is a damp proofing layer, it must be covered with a minimum 50mm of sand/cement screed, taking care not to puncture the bitumen coating. The screed must be fully dry (6 weeks) before priming.

If using other damp proofing or tanking systems, contact the manufacturer for advice.

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

# Preparation of concrete or timber subfloors

## 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 BS 5385: Part 3, clause 14.4 regarding sealing the backs and edges of the WBP plywood before fixing.

Fixing ply directly to the joists will not provide a sufficiently stable floor finish to accept tiles; fitting tongue and groove flooring and then over-boarding with ply or a 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 BS 5385: Part 3: 1999.

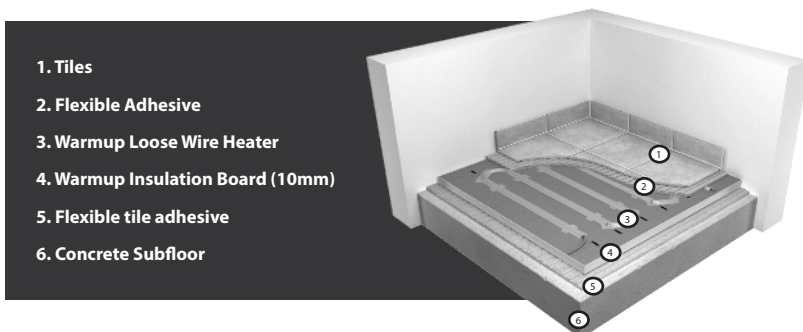


## Using insulated tile backer board

Fix the tile backer board as per manufacturer's instructions. For best results and for ease of installation, Warmup recommends the use of an extruded polystyrene building or insulated tile backer board with a cement-based facing, such as Warmup<sup>®</sup> Insulation Board.

After attaching the board to the subfloor, the Warmup<sup>®</sup> Undertile Heating System may be laid directly on top of the tile backer/building 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.

**Note:** Do not use the green Warmup<sup>®</sup> primer when installing on insulated tile backer board.



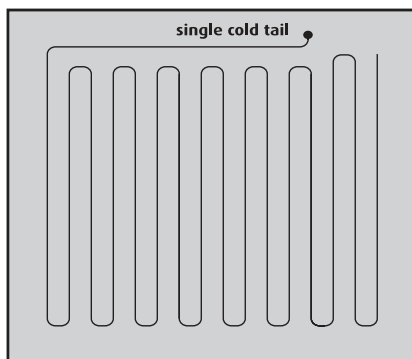
# Wiring configurations

Whilst the installation instructions only make provision for the wiring to be installed in a set configuration, there are many instances where departure from this configuration may be desirable. Below are a few drawings illustrating the versatility of the Warmup Loose Wire Undertile heating System.

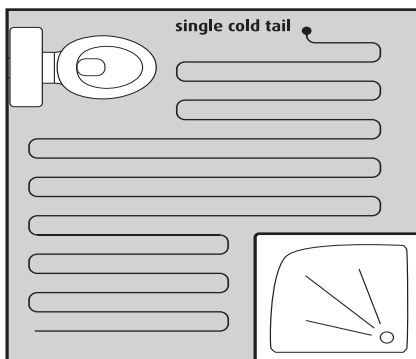
In each of the examples the floor space is heated using different wire configurations to suit the particular layout of the room. It should be noted that whilst the sizing chart provided in this booklet is a useful guide to heater layout, it may be necessary to slightly alter the heating wire spacing to suit your particular installation. However, at no time should the spacing between the wires be less than 50mm.

**Note:** Refer to sizing guide at the back of the manual

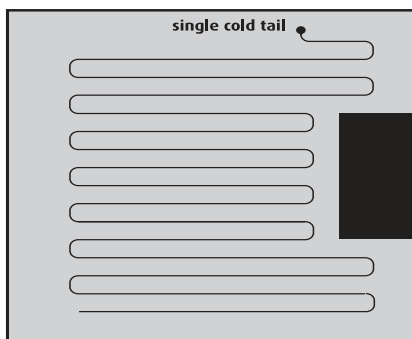
**Standard room**



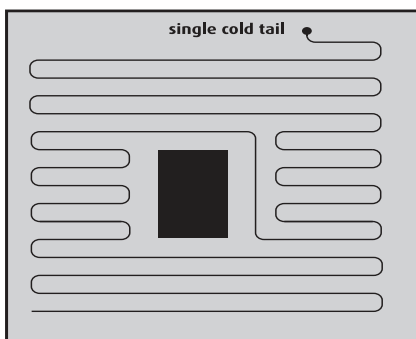
**Bathroom**



**Room with recesses**



**Room with central obstacle**



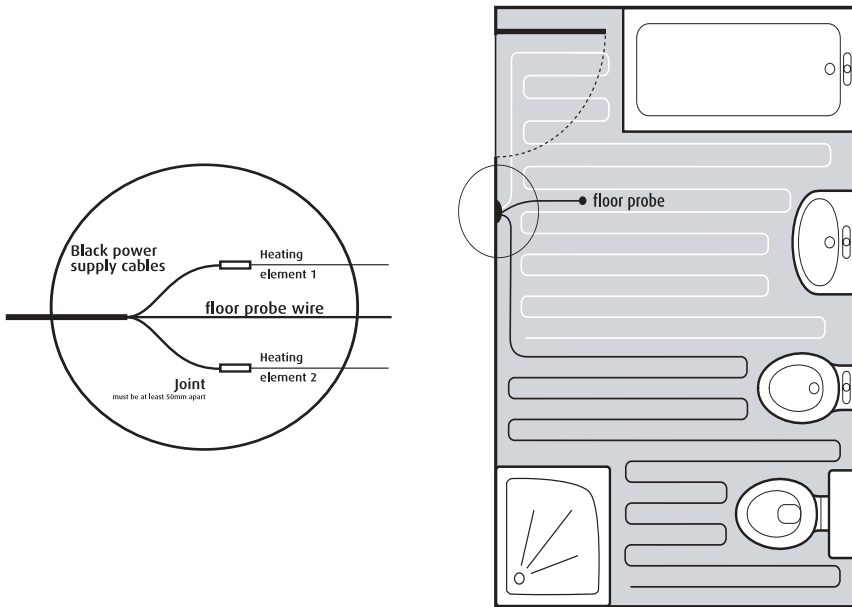


# Installing multiple undertile heaters

When installing two or more heaters, begin by reading the sizing guide at the back of this booklet to ensure that you have the proper number and size of heaters for the area you wish to heat. The sizing guide will also tell you the perimeter and heating wire spacing required for your particular room size.

After you have primed the subfloor, mark the subfloor as per the instructions on page 11 and lay the first heater. Do not cover the first heater with tape at this point as you may wish to slightly alter the spacings later on.

Lay the second heater in the remaining area using the same perimeter and heating wire spacings as the first heater. Please note that all heaters will start in the same area next to the Warmup<sup>®</sup> Thermostat location.



## Note:

When laying more than one heater, it is important to keep these points in mind:

1. The heating wires must not touch or cross at any point.
2. The heaters are joined in parallel only at the thermostat or in a junction box.  
**DO NOT** attach one heater to another in series.
3. The heating wire spacings for all heaters in an area should be approximately equal.

# Installation

## Step 1 - Prepare the subfloor

Before applying the primer ensure that the floor surface is smooth, dry and free from dust.

**Note:** It is not necessary to use the primer if you are installing the heaters on an insulated tile backer board.

If the heater is being fitted to a wooden floor, the floor should be boarded over with tile backer board or plywood as specified in the technical notes section. If necessary, an appropriate smoothing compound should be applied and allowed to cure.

If the heater is being fitted to a solid floor it is essential that the concrete has been allowed to dry before the primer is applied. This can take 8 weeks or more.

If tiling on existing ceramic or quarry floor tiles, clean the floor with an appropriate floor-cleaning compound. Do not then apply the green Warmup® primer, go to step 3.

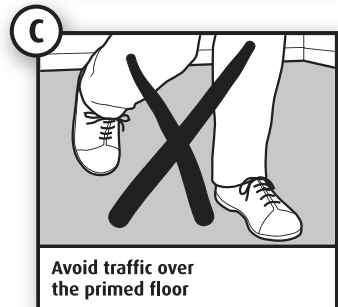
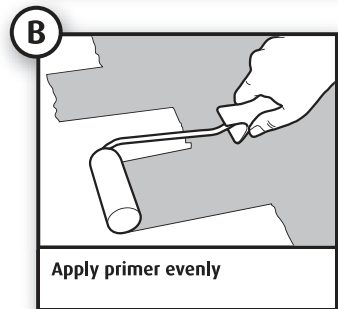
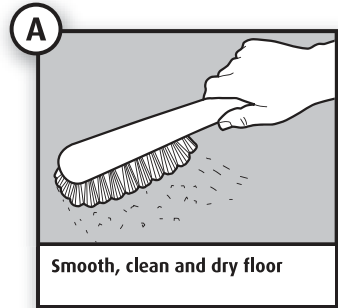
## Step 2 - Apply the primer (if needed)

Using the roller supplied, apply the primer evenly to the entire surface to be heated. The primer must be allowed to dry for a minimum of 3 hours. The light green colour of the primer will change to a darker green once dry.

Good ventilation must be provided, which along with a higher ambient air temperature, will accelerate the drying process.

Avoid traffic over the subfloor once the primer has been applied.

\*If any sort of sealant has been used on the base DO NOT use the primer contained in the kit.



# Installation cont'd

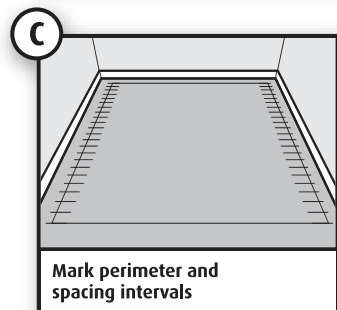
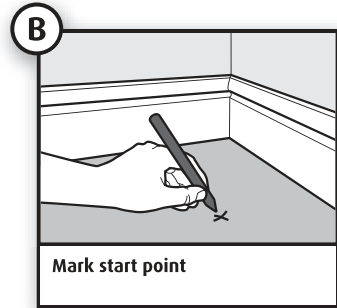
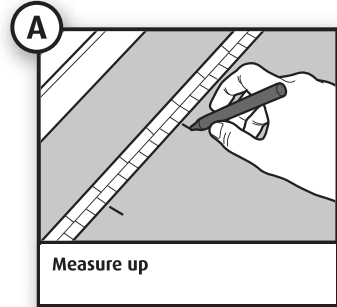
## Step 3 - Mark the floor

Mark the heater position on the floor. Calculate in square metres the size of the area to be heated. Then, using the sizing guide on the back of the manual, read off the wire spacing and perimeter distances to correctly fit your heating wire into the space available.

Using a fibre tipped pen, mark a start point as close as possible to the power supply, but no further than 2.5m from it. Mark all the outer corners of the heated area observing the perimeter distances previously read off the sizing guide and join the corners up to form a marked out perimeter.

Mark up the spacing intervals for the heating wire following the sizing guide. The spacing must be a minimum of 50mm and at no time should the heating wire be less than 40mm from the wall.

Note: It is important to keep the spacing uniform, uneven spacing will result in patchy heat across the floor.



# Installation cont'd

## Step 4 - Begin laying the heater

Lay out heating wire and secure with fixing tape. Once the floor has been marked up, the heating wire can be laid out.

Before laying out the heater wire, visually check for any damage and then check the heater wire resistance using a multimeter. Refer to heater resistance values on page 4.

Gently pull the power supply cable from the box.

Do not remove the spool from the box as this will cause the heating wire to twist.

After 3 metres of cable have been removed, you will reach the point at which the power supply cable joins the heating wire.

The joint should be secured to the floor at the start point. **DO NOT** tape over this joint.

The wire should be laid in parallel lines back and forth across the main body of the area to be heated.

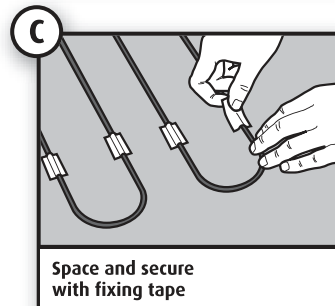
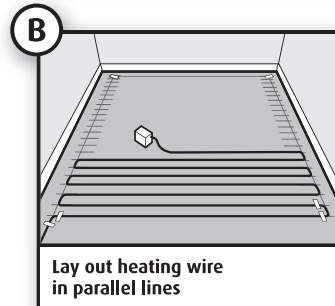
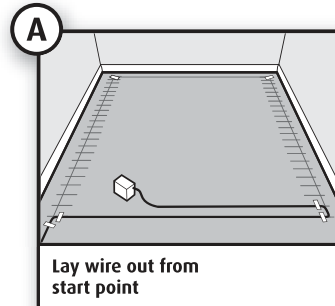
Using the wire spacing markings as tape down points, secure the heating wire to the floor with strips of adhesive tape supplied.

The strips should be about 25mm (1 inch) long. In order to achieve even coverage of the balance of the area to be heated, you may at this stage need to adjust some of the wire spacing that you previously secured. You may wish to alter the wire layout to fit your particular room.

Where there are irregularities of room shape you can manually lay out the heating wire, e.g. to provide warmth around the basins, toilets, etc.

This is quite acceptable providing that:

The heating wires are spaced at least 50mm apart at all times & the heating wires never cross.



# Installation cont'd

## Step 5 - Taping the heater to the subfloor

Once the heating wire layout has been completed, the entire length of the heating wire should be taped to the floor. Do not tape over the manufactured joints.

Ensure the greatest possible adhesion, with the minimum of trapped air space beneath the taped wire. As you apply the tape, gently tighten the heating wire from the ends to ensure it is straight.

The wire should be located in the centre of the tape to provide maximum protection from the tiler's trowel. If the tape is not completely covering the wire at any point, apply another layer of tape to provide additional protection.

After applying a length of tape, run your forefinger and thumb along the length of the wire, gently squeezing the wire to remove any air space between the wire and the tape.

## Step 6 - Chiselling channels in the subfloor

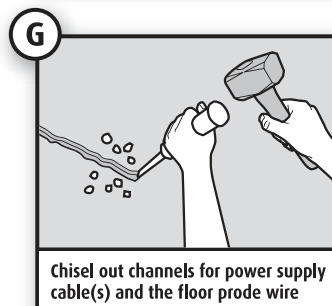
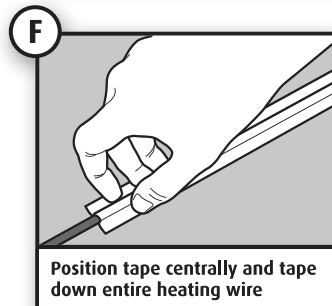
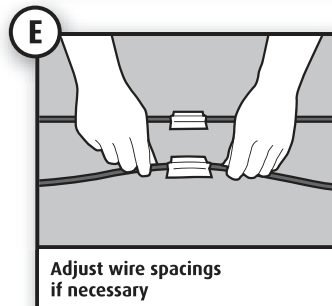
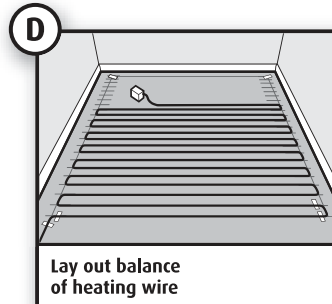
Depending on the requirements of the tiler, it may be necessary to chisel out or "chase" short channels in the subfloor to minimise the increased height presented by the power cable, the end joint and the floor probe wire.

Before chiselling the area, ensure that the heating wire and power supply cable are out of the way. Fit the power supply cable into the channels and secure with fixing tape.

Remove all debris and chippings from the floor. Unless the floor is being tiled immediately, cover the floor with hardboard or cardboard to protect the heating wire.

### Note:

1. The entire heater must be kept on the same level. Do not lay the heaters on stairways or up walls.
2. Do not tape over the main joint and end cap. They must be covered by adhesive and tile.
3. When installing the loose wire heater under engineered wood or vinyl floors, it must first be covered by a 10mm latex self-levelling compound and allowed to dry.



# Installation cont'd

## Step 7 - Install the Warmup® Thermostat and floor probe

Instructions for the fitting of the Warmup® Thermostat can be found inside the thermostat box.

The power cable consists of conductors coloured brown (live), blue (neutral) and green/yellow (earth). These should be connected in accordance with current wiring regulations. For testing purposes, the brown and blue wires should be connected to a multimeter to obtain a resistance reading BEFORE any connections are made to the electrical supply.

Please review the information on page 5 before proceeding.

## Step 8 - Test the heater and floor sensor

The heaters must be tested before, during and after tiling. We recommend the use of a digital multi-meter set to a range of 0-2 K ohms for testing. The resistance (ohms) of each individual heater should be measured.

You should carry out the following tests and should expect the results detailed below:

- Live to neutral should show the Ohms value listed in the table on page 4.

A +/- 5% Ohm reading tolerance is allowed under manufacturing guidelines. Record the readings on the control card at the back of the manual.

- Live to earth and neutral to earth should show infinity.

At this point an insulation resistance test must be carried out by a qualified electrician and the results recorded on the control card at the back of the manual.

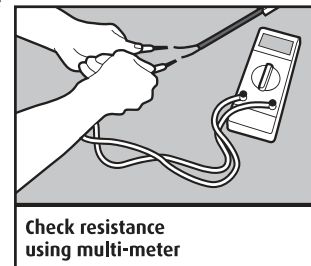
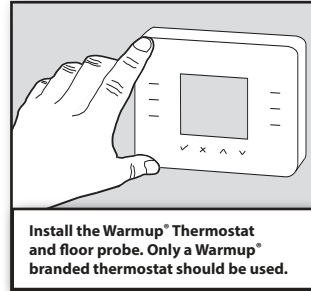
**NOTE:** Due to the high resistance of the heating element, it may not be possible to get a continuity reading from the mat and as such, continuity testers are not recommended.

### Floor Sensor

Ensure that the floor sensor is tested before the final floor finish has been laid. When testing the floor sensor ensure that the meter can read up to 20k ohms.

The current warmup thermostats use a 10k ohm floor sensor. For temperatures between 20°C and 30°C the resistance of the floor sensor should measure between 8k ohms and 12K ohms.

If you do not get the expected results or at any time you believe there may be a problem, please contact Warmup's Technical Team on 0845 345 2288 for guidance.



# Installation cont'd

## Step 9 - Tile and grout the floor

The tile adhesive and grout must include an additive for flexibility and be suitable for use with underfloor heating. Refer to the tile adhesive manufacturer's instructions for usage.

2 part flexible adhesive is best. Check that the heating wire is fully taped and secure. Tile as normal, taking care not to damage or dislodge the heating wire with the trowel or with the tiles. If tiling with mosaic slate or similar tiles, it is advisable to cover the heating wire with latex self-levelling compound before tiling. If installing under engineered wood or vinyl floors, the heater wire must first be covered with a 10mm latex self levelling compound and allowed to dry.

When using a notched trowel, gently comb the adhesive in straight lines in the same direction as the runs of the heating wire. The trowel should be used at an angle of approximately 45 degrees to the floor.

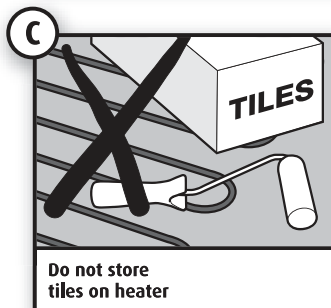
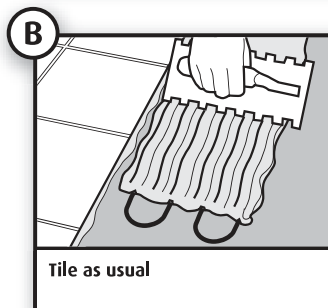
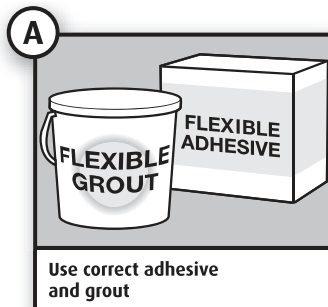
If possible use a plastic trowel. Do not allow the trowel to make contact with the heating wire whilst applying the adhesive. Use sufficient adhesive to ensure that there are no voids or hollows under the tile.

If a tile has been positioned incorrectly, take great care not to damage the heating wire when lifting. Remember that tiles must not be lifted once the adhesive is dry, as this will damage the heating wire. Do not store or cut tiles on top of the heating wire. Do not allow chippings or dust to contaminate the floor during tiling.

Care must be taken not to damage the heating wire during the tiling process. Use a piece of carpet or a dust-sheet as a "crawl-board" to prevent the heating wire being damaged by your feet or knees during the tiling process.

If possible, check the heater resistance with a multi-meter every half hour or so. If the heater goes open circuit (no reading on the multi-meter) DO NOT CONTINUE – call the technical helpline on 0845 345 2288

Grout the floor as soon as possible as per the ceramic tile adhesive manufacturer's instructions. Do not switch on the heater until the tile adhesive has fully dried. (min. 7 days).

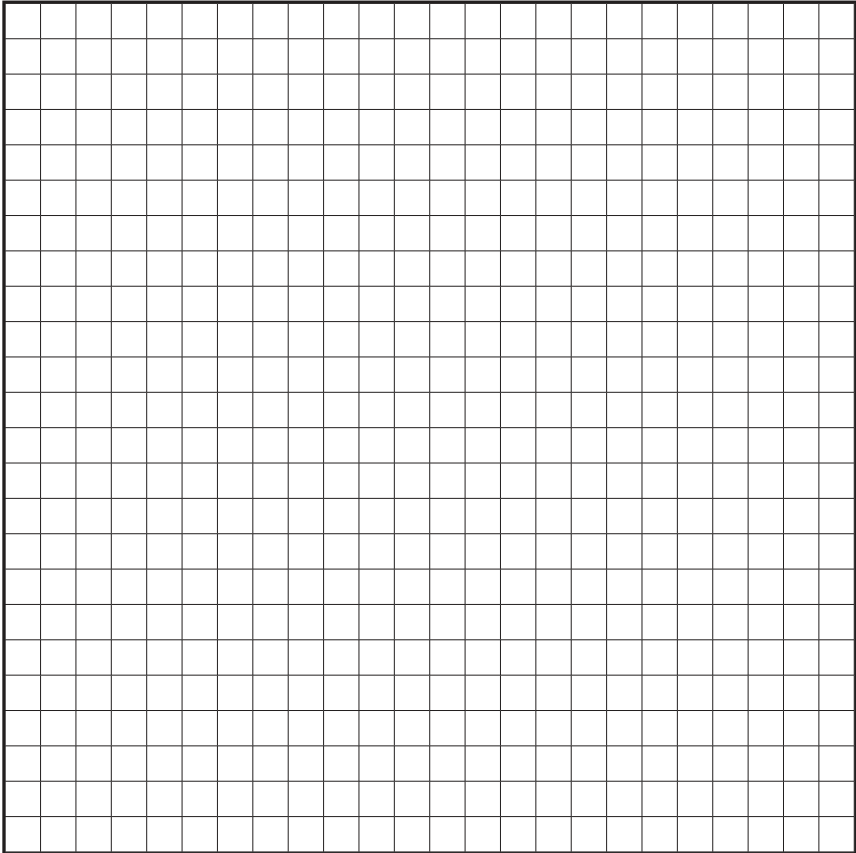


### Note:

Installation of an additional earth metallic grid is NOT required, as an earth metallic sheath is already incorporated into the wire design, as per 701.753 of the BS7671:2008 wiring regulations.

# Notes

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



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# Warranty

# Warmup®

The best underfloor heating - **guaranteed™**



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 online form at [www.warmup.co.uk](http://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 YEARS (The guarantee for the 3IE thermostat can be upgraded to a lifetime guarantee. Contact Warmup for details on 0845 345 2288) 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 the 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.



**SafetyNet™ Installation Guidelines:** If you make a mistake and damage the new heater before laying the floor covering, 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.

**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™ Guarantee.

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

**Warmup**

Heater Location \_\_\_\_\_

Total Wattage \_\_\_\_\_

**CAUTION**  
Radiant Floor Heating Systems  
Warning-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.



## 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 .....

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Post Code ..... Telephone .....

Email .....

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Installer's Name .....

Installer's Telephone Number .....

I hereby confirm that I have read & understand 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 .....

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Electrician's Name .....

Electrician's Address .....

.....

Electrician's Telephone Number .....

Electrician's Part P Certificate Number .....

**Serial Number:**

# Sizing guide

If your area is above 25m<sup>2</sup> please contact the Warmup Technical Helpline on 0845 345 2288 for assistance

The standard perimeter spacing is 50mm

However, it may be increased to a maximum of 150mm or decreased to a minimum of 40mm.

Area m <sup>2</sup>	Heaters required	Spacing
1.5 - 1.8	DWS300	70
1.9 - 2.4	DWS300	90
2.5 - 2.7	DWS400	70
2.8 - 3.0	DWS400	80
3.1 - 3.4	DWS400	90
3.5 - 3.8	DWS600	70
3.9 - 4.1	DWS600	80
4.2 - 4.4	DWS600	90
4.5 - 5.0	DWS800	70
5.1 - 5.6	DWS800	80
5.7 - 5.9	DWS800	90
6.0 - 6.4	DWS400 + DWS600	80
6.5 - 6.9	DWS400 + DWS600	90
7.0 - 7.7	2 x DWS600	80
7.8 - 8.4	2 x DWS600	90
8.5 - 9.2	DWS600 + DWS800	80
9.3 - 9.9	DWS600 + DWS800	90
10.0 - 11.1	2 x DWS800	80
11.2 - 11.4	2 x DWS800	90
11.5 - 12.2	DWS400 + DWS600 + DWS800	80
12.3 - 12.9	DWS400 + DWS600 + DWS800	90
13.0 - 13.7	2 x DWS800 + DWS400	80
13.8 - 14.4	2 x DWS800 + DWS400	90
14.5 - 15.2	2 x DWS800 + DWS600	80
15.3 - 15.9	2 x DWS800 + DWS600	90
16.0 - 16.7	3 x DWS800	80
16.8 - 17.4	3 x DWS800	90
17.5 - 18.9	2 x DWS800 + DWS600 + DWS400	90
19.0 - 19.7	3 x DWS800 + DWS400	80
19.8 - 20.4	3 x DWS800 + DWS400	90
20.5 - 21.2	3 x DWS800 + DWS600	80
21.3 - 21.9	3 x DWS800 + DWS600	90
22.0 - 22.3	4 x DWS800	80
22.4 - 24.6	4 x DWS800	90
24.7 - 25.0	4 x DWS800	100