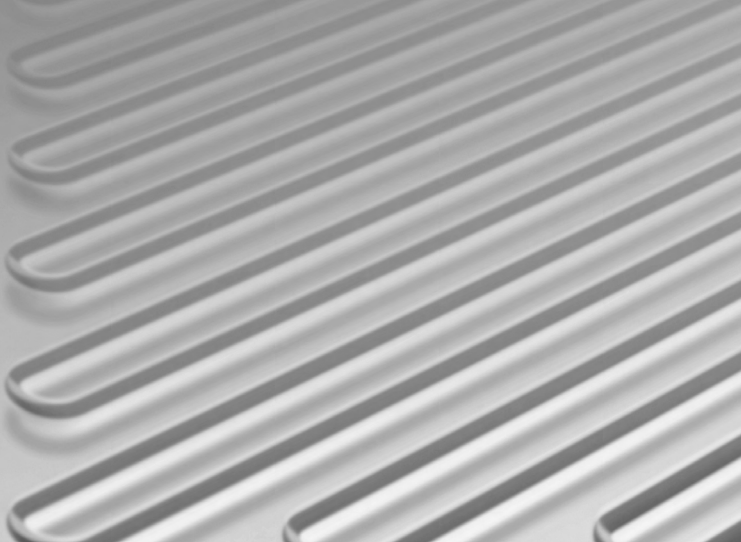
Installation Manual

Warmup
The world's **best-selling** floor heating brand™

Underfloor Heating
Loose wire system



TECHNICAL HELPLINE

0345 345 2288

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 your warranty form online at www.warmup.co.uk

UK CA
CE
BEAB
LIFETIME Warmup
SAFETY Net™ Installation-Guarantee

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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.

Safety information

- Perform a site inspection. You will need to confirm that all measurements and other requirements on site match your working drawings.
- Inspect the site for possible hazards that could damage the heating cable, such as nails, staples, materials or tools. Ensure that during the course of the installation no damage is caused to the heating cable by falling or sharp objects.
- Ensure all electrical connections conform to the current BS 7671 National Wiring Regulations. Final connections to the main electricity supply MUST be completed by a Part P qualified electrician.
- The heater's packaging includes a warning label that must be affixed to the consumer unit, directly beneath the electric underfloor heating circuit breaker.
- Ensure the system is protected by a dedicated 30 mA RCD/RCBO or an existing RCD/RCBO). Time delay RCD's must not be used.
- Ensure the Control card, EcoDesign compliance card at the back of the manual, layout plan, and all electrical test records are completed and affixed to the consumer unit, following the current BS 7671 standards.
- The subfloor must be pre-insulated unless it is an intermediate floor. Ensure the subfloor is prepared to an SR1 Surface Regularity. The subfloor must be smooth, dry, frost-free, solid, suitably weight-bearing and dimensionally stable.
- Ensure suspended timber subfloors are prepared in accordance with national standards and that manufacturer instructions are properly followed to avoid subfloor movement to prevent any damage to the system.
- Install the floor sensor centrally between two closest parallel runs of heating cable and away from other heat sources such as hot water pipes, lighting fixtures, chimneys etc.
- Before installing the floor finish, its suitability for use with underfloor heating and its maximum operating temperature should be checked against required operating conditions. Ensure the heat output of the floor meets your requirements.
- Install floor coverings which are at least 5 mm thick. For floor coverings other than tile, lay a minimum 10 mm levelling compound over the heating cable first. Check with flooring manufacturer for suitability with floor heating.
- Ensure the floor surface is smooth, clean and dry before priming the floor, ensuring good ventilation during application and drying of the primer.
- Underfloor heating performs the most efficiently with conductive, low resistance floor finishes such as stone and tiles. Consideration should be given to the thermal resistance and temperature limits of the chosen floor covering and its impact on the system heat output.
- Ensure all furniture installed over underfloor heating has feet, creating a minimum 50 mm ventilated space beneath it to allow heat flow into the room.
- The heating must be separated from other heat sources such as luminaires and chimneys.
- This heater incorporates an earth connection for functional purposes only.
- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

Safety information

- The coldtail can be cut / extended where required. This heating cable has a type Y coldtail attachment, therefore if the coldtail is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- Heating cables must not cross building expansion joints. If a heated floor is divided by expansion joints, use separate systems for each area. However, the coldtail can cross the joint within a 300mm conduit.
- Levelling compounds must be suitable for single pour installation depths of at least 10 mm.
- DO NOT cut, shorten or extend the heating cable, it must be fully installed within the layer of tile adhesive or levelling compound. The heating cable must not be installed over another cable run, over coldtails or the floor sensor.
- DO NOT leave surplus heating cable rolled up under units or fixtures, use the correct size system for your installation.
- DO NOT attempt a DIY repair if you damage the heating cable, contact Warmup for assistance.
- DO NOT tape over manufactured joints or the sensor tip. Doing so will cause air pockets and damage the heating cable and sensor. The manufactured joints and heater must be covered with a full bed of flexible adhesive directly beneath the heated floor.
- DO NOT install items above the heating system which have a combined resistance of more than 0.15 m^2K/W. Such items include bean bags, heavy rugs, flat furniture, animal beds or mattresses.
- DO NOT bend the heating cable under 25 mm radius.
- DO NOT switch on the system until the tile adhesive and grout has fully cured. DO NOT use the heating cable to accelerate the drying process of the adhesive or levelling compound.
- DO NOT install the heating cable in temperatures less than - 10 °C.
- DO NOT install the system on irregular surfaces such as on stairs or up walls.
- DO NOT use staples to secure the heating cable to the subfloor.
- DO NOT install cables in locations where they will increase the ambient temperature of any existing electrical installation above its rated value.

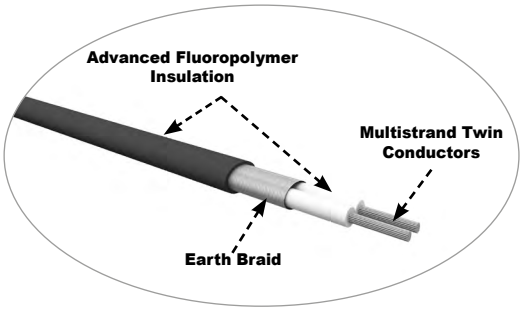
Symbols used in manual

WARNING! Radiant direct floor heating system. **Risk of shock or fire** Failure to comply with local wiring regulations or the contents of this manual may result in electric shock or fire!	
Installation in concrete or similar material	
Important information	

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.



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^2K / 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 supply to the thermostat MUST be protected by a 30mA RCD or RCBO at all times. Time delay RCD's or RCBO's must not be used. No more than 7.5 kW of heating should be connected to each 30 milliamp RCD or RCBO. For larger loads, use multiple RCD's or RCBO's.

The heater must be separated from the power supply by suitably rated circuit breaker that disconnects all poles with at least 3 mm contact separation. Use MCB's, RCBO's or fuses for this purpose.

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

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.

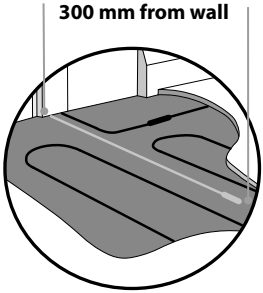
Install electrical boxes and trunking
You will require a deep (35mm) back box for the Warmup® Thermostat. If you are installing more than two heaters, a junction box will also be necessary. The wiring to the thermostat should be chased into the wall and protected by conduit or plastic trunking.

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.

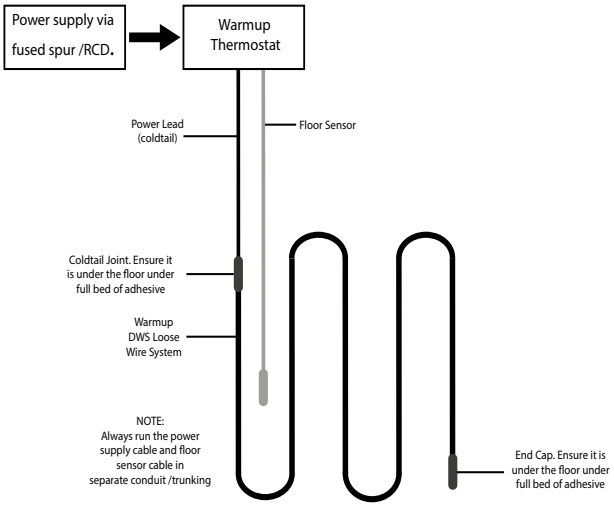
How-to
wire the system to a thermostat

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.



Place probe tip between two runs of heating element. The probe wire must NOT cross any other wire.



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"
BS 5385: "Wall and floor tiling" Part 3: and Part 4
BS 8000: "Workmanship" Section 11.1: and section 11.2

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.

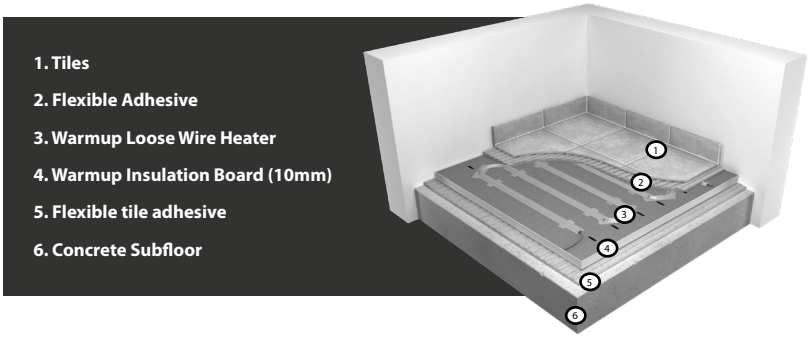


Using insulated tile backer board

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® Insulation Board.

After attaching the board to the subfloor, the Warmup® 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® primer when installing on insulated tile backer board.



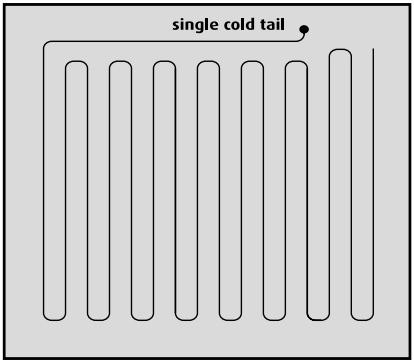
Wiring configurations

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.

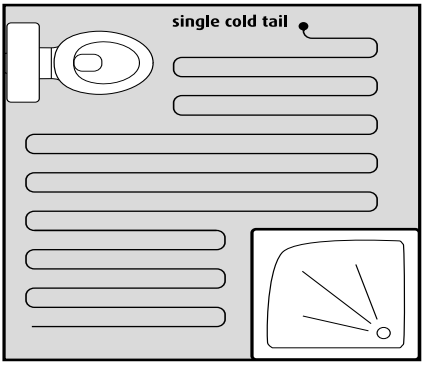
In each of the examples the floor space is heated using different wire configurations to suit the particular layout of the room. It should be noted that whilst the sizing chart provided in this booklet is a useful guide to heater layout, it may be necessary to slightly alter the heating wire spacing 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

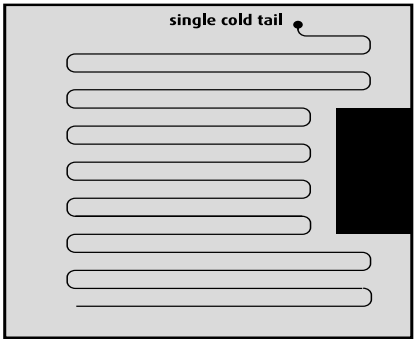
Standard room



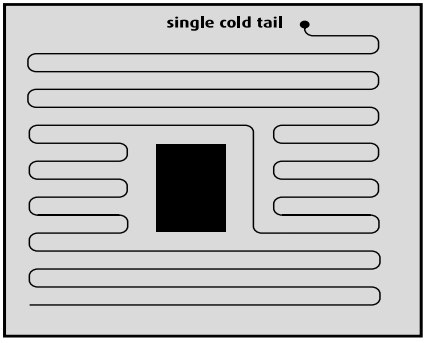
Bathroom



Room with recesses



Room with central obstacle

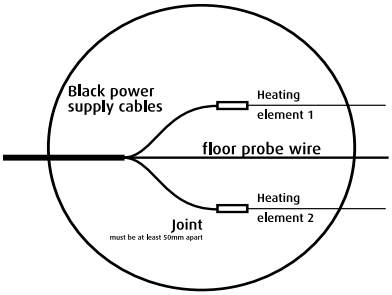


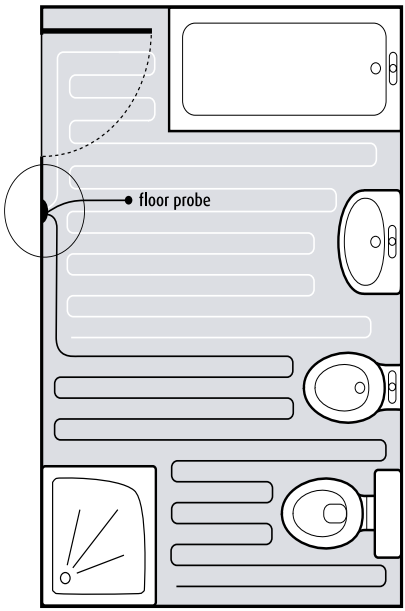
Installing multiple undertile heaters

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® 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.

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.

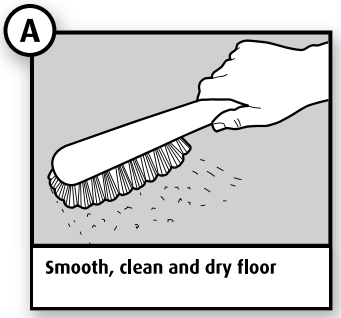
Step 2 - Apply the primer (if needed)

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.

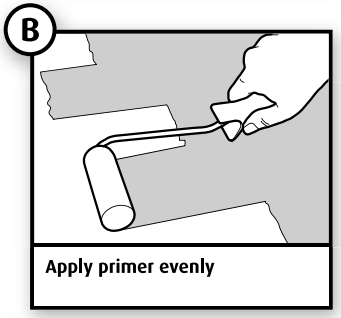
Good ventilation must be provided, which along with a higher ambient air temperature, will accelerate the drying process.

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

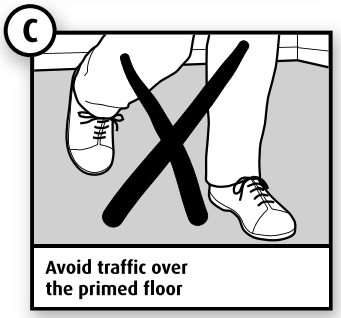
*If any sort of sealant has been used on the base DO NOT use the primer contained in the kit.



Smooth, clean and dry floor



Apply primer evenly



Avoid traffic over the primed floor

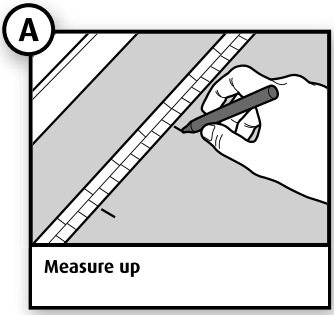
Step 3 - Mark the floor

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.

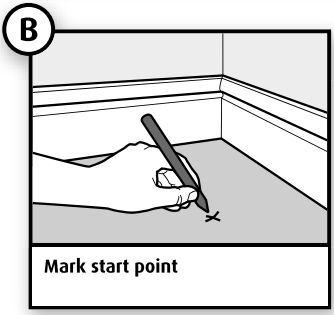
Using a fibre tipped pen, mark a start point as close as possible to the power supply, but no further than 2.5m from it. Mark all the outer corners of the heated area observing the perimeter distances previously read off the sizing guide and join the corners up to form a marked out perimeter.

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.

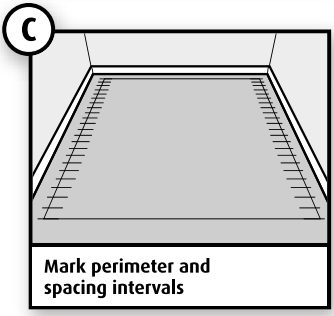
Note: It is important to keep the spacing uniform, uneven spacing will result in patchy heat across the floor.



Measure up



Mark start point



Mark perimeter and spacing intervals

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.

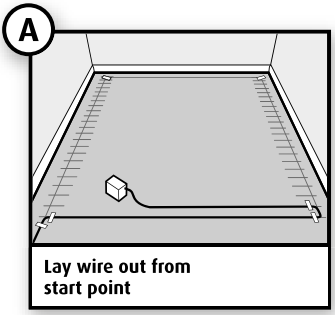
Using the wire spacing markings as tape down points, secure the heating wire to the floor with strips of adhesive tape supplied.

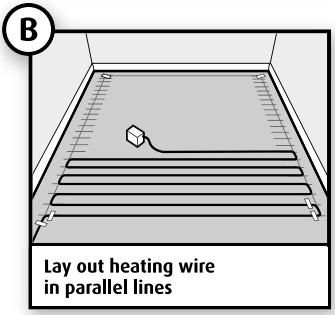
The strips should be about 25mm (1 inch) long.
In order to achieve even coverage of the balance of the area to be heated, you may at this stage need to adjust some of the wire spacing that you previously secured. You may wish to alter the wire layout to fit your particular room.

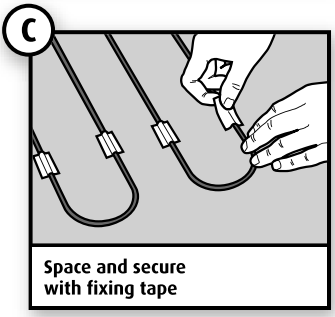
Where there are irregularities of room shape you can manually lay out the heating wire, e.g. to provide warmth around the basins, toilets, etc.

This is quite acceptable providing that:

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







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

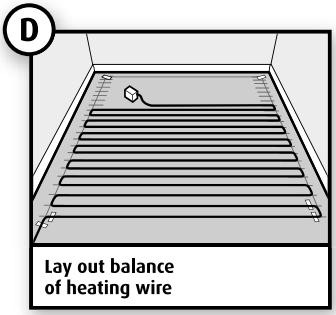
Depending on the requirements of the tiler, it may be necessary to chisel out or "chase" short channels in the subfloor to minimise the increased height presented by the power cable, the end joint and the floor probe wire.

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.

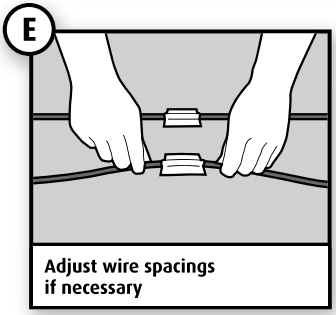
Remove all debris and chippings from the floor. Unless the floor is being tiled immediately, cover the floor with hardboard or cardboard to protect the heating wire.

Note:

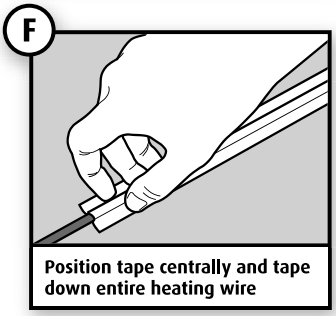
1. The entire heater must be kept on the same level. Do not lay the heaters on stairways or up walls.
2. Do not tape over the main joint and end cap. They must be covered by adhesive and tile.
3. When installing the loose wire heater under engineered wood or vinyl floors, it must first be covered by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



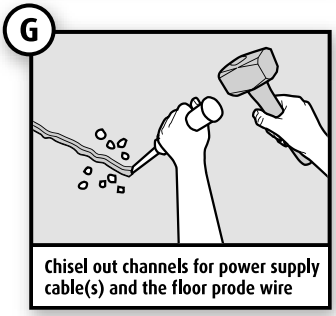
Lay out balance of heating wire



Adjust wire spacings if necessary



Position tape centrally and tape down entire heating wire



Chisel out channels for power supply cable(s) and the floor prode wire

Step 7 - Install the Warmup® Thermostat and floor probe

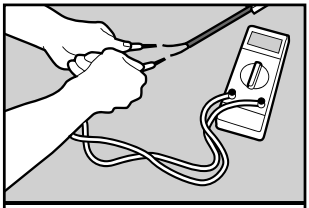
Instructions for the fitting of the Warmup® Thermostat can be found inside the thermostat box.

The power cable consists of conductors coloured brown (live), blue (neutral) and metallic earth braid. These should be connected in accordance with current wring 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.



Check resistance using multi-meter

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 cable 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 0345 345 2288 for guidance.

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.

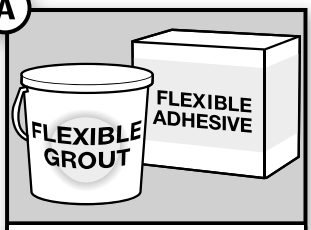
If a tile has been positioned incorrectly, take great care not to damage the heating wire when lifting. Remember that tiles must not be lifted once the adhesive is dry, as this will damage the heating wire. Do not store or cut tiles on top of the heating wire. Do not allow chippings or dust to contaminate 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 0345 345 2288

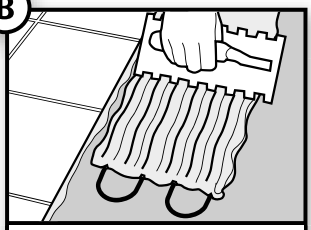
Grout the floor as soon as possible as per the ceramic tile adhesive manufacturer's instructions. Do not switch on the heater until the tile adhesive has fully dried. (min. 7 days).

A



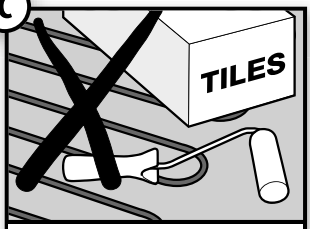
Use correct adhesive and grout

B



Tile as usual

C



Do not store tiles on heater

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.

Technical specifications

Product code	DWSX *X = Wattage of system*
Operating voltage	230 V AC: 50 Hz
Protection	Class II ⧈
Earth type	Functional earth ⏚ *Metal braiding surrounding heating cores*
Connection	3.0 m coldtail (2-core & earth)
Coldtail size	2Cx0.75 mm^2 (Up to 6.0Amps)
IP rating	X7
Output rating	≈150 W/m^2 (@90mm spacing)
Specific Power	≈ 13 W/m
Heating cores	Dual core, multi-strand heating element
Inner / Outer insulation	ETFE
Cable thickness	≈ 1.8 mm

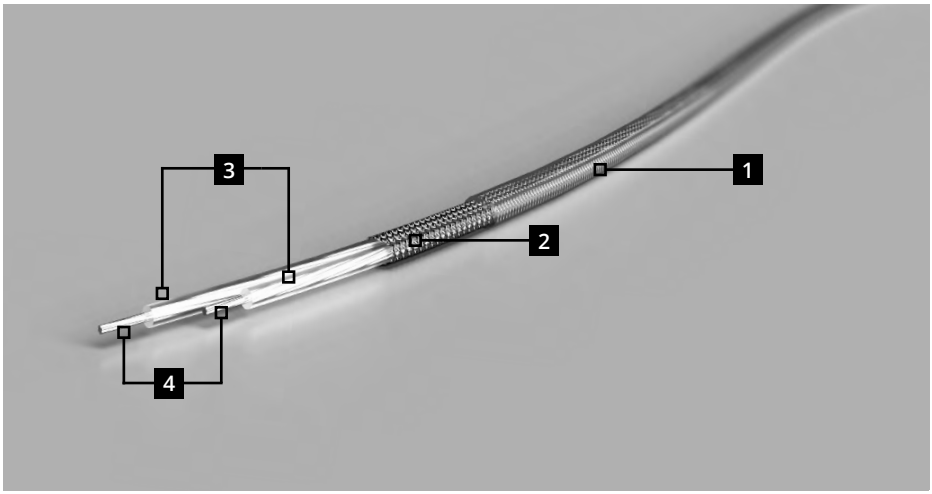
Disposal information



Do not dispose with regular domestic waste! Electronic equipment must be disposed of at local collection points for waste electronic equipment in compliance with the Waste Electrical and Electronic Equipment Directive.

Technical specifications

Product code	Cable Length (m)	Power (W)	Current (A)	Resistance (Ω)	Resistance Band (Ω)
DWS300	22	301	1.3	176.0	167.2 - 184.8
DWS400	32	413	1.8	128.0	121.6 - 134.4
DWS600	44	601	2.6	88.0	83.6 - 92.4
DWS800	64	827	3.6	64.0	60.8 - 67.2



1	ETFE outer insulation
2	Earth braiding surrounding heating cores
3	ETFE inner insulation
4	Dual core, multi-strand heating element

Warranty



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. 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/RCBO) at all times.

All Warmup warranties are voided if the floor covering over Warmup heater(s) are damaged, lifted, replaced, repaired or covered with subsequent layers of flooring. The warranty period begins on the date of purchase. 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 or issue a refund for the product only. 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, lightening, 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 of any country or territory within which Warmup operates.
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: If you make a mistake and damage the new heater before laying the floor covering, return the damaged heater to Warmup within in 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, missuse 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.

Register your Warmup® warranty online at www.warmup.co.uk

Warning!

Radiant direct floor heating system. Risk of shock or fire



Flexible sheet heating units are installed within the floor. DO NOT penetrate with nails, screws, or similar devices. DO NOT restrict the thermal emission of the heated floor. DO NOT affix materials other than those recommended

Checklist - Installer

Is the heating system, including manufactured joints, underneath the floor covering embedded in adhesive/levelling compound?	☐
Can you confirm that the manufactured joints and floor sensor tip, have **NOT** been taped over during installation?	☐

Model	Location	Power	System resistance			Insulation resistance test	Sensor resistance
			Before	During	After		

Installer name, company: .....

Installer signed: ..... **Date:** .....

Checklist - Electrician

Is the heating system protected by a dedicated 30 mA RCD/RCBO or an existing RCD/RCBO? **Time delay RCD's must not be used.**	☐
Is the system separated from the power supply by suitably rated circuit breaker that disconnects all poles with at least 3 mm contact separation, for example, MCB's, RCBO's or fuses?	☐

Model	Location	Power	System resistance	Insulation resistance test	Sensor resistance
			Pre-connection		

Electrician name, company .....

Electrician signed ..... **Date:** .....

This form must be completed as part of the Warmup Guarantee. Ensure that the resistance values are as per the instruction manual. This control card, a layout plan and EcoDesign compliance information card must be left permanently fixed near the consumer unit.

Warmup plc T: 0345 345 2288 **F:** 0345 345 2299 www.warmup.co.uk
704 Tudor Estate ■ Abbey Road ■ London ■ NW10 7UW ■ UK
Warmup GmbH ■ Ottostraße 3 ■ 27793 Wildeshausen ■ DE

EcoDesign compliance information card

This product is an electric underfloor local space heater and, in order to be compliant with the mandatory EcoDesign requirements set out in Commission Regulation (EU) 2024/1103, needs to be complemented with a control providing at least the following control functions:

Type of heat output/room temperature control (*one of*)

TD	Electronic room temperature control plus day timer *(Minimum of 3 control options required)*	☐
TW	Electronic room temperature control plus week timer *(Minimum of 1 control options required)*	☐

Other control options (multiple selections possible)

f2	Open window detection	☐
f3	Distance control option	☐
f4	Adaptive start control	☐
f7	Self-learning functionality	☐
f8	Control accuracy	☐

Room temperature control power consumption
The control must include an off mode and/or a standby mode, in addition to an idle mode. The power consumption must comply with requirements for each mode where applicable.

In off mode	$P_o \leq 0.5W$	☐
In standby mode (select one)	$P_{sm} \leq 0.5W$	☐
	$P_{dsm} \leq 1.0W$ (if control has an active display in standby mode)	☐
	$P_{nsm} \leq 2.0W$ (if control has a network connection in standby mode)	☐
In idle mode (select one)	$P_{idle} \leq 1.0W$	☐
	$P_{nidle} \leq 3.0W$ (if control has a network connection)	☐

The following Warmup thermostats include these control function codes and power consumptions:

Thermostat model	**Control function code**	**Power consumption**					
		Off mode	**Standby mode**			**Idle mode**	
		$P_o \leq 0.5W$	**$P_{sm} \leq 0.5W$**	**$P_{dsm} \leq 1.0W$**	**$P_{nsm} \leq 2.0W$**	**$P_{idle} \leq 1.0W$**	**$P_{nidle} \leq 3.0W$**
Tempo	TW (f4/f8)	☑				☑	
Element	TW (f2/f3/f4/f8)				☑		☑
6iE / 7iE	TW (f2/f3/f4/f8)	☑			☑		☑

For the combined heat output of all local electric space heaters attached to an individual control please refer to the technical specification page of this manual.

If using alternative thermostats, you must complete the above card according to the definitions of the control function codes specified in Regulation (EU) 2024/1103 to ensure compatibility with this local electric space heater.

Only functions that are active after the control has been commissioned can be declared and used for compliance.

Control function codes (Required to be in manual as part Regulation (EU) 2024/1103)

		Code of temperature control (TC)	Control functions							
			f1	f2	f3	f4	f5	f6	f7	f8
Type of temperature control	Single stage, no temperature control	NC								
	Two or more manual stages, no temperature control	TX								
	Mechanic thermostat room temperature control	TM								
	Electronic room temperature control	TE								
	Electronic room temperature control plus day timer	TD								
	Electronic room temperature control plus week timer	TW								
Control functions	Presence detection		1							
	Open window detection			2						
	Distance control option				3					
	Adaptive start control					4				
	Working time limitation						5			
	Black bulb sensor							6		
	Self-learning functionality								7	
	Control accuracy with CA < 2 Kelvin and CSD < 2 Kelvin									8

Sizing guide

The standard perimeter spacing is 50mm
However, it may be increased to a maximum of 150mm or decreased to a minimum of 40mm.

If your area is above 25m² please contact the Warmup Technical Helpline on 0345 345 2288 for assistance.

Area m²	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



CARELESSNESS CAUSES FIRE

Do not exceed a thermal resistance of 0.15 m^2K/W (1.5 tog) over the system, including any floor finishes.

DO NOT place items on an electric floor heating system which exceed the systems thermal resistance limit. Doing so will cause the system to overheat and may present a fire risk.

Such items include:

- ! Flat bottomed furniture
- ! Mattresses
- ! Heavy rugs
- ! Beanbags
- ! Animal beds
- ! Large pouffes/cushions

Warmup plc

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Fax: 0345 345 2299

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