Thermonet Underfloor Heating

150W Undertile System &
200W In Screed System

Installation Guide

thermonet
UNDERFLOOR HEATING

Thank you for your purchase

Thank you for choosing a Thermogroup product. Our commitment to simple, honest, on-time quality service ensures that we are here to help throughout every stage of your project from idea to installation and, most importantly, after sales support.

This document will provide a step-by-step guide to a perfect installation as well as details on the warranty and how to get technical support should you need it.

To ensure a safe, hassle-free installation to be proud of, please take the time to read this guide in full before you start. We've taken the time to highlight any potential pitfalls and common errors to avoid and get the job done!

Thermonet is covered by a lifetime warranty, subject to terms and conditions. Be sure to keep the receipt as proof of purchase, this will be required to validate your Lifetime warranty.

Please complete the Customer Handover section on page 21 in full so that your customer has all the information they need to complete the online warranty form and register their Thermonet Lifetime Warranty.

If you have any questions about your Thermonet Underfloor Heating or any of our other products call our technical support team on 1300 368 631. We will do our best to find a solution and will always give that little bit extra…

Thanks again for choosing a Thermogroup product.

If you have any questions or concerns or are unsure or need any help, please call our team on 1300 368 631

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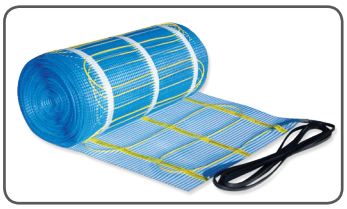
Products Checklist

Thermonet Underfloor Heating Mat



Thermonet is an underfloor heating mat system that is designed for installation beneath tiles or screeds. The system comprises of a 500mm wide self-adhesive mesh that holds the heating element in place, at the correct spacing and sticks down directly to the substrate.

Available in both 150W and 200W per square metre mats.

Thermotouch Thermostat

Thermonet is compatible with all the Thermotouch controllers. Options available include manual, fully programmable and dual controllers.

Thermonet T kits include the 5220A thermostat.
Thermonet TD kits include the 5245 thermostat.

Mat Alarm

The 6025 mat alarm is included in all Thermonet underfloor heating kits. This alarm is designed to be connected to the Thermonet matting while the screed or floor covering is being laid to alert of any damage.

This does not eliminate the need for conducting the resistance tests as stated in this installation guide.

Floor sensor and flexible conduit

The floor sensor is a small probe that is designed to be installed at the same level as the underfloor heating to measure the accurate floor temperature. This is designed to be housed in the flexible conduit to allow for replacement if required.

Please note: These are located in the thermostat box beneath the thermostat. The floor sensor is coiled on the inside of the flexible conduit.

Econoboard insulation boards (optional)

Econoboard insulation boards provide an insulated, prepared surface for the installation of an electric underfloor heating system. It is recommended to install insulation boards directly below the heating system to reduce running costs and increase response times.

Coated and Uncoated boards are available in a 6 or 10mm thickness.

Installation Do's & Don'ts

You must ensure that all the yellow heating cable and the entire cold tail connection (the join between the heating element and the flexible power supply lead) is fully encapsulated in tile adhesive or levelling compound

Please ensure that the end termination (the join at the end of the heating cable) is also fully encapsulated in tile adhesive or levelling compound

The cold tail joint and end termination must not be placed into a cut out of insulation or substrate and covered with tape. This can cause the cable to overheat and fail over time

The entire heating element (everything that is yellow) must be encapsulated in tile adhesive or levelling compound

Do's

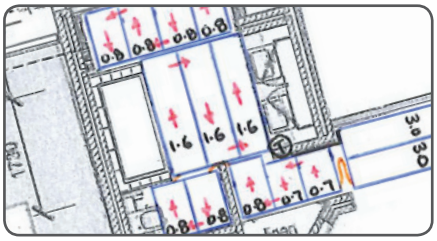
- Ensure electrical circuit is protected by a suitably rated RCD and complies with local regulations
- Ensure sensor conduit is positioned between 2 runs of heating cable in a representative area of the floor
- Remove protective film before laying the underfloor heating mat and installing the floor finish
- Lay wire (adhesive) side down where possible to protect cable
- Make sure all heating cable and cold tail connections are fully covered in a layer of tile adhesive or leveller and not held in position with tape.
- Take care to ensure all joins in the Econoboard are as flush as possible, using reinforcing tape if necessary
- Take care to ensure all electrical work complies with current electrical regulations
- Locate the thermostat in accordance with current guidelines
- Read this document in conjunction with instructions for associated accessories (e.g. thermostats)
- Ensure test procedures A, B & C are carried out, this is essential for completion of the warranty
- Install conduit in accordance with the instructions on page 15 to facilitate the replacement of the sensor probe if required
- Follow manufacturers recommendation for all associated products such as self-levelling compound or tile adhesive
- Protect the heat mat during installation, as this is when it is most prone to damage
- Reduce foot traffic to a minimum
- Use a full bed of tile adhesive when tiling over directly. Do not dot and dab
- Install a suitably rated contactor/snubber if required
- Take care not to cut or nick the heating element when cleaning the glue out of the grout lines

Don'ts

- Cut or shorten the yellow cable under any circumstances! This will cause a faulty circuit and potential fire hazard
- Place the cold tail connection or end termination in a recess in the floor or insulation boards and cover with tape. This causes an air pocket and leads to cable failure
- Place the cold tail connection in the conduit. The entire connection needs to be fully encased in a cement based substance.
- Position temperature sensor near pipes or external doorways
- Lay insulation on top of underfloor heating (UFH) or a dusty substrate. Insulation on top of UFH will reflect all the heat emitted back into the substrate
- Wire multiple mats in series
- Turn on system until adhesive or levelling compound is fully cured
- Leave boxes or furniture on heated flooring
- Strain or bend the cold tail or end termination at any point
- Allow the heating cables to touch or cross over each other
- Allow excessive traffic of any kind over the cable before tiling
- Cut tiles over the heating cable
- Place tools, buckets of glue, stacks of tiles or anything heavy over the cable
- Place any product over the floor covering that has a tog rating higher than 2.5
- Place bean bags, cushions or fixed furniture over the heated floor covering
- Turn on the heating cable or mat while it is rolled up or before it has been covered by a screed, self-levelling or tile glue
- Proceed with installation if the tested resistance is not within -5Ω to +10Ω of the stated resistance.

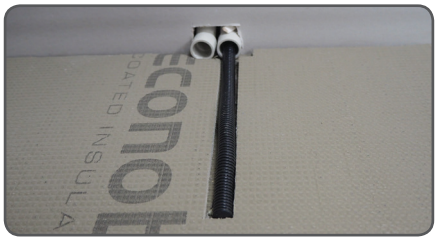
If you are unsure or need any help, please call our team on 1300 368 631

Installation Summary



1. Plan out the installation

Determine the location of the Thermostat and floor sensor and work out the layout of the heating mat excluding areas under floor mounted fixtures. See more details on page 14-15. Check you have all the required components. See details on page 4.

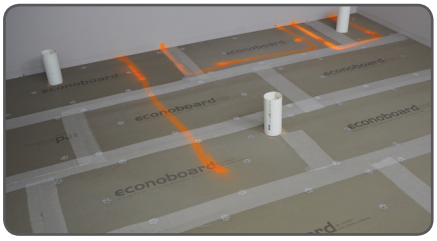


2. Rough in prior to sheeting walls

Install two 20mm conduits with sweeping bends at the Thermostat / floor sensor position. Insert the supplied flexible conduit into the one conduit and out into the floor. Insert the floor sensor probe into the flexible conduit. See more details on page 15.

3. Clean the floor

Ensure the substrate is clean and free from any dust and debris. It is recommended to vacuum and mop the substrate.

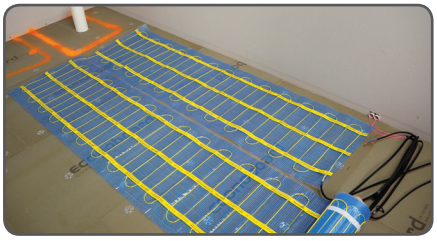


4. Install Econoboard insulation (Optional)

Glue down the uncoated Econoboards to a concrete substrate or screw down (with washers) the coated Econoboards to a timber substrate. See more details on pages 12-13.

5. Conduct test no. 1

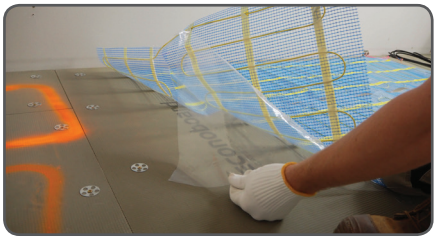
Test the floor heating as per details on page 8 and record the results on page 21.



6. Lay out the Thermonet mat

Starting at the Thermostat position lay out the heating mat according to the plan on page 14. The blue mesh can be cut and removed as needed.

NEVER CUT THE YELLOW CABLE.



7. Stick down the heating mat

Once the layout is finalised, peel off the clear plastic and stick down the heating mat. Feed the cold tail up the 2nd conduit to the thermostat position. Take photos of the completed install.

8. Conduct test no. 2 and wire up the mat alarm

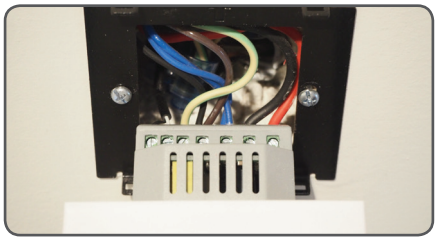
Test the floor heating as per details on page 8 and record the results on page 21. Wire up the mat alarm to the end of the black cold tail according to the instructions on page 9.

9. Install the floor finish

Cover the heating cables with a self-levelling compound, sand and cement screed or tile directly on top using a full bed of tile adhesive. See more details on page 18.

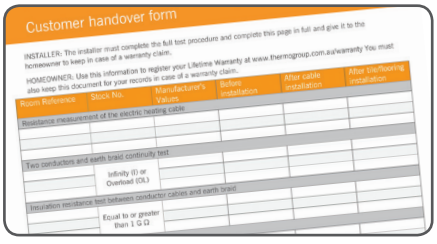
10. Conduct test no. 3

Test the floor heating as per details on page 8 and record the results on page 21.



11. Wire up the Thermostat

Wire up and mount the Thermostat according to the wiring diagram and installation details in the Thermostat instruction guide.



12. Complete the customer handover form

Ensure the details are complete on the customer handover form (page 21) and pass this onto the client for online warranty registration.

Install Checklist

Before you start

- [ ] Run the power feed to the thermostat position
- [ ] Read and understand the installation guide in full
- [ ] Read and understand the test procedure
- [ ] Install two conduits (for the cold tail and the floor sensor) from the Thermostat into the floor
- [ ] Feed the supplied flexible conduit down one of the conduits and out into the floor
- [ ] Chase a groove into the floor to recess conduits if required
- [ ] Use a contactor/snubber if required
- [ ] Learn how to safely cut and turn the mat
- [ ] Learn how to adapt the mat for irregular areas
- [ ] Calculate available floor space and draw plan

Econoboard insulation (Optional)

- [ ] Identify substrate and correct insulation required
- [ ] Calculate how many boards you need
- [ ] Ensure the substrate is clean and level
- [ ] Install insulation according to the relevant guide

Laying the Thermonet heating system

- [ ] Test the resistance of the heating mat and record results - Test A
- [ ] Lay out the heat mat according to your plan on page 14
- [ ] Leave gap of 50-100mm between the mat and walls
- [ ] Check the cold tail will reach the Thermostat position
- [ ] Push the sensor probe to the end of the conduit
- [ ] Keep the cap in the end of the floor sensor conduit
- [ ] Feed cold tail up wall to Thermostat position
- [ ] Ensure the cold tail junction is not in the conduit
- [ ] Peel off plastic and stick the Thermonet wire side down
- [ ] Fix loose cable using hot glue gun or tape
- [ ] Test the resistance of the heating mat and record results - Test B
- [ ] Wire up the mat alarm
- [ ] Take photographs of the completed install
- [ ] Either tile over directly with a solid bed of cement based flexible tile adhesive or cover with self-levelling compound or sand and cement screed

After tiling/laying floor covering

- [ ] Test the resistance of the heating mat and record results - Test C
- [ ] Wire Thermostat to RCD
- [ ] Connect wiring in accordance with relevant wiring diagram
- [ ] Complete and sign customer handover form
- [ ] Give customer complete copy of the customer handover form
- [ ] Give customer a copy of proof of purchase
- [ ] Give customer a copy of the thermostat instructions
- [ ] Wait until glues/screeds are fully cured before turning the floor heating on

Important Testing Procedure

Thermonet heating cables must be properly tested before installing. To ensure no damage has occurred the cables need to be tested again after the floor heating has been laid and again once the floor finish, screed or self-levelling has been installed.
To perform these tests, you will need a multimeter and a meggar. Results of the tests need to be recorded on the customer hand over form (page 21) in order to complete the warranty registration.

Heating cable resistance test

Connect a multimeter, set for resistance measurement between the live and neutral power leads. Record the results on page 21. If the measured resistance falls outside a tolerance of -5Ω to + 10Ω it may mean the cable is damaged or the multimeter is not set correctly.

Continuity between earth and conductors

The conductor cables are separated from the earth cable by an insulator. Verify that there is no contact between the earth and the conductors by connecting a multimeter, set to continuity between the earth and both conductors. Record results on page 21.

Insulation resistance test

This test will detect very small holes in the insulating layer that separates the conductors from the earth. These small holes are not usually detected by the continuity test because they are not necessarily short circuits.
Connect a meggar calibrated to 500V to one of the conductor cables and the earth. If there is no current leakage, the insulation resistance between the power leads and earth must be equal to or greater than 1 G Ω / 1000 M Ω. Record results on page 21.

Floor temperature sensor testing

Connect a multimeter to the two conductors of the floor temperature sensor probe. Measure its resistance at room temperature. The resistance of the sensor should be 8K Ω at 20°C. Record all test results on page 21.

The ambient temperature will affect the resistance readings of the floor heating mat and the floor sensor. Both the floor heating mat and floor sensor resistance have been tested at 20°C. If the ambient temperature is lower than 20°C the measured resistance will be higher than the stated resistance and if the ambient temperature is higher than 20°C the measured resistance will be lower than the stated resistance.

Scan here to view the video on how to perform a full testing procedure

If you are unsure about any of the tests or results, please contact technical support on 1300 368 631 before proceeding

Mat Alarm Explained

The mat alarm is a small white monitor unit that is used to monitor the integrity of the cable during tiling or screeding.

PLEASE NOTE: The use of the mat alarm does not replace the need for the full resistance tests as outlined on the previous page at any stage throughout the installation.

Do not proceed with tiling/self-levelling/screeding if the resistance reading is not within -5Ω to + 10Ω of the values published on the cable labels. Once the test has been done you will need to install the mat alarm.

The mat alarm is there to safeguard against any damage to the heating element during the tiling or self levelling process. It gets connected to the end of the cold tail. The monitor is designed to monitor the cables individually however by making a temporary 'series' connection of multiple cables it can monitor up to three cables at a time

1. Switch the unit on and the alarm should sound, and the red light will be lit. The alarm will sound when the cable is not connected.

2. When the cables are connected the green light will be lit. If the green light goes out, please replace the batteries before continuing.

3. Make sure the cables to be monitored are not connected to a power source. Wire up the cold tail to the mat alarm as per the photo opposite and details below.

4. Set the switch to the 'ON' position and the green light will indicate that the monitor is operating.

5. Hang or place the monitor where it can be seen and heard during installation.

6. A red light and alarm indicates cable damage or disconnection of cables from the monitor. Check connections and the integrity of the heating cable before continuing with the installation.

7. If damage to the cable is suspected please contact the technical helpline on 1300 368 631.

Mat alarm with single element

Mat alarm with two elements wired in parallel

For single element

Terminal 1: Neutral
Terminal 2: Live
Terminal 3: Earth

For two elements

Terminal 1: Neutral from mat 1
Terminal 2: Live from mat 2
Terminal 3: Earth from both mats
Twist together the live from mat 1 and the neutral from mat 2 to complete a series circuit

IMPORTANT!

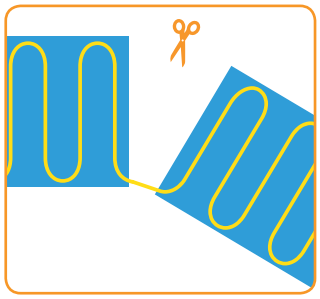
Multiple mats are connected to the alarm in series, for monitoring purposes only. When completing the final circuit, multiple mats must be connected to the thermostat in parallel.

Scan here to view the video on mat alarm explanation and wire up

Cut-and-return Installation Explained

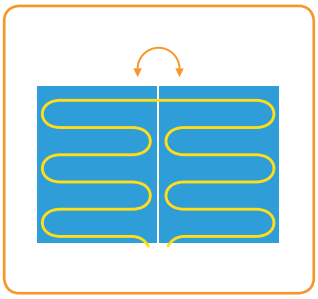
Every room is different, and you will usually need to modify your Thermonet mat is some way to fully cover your desired heating area. The diagrams on this page will help you to manipulate your Thermonet mat safely and avoid causing any damage during installation.

Cutting the mesh



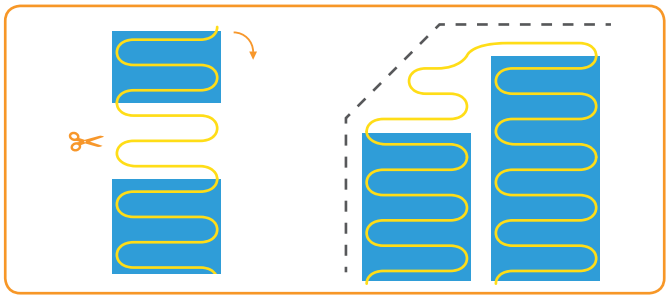
Use scissors to carefully cut the blue mesh – NEVER cut the yellow cable

Turn 180°



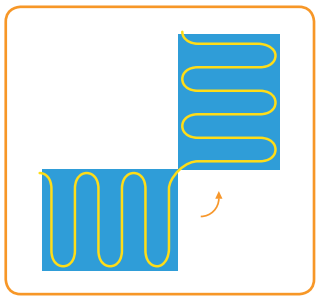
Turn the mat 180° laying the mat parallel to the first run

Staggered 180°



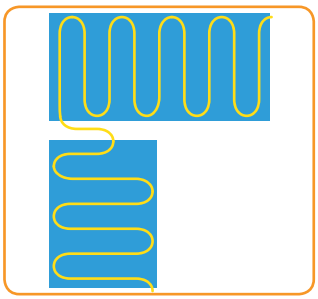
Remove the cable from the mesh and tape in place for awkward areas such as angled walls

Turn 90°



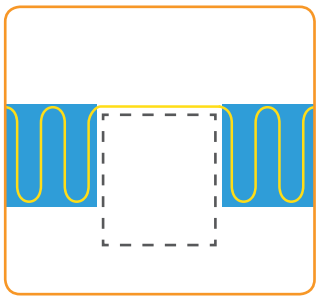
Turn the mat 90° for a more simple turn

Alternative 90°



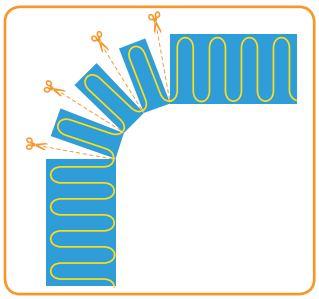
Release cable from the mat for an alternative 90° turn

Avoid an obstacle



Remove the mesh to avoid permanent fixtures

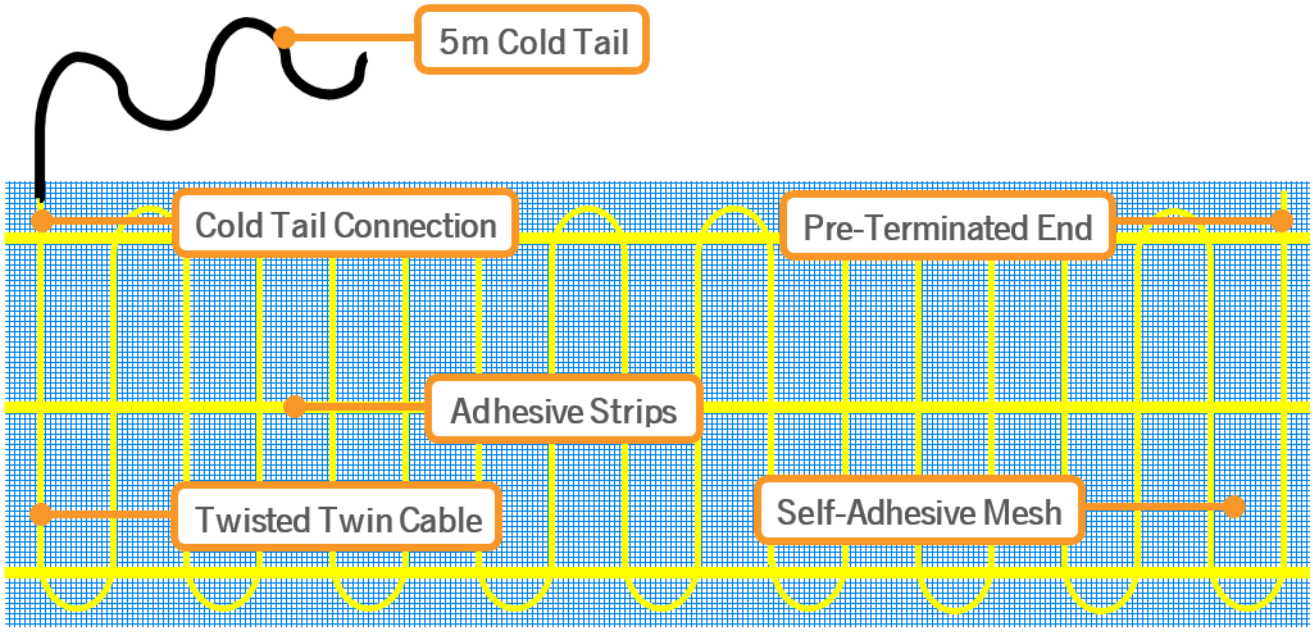
Curved fan turn



Cut the mesh into section to make a curved fan turn

Understanding your Thermonet mat

The Thermonet underfloor heating mat consist of five basic parts: the cold tail connection wire, twisted twin yellow heating cable, pre-terminated end, adhesive strips and the blue self-adhesive fibre glass mesh.

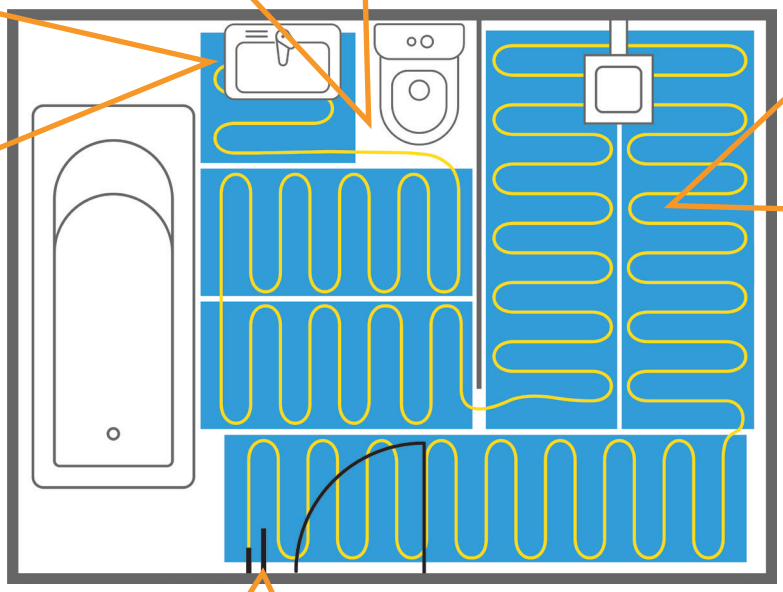


Typical Bathroom Layout

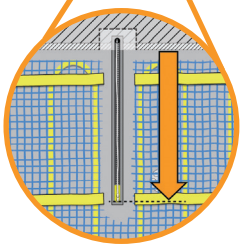
The diagram below displays a typical bathroom layout with Thermonet Underfloor Heating. The mat system ensures a fast and simple installation with the heating mat covering the entire available floor space. Some of the key features of the Underfloor Heating system have been highlighted below.

When Thermonet mats are needed to fit around irregular shapes like a toilet or vanity, simply remove the cable from the mesh and arrange in loops to cover the area.

If you have a wall hung vanity always allow enough floor heating to run below the front of the vanity to ensure this floor area is warm for when using the mirror.



Thermonet is safe to be installed under a tiled shower. This reduces mould build up and grout decolouring and helps to dry the floor, eliminating slip hazards.



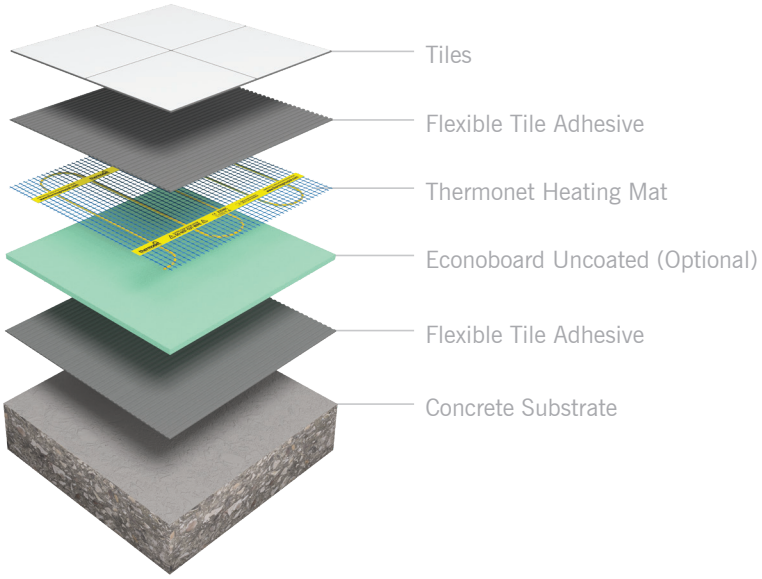
Ensure the floor sensor is installed in the conduit and placed equally between two runs of heating cable to provide an accurate floor temperature reading.

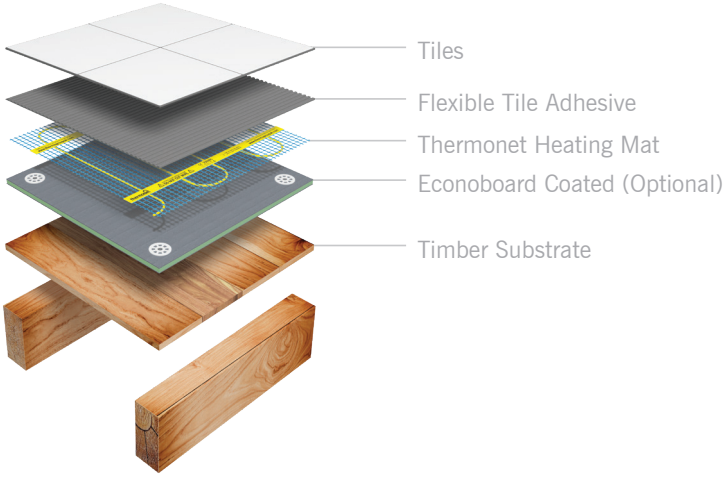
Insulation Information

Econoboard insulation is essential for an energy efficient electric underfloor heating system. A layer of Econoboard will help prevent heat loss into the substrate and ensure faster heat-up times for the underfloor heating.

Econoboard Insulation comes in both coated and uncoated options. Econoboard Coated board consists of a high-density extruded polystyrene core with a polymer modified fibre reinforced cement coating on both sides whereas the Econoboard uncoated board are made from an XPS extruded polystyrene foam. Using the correct type of insulation board is vital for the correct floor build-up and optimal performance of your heating system.

Uncoated Econoboard Boards are designed to be used over a solid, stable substrate such as a concrete substrate or cement sheeting while Coated Econoboard Boards are designed for use on a timber substrate as the fibre reinforced cement coating adds strength and rigidity to the floor build-up.

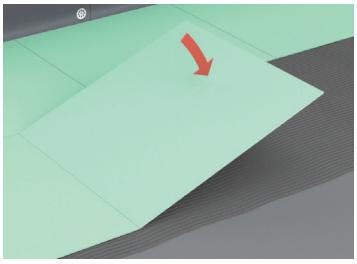


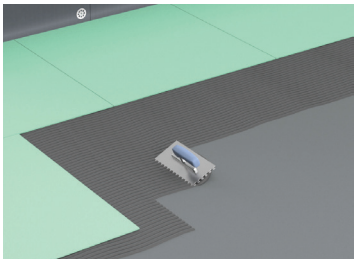


Insulation Installation

The Econoboard Insulation Boards are installed onto the substrate (either above or below the waterproofing) in an offset brick pattern. The Coated boards are fixed down to the timber substrate using Econoboard fixing washers (6016) and screws (6020) and Uncoated boards are glued down with a full bed of tile adhesive.

Installing Uncoated Econoboard





1. Measure your floor space and calculate how many boards you will need using the simple formula below

$$\text{A single board} = 1.2\text{m2} \times 0.6\text{m2} = 0.72\text{m2}$$

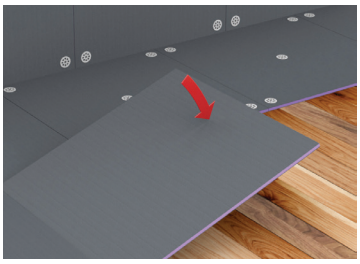
$$\frac{\textit{Floor space } (m^2)}{0.72m^2} = \textit{Number of boards}$$

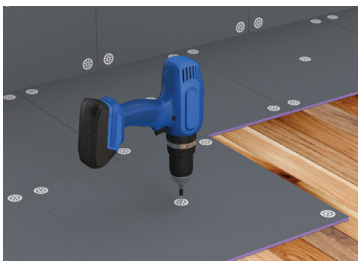
2. Cut the Econoboard Uncoated to size to suit your room layout. Econoboard uncoated can be cut very easily using a sharp blade or wood saw. Please take appropriate care when using sharp tools.

3. Ensure your substrate is secure, clean and free from dust and loose particles. Mix flexible tile adhesive in accordance with manufacturer instructions and spread using a notched trowel.

4. Lay the Econoboard onto the adhesive in a offset brick pattern taking care to squeeze out any air pockets in the adhesive. For a more secure finish make sure all boards are flush and tape over seams using reinforcing tape (6015)

Installing Coated Econoboard





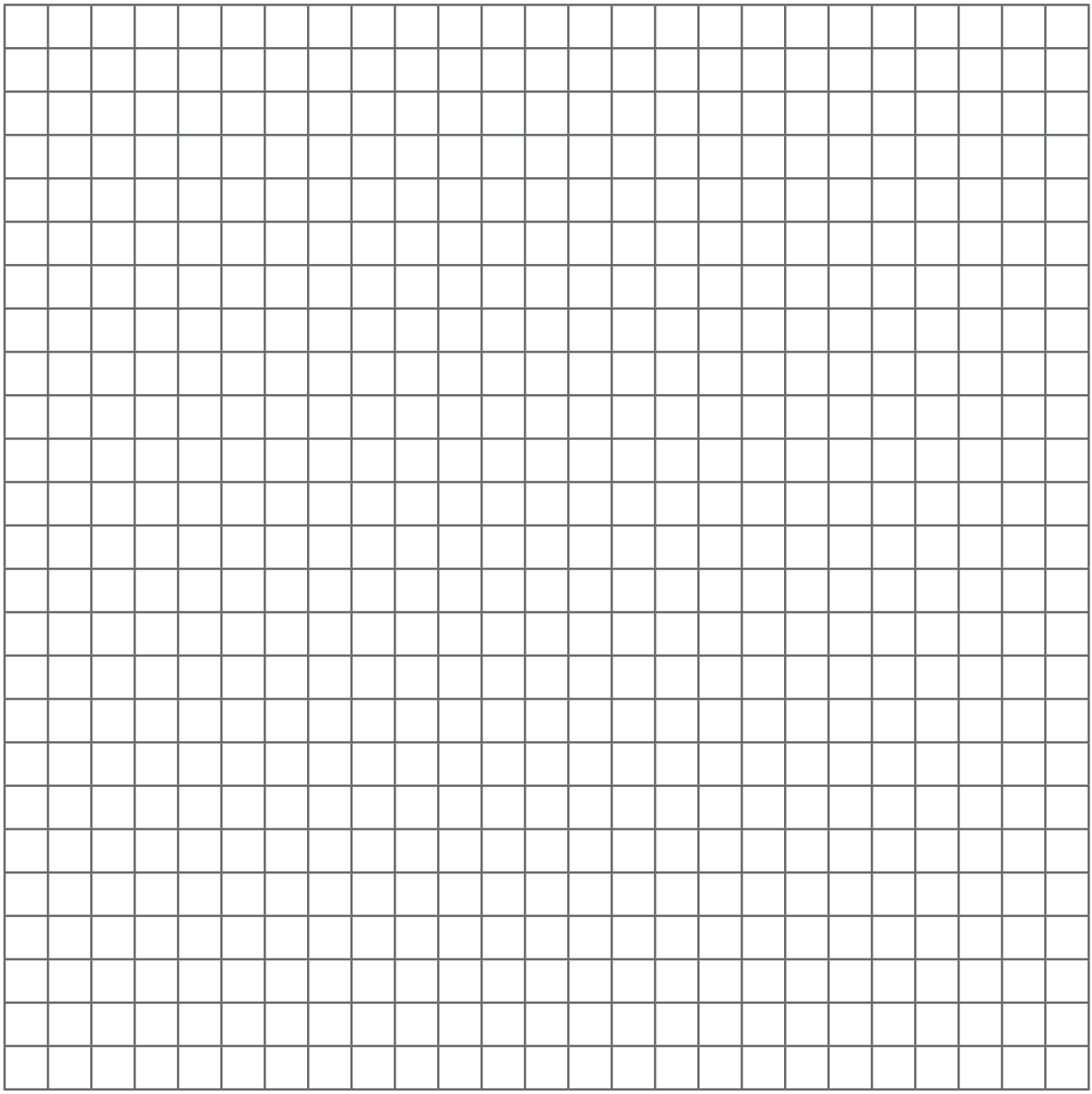
1. Measure your floor space and calculate how many boards you will need using the simple formula shown above

2. Cut the boards to size to suit your room layout. Econoboard coated can be cut very easily using a sharp blade or wood saw. Please take appropriate care when using sharp tools

3. Ensure your substrate is secure, clean and free from dust and loose particles. Set out your cut boards onto the area in an offset brick pattern. Boards need to run in the opposite direction to the floorboards. Fix in position using fixing screws (6020) and washers (6016) at 300mm centres (10 washers per board).

Scan here to view the video on how to install the Econoboard Insulation

Planning Page



Planning avoids costly mistakes

Use the grid above to plan your installation. This will help you to produce the safest, quickest and cleanest result with as little wastage as possible.
Measure the room, if you don't already know the dimensions, and make a note of the available floor space excluding any obstacles or fixtures you might have such as sanitary ware, furniture or drainage. Use the grid to plan the mat layout making sure to include thermostat and sensor position.

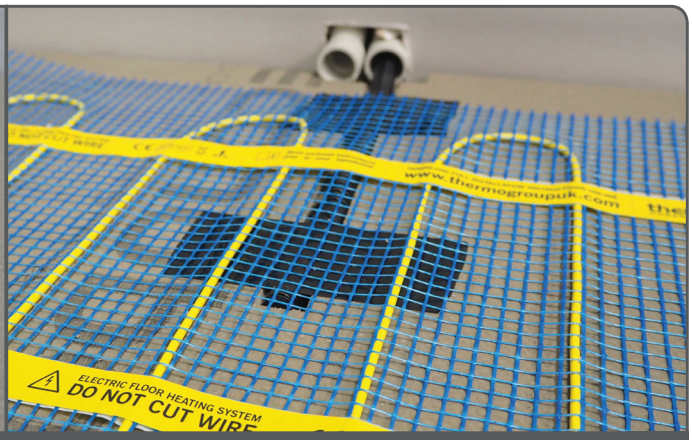
Load calculations

Use the calculation below to work out the overall current draw for the Thermonet system. If this value is over 16A you will need to have a contactor/snubber installed by a qualified electrician. Call our technical helpline if you have any questions.

Total system wattages ÷ 240V = Amps (A)

Position and install conduit and floor sensor

Push the supplied flexible conduit out into the channel in the floor. Ensure that the black cap is firmly in the conduit.



Ensure the floor sensor conduit is located evenly between two runs of heating cable.

Referring to your plan on page 14, run the 240V mains power feed to the thermostat position. Ensure the electrical circuit is protected by a suitably rated RCD (residual current device). Install a suitably rated contactor if required. Install the electrical plate for the thermostat in the desired position. Please note the Thermotouch 7.6iG thermostats needs to be mounted portrait and the Thermotouch 4.3dC thermostat has the option of portrait or landscape mounting. Install two 20mm conduits with sweeping bends from the thermostat to the floor prior to sheeting the walls. The one conduit will house the flexible floor sensor conduit and the second conduit is for the cold tail(s).

Roll out the heating mat from the starting position and mark the conduit position so it lays in between two runs of heating cable. It is important not to position the sensor conduit near any temperature influences (such as water pipes or doorways) or in a place where furniture or rugs might be placed over the sensor as this will affect the accuracy of the temperature reading. After you have marked out the conduit position roll the mat away for the time being. When tiling directly over the floor heating system you will need to groove out the substrate or insulation to accommodate the floor sensor conduit. Feed the flexible conduit down one of the 20mm conduits and into the channel in the floor. Ensure the black cap is firmly in the end of the conduit, this is to ensure no tile glue enters the conduit.

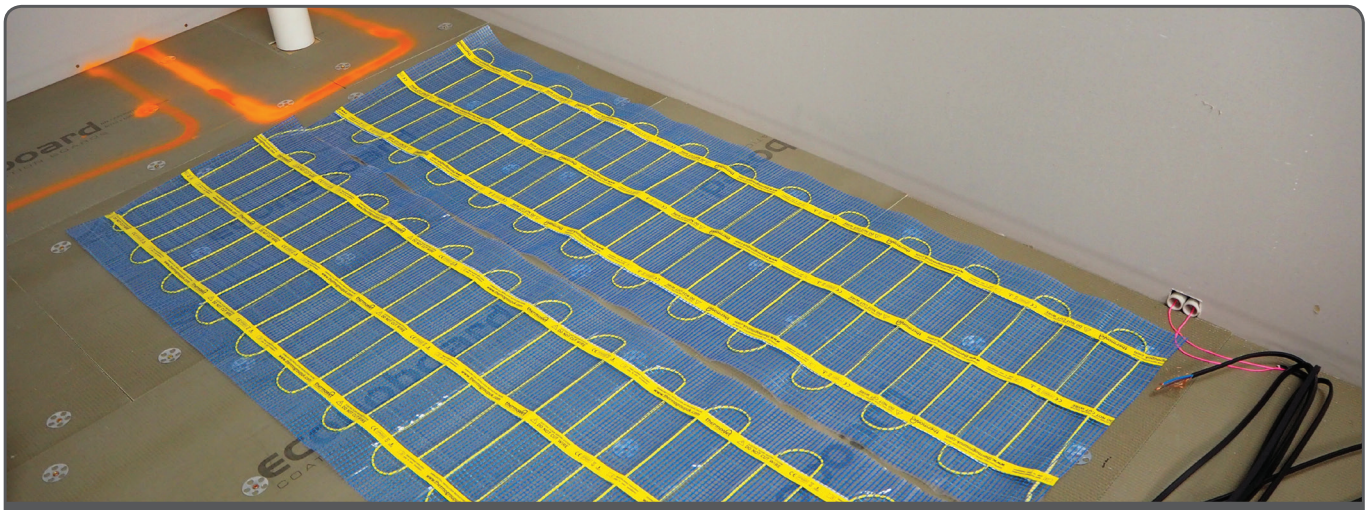
The floor sensor conduit provided is to facilitate the sensor replacement if ever needed without the need to remove tiles or the floor covering. Now feed the sensor probe cable down into the conduit ensuring it is pushed right to the end as this will help to provide the most accurate reading.

The sensor probe can be shortened or lengthened. If you need to cut the sensor probe you must only cut the end with the exposed wires not the end with the plastic end cap. The sensor can be extended, to a maximum of 50m, using a twin core 1mm flex.

The cold tail can also be shortened or lengthened. Cold tails can be extended using a twin core and earth electrical flex, suitably sized to take the load of the underfloor heating system.

Scan here to view the video on how to install the floor sensor and conduit

Install Econoboard insulation and lay out the heating mat



Place the heating mesh in the starting position and roll out the mat until reaching a wall or fixture. Cut the mat (NEVER CUT THE YELLOW HEATING CABLE) and turn the mat 180° and roll it out parallel to the first run.

Ω
TEST A

Test the resistance (using instructions on page 8) of the heating cable prior to starting the installation. Compare the tested resistance to the correct resistance of the cable and ensure this is within -5Ω to + 10Ω. Record the result on the customer hand over form (page 21)

It is recommended to install a layer of Econoboard insulation below the heating to improve the efficiency of the heating by preventing downward heat loss and reducing heat up times.

If not using Econoboard, a suitable floor primer product can be used to prime the floor prior to the installation of the underfloor heating. The primer helps the mesh to adhere to the substrate. Please follow the manufacturers instructions on the suitable use of the floor primer.

Make sure your substrate/insulation is clean and dust free before installing your heating mesh. Measure and mark all fixtures in the room. Place the heating mesh in the starting position and roll out the mat ensuring that the floor sensor conduit lines up between two runs of heating cable as planned.

Feed the cold tail up the second 20mm conduit to the thermostat position. The heating mesh is a single ended product so there is no additional cold tail to return.

When you reach a wall or fixture a simple turn can be made by cutting across the blue mesh with scissors or a Stanley knife (NEVER CUT THE YELLOW HEATING CABLE). Turn the mat 180° and roll it out parallel to the first run. Continue running the mat like this throughout the room. Refer to page 10 for various turns and layouts. Do not install the heating under any fixtures or solid based furniture.

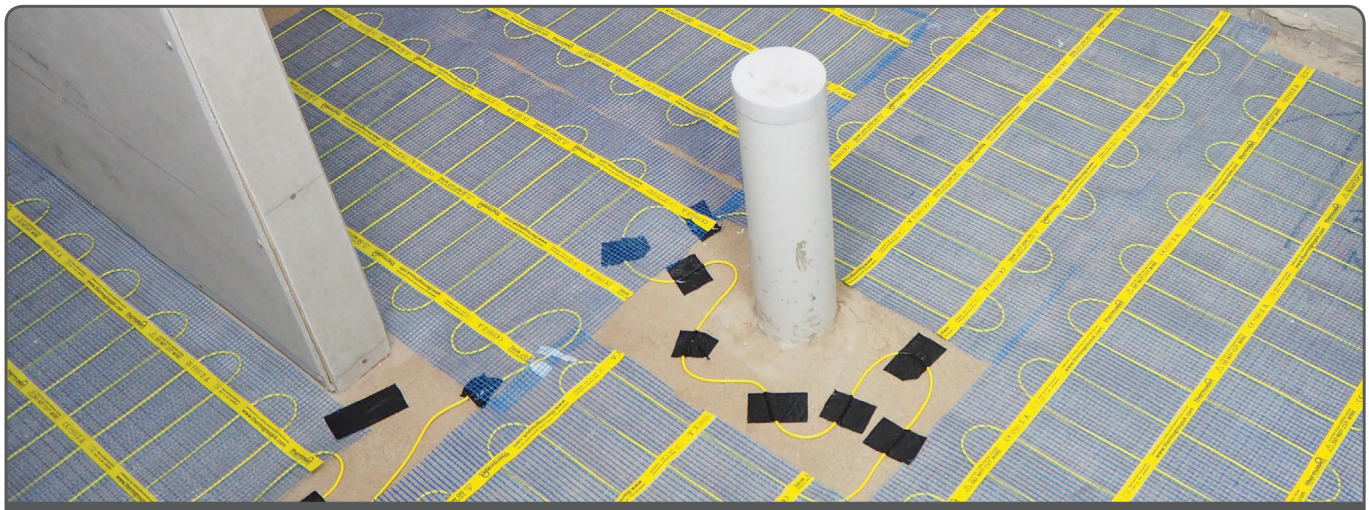
Do not place the cold tail connection or end termination in the wall/floor cavity, in the conduit or in a recess in the floor/insulation boards covered with tape. This causes an air pocket and leads to cable failure which voids warranty.

Ensure the mat is always laid adhesive/wire side down.

Allow a gap of between 50-100mm, from the wall to the edge of the underfloor heating mat.

Scan here to view the video on how to install the Thermonet heating mat

Laying mat in irregular areas



In irregular shaped areas and around fixtures remove the heating cable from the mesh and loose run the cable around the fixture and secure in place with tape.

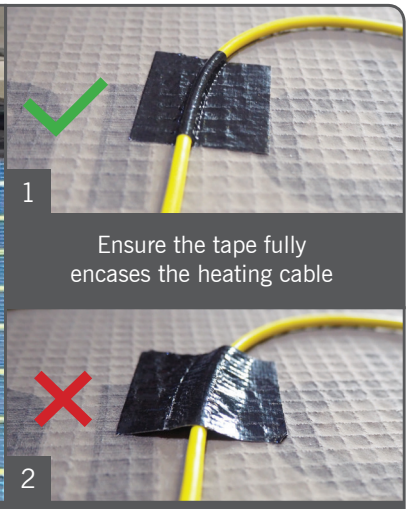
The Thermonet heating mat will not always fit in spaces around irregular shapes like a bath or toilet. In this case simply remove the cable from the mesh and arrange this in loops to cover the area. Use a minimum cable spacing of 50mm and fix in place using a hot melt glue or strong tape. Allow 50mm spacing between heating cables and permanent fixtures.

Scan here to view the video on how to manoeuvre around a floor waste

Stick down the heating mat

Peel off the plastic film from the entire mat and press down mat firmly

If needed, the heating mat can be secured with hot melt glue, spray adhesive or tape.



1

Ensure the tape fully encases the heating cable

2

Ensure there is no air pockets around the cable

Once the layout of the heating mat is finalised it can be stuck down to the substrate. Peel off the clear plastic film from the mesh and press the matting firmly down to the substrate (adhesive and wire side down). In areas where the heating cable has been removed from the adhesive mat the cable can be stuck down with spray adhesive, tape or hot melt glue.
When using tape to fix down the heating cable ensure that the tape doesn't bridge the cable (see image 2 above) as this causes air pockets and can potentially lead to cable damage. The tape needs to fully encase the heating cable (see image 1 above) so there is no chance of air pockets around the cable.

Stick down the heating mat cont.

Ensure that the clear plastic film is removed from all areas of the matting or else the tile adhesive or screed will not be able to pass through the mesh onto the substrate. Once the sticking down of the heating mat is complete, take a photo of the complete job. This photo(s) should be kept as a record to assist should you need to drill into the floor or in case of cable damage/failure.

To avoid damages to the cables the heating system should be covered as soon as possible. However, if the floor is not going to be screeded or tiled immediately it is recommended to cover the heating system (i.e. with some cardboard) to prevent damage from foot traffic.

Ω
TEST B

Test the resistance (using instructions on page 8) of the heating cable once installed. Compare the tested resistance to the correct resistance of the cable and ensure this is within -5Ω to + 10Ω. Record the result on the customer hand over form (page 21).

Wire up the mat alarm to the cold tail and turn the unit on. This device will sound an alarm if the cable is damaged during installation or laying of the floor finish. If you hear the alarm sound, stop immediately and call 1300 368 631 for technical assistance. Please note the use of this device does not replace the need for a full resistance test at the three points outlined. For more details on the mat alarm see page 9.

Scan here to view the video on different ways of sticking down loose runs of heating cable

Install the floor finish

Cover the Thermonet heating with a sand and cement screed or self-levelling compound or tile over using a full bed of tile adhesive. **DO NOT DOT & DAB**

The entire floor heating cable (including the entire cold tail connection and the end termination) needs to be encased in a flexible, cement based compound (No specific brand required). Thermonet can be tiled over directly (ensuring a full bed of tile adhesive) or covered in a self-levelling compound or sand and cement screed. For screeds over 20mm thick use the Thermonet 200W/m^2 for optimum performance.

Take care not to damage the heating cable with the notched trowel. Always laying the mat wire (adhesive) side down will help to avoid this. To allow for the adhesive to fully cure you must wait two weeks, unless otherwise stated by the manufacturer, before turning on the heating system. Extra care should be taken when cleaning out between the tiles prior to grouting to ensure the heating cable is not damaged.

In some cases, it may be necessary to install other floor finishes such as laminate, engineered board, vinyl or carpet over the Thermonet system. Before doing so you should check with the flooring manufacturer that your desired floor finish is suitable for use with electric underfloor heating and ensure the Thermostat is set to limit the temperature to the manufacturer's maximum temperate guidelines. Thermonet heating cables must be covered with a minimum of 10mm layer of flexible self-levelling compound for floor finishes other than tiles.

Final test and wire up the Thermostat

Ω
TEST C

Test the resistance (using instructions on page 8) of the heating cable once the floor covering is laid. Compare the tested resistance to the correct resistance of the cable and ensure this is within -5Ω to + 10Ω. Record the result on the customer hand over form (page 21).

The thermostat must be installed by a qualified electrician in accordance with the current local electrical regulations. The installation and wiring of each thermostat model are different. Consult the instruction guide supplied with the thermostat for wiring diagram and installation details. When wiring up multiple mats to a single thermostat ensure the mats are wired in parallel.

Thermostats should be connected to a single phrase mains supply via an RCD. The RCD rating is dependent on the overall load of the system.

Check the thermostat installation guide for maximum switching loads. If the system load exceeds the maximum load of the thermostat a suitably rated contactor will need to be installed.

Scan here to view the video on how to wire up the thermostat

Complete the customer handover form

Once the installation is complete the installer needs to ensure the customer handover form (page 21) is complete. This completed form along with photo(s) of the layout of the heating mat and a proof of purchase needs to be presented to the end user/homeowner to allow for the completion of the lifetime warranty activation. A warranty will not be granted unless this information has been completed in full and submitted via the online form – www.thermogroup.com.au/warranty. The homeowner needs to keep a copy of the handover form in case of a warranty claim.

Warranty Terms & Conditions

The Thermogroup Lifetime Warranty guarantees Thermonet Underfloor Heating Mats to remain free from defects in workmanship and materials under normal use and maintenance, and is guaranteed to remain in full working order subject to the conditions and limitations below:

Thermonet Underfloor Heating Mats are guaranteed for the Lifetime of the floor covering under which it is originally fitted subject to the following conditions. Please pay attention to the exclusions listed at the end of this warranty statement.

Thermogroup Lifetime Warranty applies:

1. Only if the product is registered, and the registration information is received and documented by Thermogroup, within 60 Days after install. You can register your product by completing the form online at www.thermogroup.com.au/warranty. Proof of purchase must be presented to make a claim, so please ensure that you keep a copy of both your invoice and purchase receipt in a safe place. Such invoice/receipt should clearly state the model that has been purchased and be in legible condition so as to aid in identifying the system; and

2. Only if the Thermonet Underfloor Heating Mat has been properly earthed and protected by a Residual Current Device (RCD) at all times.
This warranty does not cover any thermostats as these are covered by a separate 3 year warranty from the date of purchase, except as provided below.

All Thermogroup warranties become void if the floor covering under which the Thermonet Underfloor Heating Mat is originally fitted is damaged, lifted, replaced, repaired or covered with additional layers of flooring. The Thermogroup Lifetime Warranty does not cover accidental damage, including but not limited to damage caused by lifting, replacing, repairing the original covering laid after installation.

The warranty period starts on the date of purchase, but the registration is only confirmed when the online warranty form has been complete and the registration details are submitted to the online warranty database in full, checked by Thermogroup and written confirmation is issued. Should it be required, Thermogroup will arrange for the underfloor heating mat or loose wire element to be repaired or (at the discretion of Thermogroup) have parts replaced free of charge. If a fault is proved to be a manufacturing defect, Thermogroup will make good the floor covering to the original condition.

The Thermogroup lifetime warranty does not cover damage caused during installation, tiling or installation of any floor covering. Therefore, it is important to adhere strictly to the installation guide provided and follow the full test procedure details in this document before, during and after installation. Failure to do so will result in a void warranty. Thermogroup are, in no event, liable for incidental or consequential damages, including but not limited to extra utility charges or damages to property.

Thermogroup are not held accountable for:

1. Damages or repairs as a result of incorrect installation or application.
2. Damages as a result of floods, fires, winds, lighting, accidents, corrosive atmosphere or any other conditions/ situations deemed beyond the control of Thermogroup.
3. Use of un-compatible components or accessories.
4. Products installed outside of Australia.
5. Normal maintenance and care procedures as described in the installation guide.
6. Parts not supplied or designated by Thermogroup
7. Damages or repair required as a direct result of any improper maintenance, operation or servicing.
8. Failure to power up or start as a result of inadequate/interruption of electrical service.
9. Changes in the appearance of the product that do not directly affect the performance of the product.

Important Notes:

Any repaired Thermogroup underfloor heating element carries only a 5 year warranty. Repairs that are made to rectify any damage other than manufacturing defects are not covered by the Thermogroup warranty. Damage as a result of miss-use, improper installation, use of improper accessories or adhesives or unsuitable substrate conditions are in no event covered by any Thermogroup warranty.

Our goods and services come with guarantees that cannot be excluded under the Australian Consumer Law. For major failures with the service, you are entitled: to cancel your service contract with us; and to a refund for the unused portion, or to compensation for its reduced value.

You are also entitled to choose a refund or replacement for major failures with goods. If a failure with the goods or a service does not amount to a major failure, you are entitled to have the failure rectified in a reasonable time. If this is not done you are entitled to a refund for the goods and to cancel the contract for the service and obtain a refund of any unused portion. You are also entitled to be compensated for any other reasonably foreseeable loss or damage from a failure in the goods or service.

Customer Handover Form

INSTALLER: The installer must complete the full test procedure and complete this page in full and give it to the homeowner to keep in case of a warranty claim.

HOMEOWNER: Use this information to register your Lifetime Warranty at www.thermogroup.com.au/warranty
You must also keep this document for your records in case of a warranty claim.

Room Reference	Stock No.	Manufacturer's Values	Before installation	After cable installation	After tile/flooring installation
Resistance measurement of the electric heating cable					
Two conductors and earth braid continuity test					
	Infinity (I) or Overload (OL)				
Insulation resistance test between conductor cables and earth braid					
	Equal to or greater than 1 G Ω				
Floor temperature sensor test					

Manufacturers Test Log

To the installer:
Fix manufacturer test results label from on the heating mat here.
Staple multiples.

Installer Details

Name:

Company:

Email:

Phone:

Address:

Signature:

Date:

To allow for the tile adhesive and/or screed to fully cure you must wait two weeks, unless otherwise stated by the manufacturer, before turning on the underfloor heating system.

The heating may be slow to react at first especially if installed on a new screed or in a new building. When turning the floor heating on for the first time, we recommend setting the floor temperature at approx. 18°C and build up by 1°C per day until the desired temperature is reached.

What should I do if I have left-over heating cable?

You should always measure the room accurately and choose a system that covers the available heating area. If you do have extra cable you can run it around the edge of the room (Min. spacing 50mm), up the walls or in the shower (behind the tiles if tiling with a cement based flexible tile adhesive).

Can I join two or more heating cables or mats to fit a larger area?

No, the heating cables or mats cannot be joined together however two or more can be connected in parallel to one Thermostat. When connecting multiple cables or mats you need to ensure that the total load does not exceed the total load of your thermostat.

What happens if it goes wrong or breaks under my floor?

There are no moving parts to an electric underfloor heating system and cable failures are extremely rare, if installed correctly. A damaged cable can usually be located and repaired with minimal disruption.

How long will it take for the floor to heat up?

Every situation is different due to the insulation value of the property, type of flooring used and the level of insulation below the heating system. For an estimated heat up times visit www.thermogroup.com.au/help-me-plan/running-cost-calculator.

Can I turn the heating on to make sure it heats up before the tiles are laid?

No. The heating cable systems need to be enclosed in a cement layer to help spread the heat. Turning on the heating before the cement layer is applied will cause the cable to overheat and burn out. The heating cable needs to be tested by a qualified electrician to ensure no damage has occurred during installation.

Can you walk on the installed heating cables before the tiles are laid?

Whilst the cable is durable and will handle foot traffic we recommend reducing walking on unfinished floor surfaces to a minimum as a precaution. Avoid putting heavy objects with sharp edges (such as buckets of tile glue) down on the cable.

Can I cut the heating cable if I have excess?

No - never. Cutting the heating cable will alter the resistance and cause the element to overheat. If you cut the cable by accident, please call our technical helpline for assistance. Cutting the element will void the warranty.

Is the underfloor heating installed above or below the waterproofing?

To ensure a fully waterproof substrate it is recommended to lay the floor heating over the waterproofing. In a screed application, where the waterproofing is on top of the screed, an In screed heating system can be laid before the waterproofing.

Does the floor sensor have to be installed in the conduit?

We recommend the use of a conduit for the floor sensor so that in the event of a floor sensor failing or the thermostat being upgraded, the floor sensor can be replaced without damaging the floor covering. If this is not possible, we recommend installing a second floor sensor as a spare.

Technical Specifications

Thermonet Mesh 150W/m²

Stock Code	Size (m)	Area m²	Output (w)	Resistance (Ω)
111502	2 x 0.5	1.0	150	353
111503	3 x 0.5	1.5	225	235
111504	4 x 0.5	2.0	300	176
111505	5 x 0.5	2.5	375	141
111506	6 x 0.5	3.0	450	118
111507	7 x 0.5	3.5	525	101
111508	8 x 0.5	4.0	600	88
111509	9 x 0.5	4.5	675	78
111510	10 x 0.5	5.0	750	71
111512	12 x 0.5	6.0	900	59
111514	14 x 0.5	7.0	1050	50
111516	16 x 0.5	8.0	1200	44
111518	18 x 0.5	9.0	1350	39
111520	20 x 0.5	10.0	1500	35
111524	24 x 0.5	12.0	1800	29
111528	28 x 0.5	14.0	2100	25
111532	32 x 0.5	16.0	2400	22

Thermonet Mesh 200W/m²

Stock Code	Size (m)	Area m²	Output (w)	Resistance (Ω)
112002	2 x 0.5	1.0	200	265
112003	3 x 0.5	1.5	300	176
112004	4 x 0.5	2.0	400	132
112005	5 x 0.5	2.5	500	106
112006	6 x 0.5	3.0	600	88
112007	7 x 0.5	3.5	700	76
112008	8 x 0.5	4.0	800	66
112009	9 x 0.5	4.5	900	59
112010	10 x 0.5	5.0	1000	53
112012	12 x 0.5	6.0	1200	44
112014	14 x 0.5	7.0	1400	38
112016	16 x 0.5	8.0	1600	33
112018	18 x 0.5	9.0	1800	29
112020	20 x 0.5	10.0	2000	26
112024	24 x 0.5	12.0	2400	22
	Width		500mm	
	Heated Width		430mm	
	Thickness		3.5mm*	
	Max Temperature		28°C**	
	Protection Rating		IP68	
	Warranty		Lifetime on heating mat	
	Conductor Type		Single Ended	
	Cold Tail Length		5m	

*Cold tail is 4mm thick
**Regulated by floor sensing thermostat
Actual tested resistance may differ from those listed. Allow a tolerance of -5Ω to + 10Ω of the resistance specified.

Thermogroup
That little bit extra...

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