ExoWarm™
HEATING SOLUTIONS

UNDERFLOOR HEATING SYSTEM
INSTALLATION MANUAL

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HEATING HOMES FOR THE FUTURE

OUR AMBITION IS SIMPLE. TO PREPARE HOMES FOR THE FUTURE

Rise underfloor heating solutions are no nonsense and uncomplicated. We simply use the best technologies, premium materials and rigorously test our products to give you peace of mind when it comes to your home. Underfloor heating is an essential, our trusted products are easy to fit and affordable helping you to prepare your home for the future.

HERE'S WHAT YOU NEED TO KNOW

Our powerful 160 watt per m2 mats help minimise heating costs Installation is easy with our sticky back mat and one connection cable Meets all international safety standards with our use of premium materials Our lifetime guarantee* and safeguard* promise protects you and gives you peace of mind

T&C's apply

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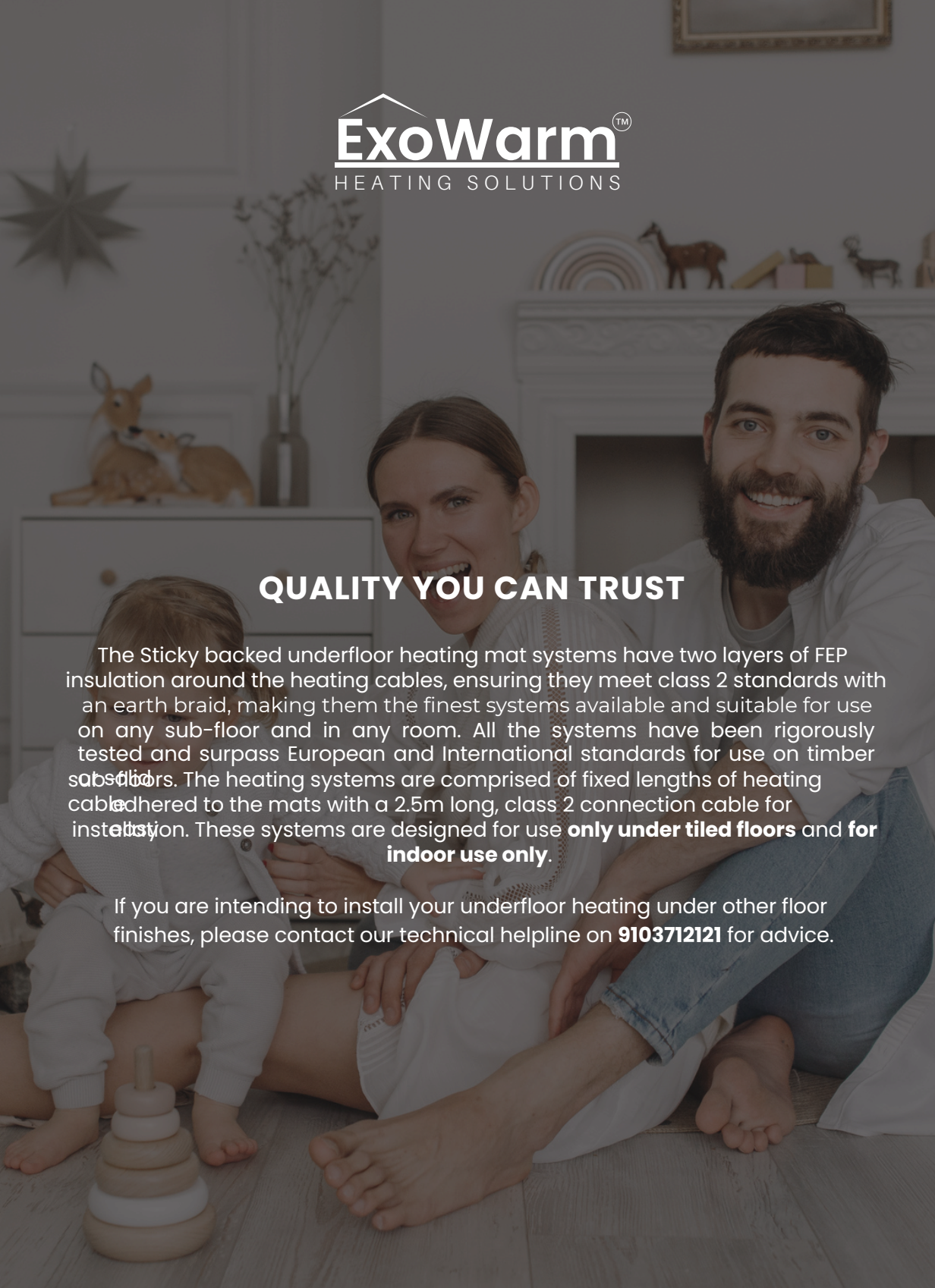

QUALITY YOU CAN TRUST

The Sticky backed underfloor heating mat systems have two layers of FEP insulation around the heating cables, ensuring they meet class 2 standards with an earth braid, making them the finest systems available and suitable for use on any sub-floor and in any room. All the systems have been rigorously tested and surpass European and International standards for use on timber sub-floors. The heating systems are comprised of fixed lengths of heating cable adhered to the mats with a 2.5m long, class 2 connection cable for installation. These systems are designed for use **only under tiled floors** and **for indoor use only**.

If you are intending to install your underfloor heating under other floor finishes, please contact our technical helpline on **9103712121** for advice.

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HAVE YOU GOT EVERYTHING YOU NEED?

Components included in your underfloor heating kit:

STICKY BACKED MAT INSTALLATION MANUAL

WHAT YOU NEED TO FIT YOUR ELECTRICAL UNDERFLOOR HEATING SYSTEM

Correct size kit - see page 6

A suitable thermostat (we recommend our Rise thermostats)

RCD on the supply (30mA Residual Current Device)

A suitable flexible tile adhesive or levelling compound

We recommend the use of a digital multi-meter set to a range of 0-2 K ohms for testing.

Electrical housing, back boxes and junction boxes. (Back box for the thermostat must be at least 35mm deep) - see page 7

We do not guarantee systems that have not been fitted in accordance with these installation instructions. Please note: All electrical connections must conform to the current BS 7671 Wiring Regulations. Final connections to the main electricity supply MUST be completed by a Part P qualified electrician and must be connected to an RCD not exceeding 30mA (protected) supply on the consumer unit. Accidental damage is covered by the Safeguard guarantee.

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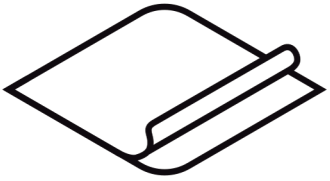
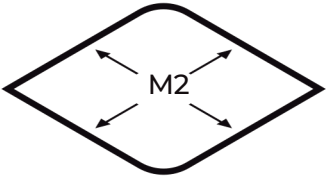
FREQUENTLY ASKED QUESTIONS



WHAT ELSE DO I NEED TO INSTALL AN UNDERFLOOR HEATING SYSTEM?

All you need is the correct size heating system, a control (timer/ thermostat) and an RCD. The mat is self-adhesive with a sticky back for easy fixing to the sub-floor.



HOW DO I CALCULATE THE CORRECT SIZED HEATING SYSTEM?

Allowing for a 10cm margin around the perimeter of the room, calculate the floor area in m2 by multiplying the width by the length. The underfloor heating mat should only be laid in open areas of the floor, so you should deduct the area of any fixed furniture such as kitchen or bathroom units from the total floor area.

WHAT HEATING OUTPUT SHOULD I HAVE?

160 Watt/m^2 floor warming system

It is recommended to use insulation boards to maximise the performance of your underfloor heating.

WHAT CONTROLS DO I NEED?

You will need to install a timer/thermostat which will allow you to have total control of your heating whilst ensuring maximum efficiency. We recommend the Rise Wi-Fi or Smart Wi-Fi Thermostats which allow you to control the temperature with your phone or tablet via an app.

WHAT ELECTRICAL PREPARATIONS DO I NEED TO MAKE?

The electrician will need to provide the correct size spur and deep single back boxes for the control and Residual Current Device (RCD). An RCD is only required if you do not already have one on the mains.

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PLEASE READ THE DO'S AND DON'TS TO ENSURE YOUR HEATING SYSTEM IS FITTED CORRECTLY.

DO

- Carefully read this instruction manual before commencing installation.
- Consult our helpline if you are unsure how to proceed.
- Ensure the system is tested before, during and after installation.
- Plan your mat layout and installation so that any drilling after tiling (e.g. for sanitary ware) will not damage the heating.
- Ensure that the maximum thermal resistance of the floor does not exceed 015 lm2K/WI.
- Wear gloves to prevent irritation from the mesh.
- Ensure that during the installation no damage is caused by sharp objects etc.
- Ensure the end cap and manufactured joint are under a full bed of adhesive or levelling compound.
- Check that the mat is working immediately before commencing tiling.
- Take care when tiling not to dislodge or damage the heating wire.
- Ensure that the heaters are separated from other heat sources.
- Ensure that the warranty card at the back of the manual is completed and fixed at the main consumer unit along with any plans and electrical test records. As per the current BS76712008 17th Edition Wiring Regulations.
- Ensure heating elements are always protected by an RCD.
- Use a qualified electrician to connect the heating element to the mains.
- Ensure the cold tail connection is laid flat and not bent in anyway. Do not leave the connection between the mat and the connection wire exposed - always cover the connection with adhesive/levelling compound.

DON'T

- Commence installation on a concrete floor that has not been fully cured.
- Leave any heating wire/mat or the connection cable uncovered by adhesive or levelling compound.
- Install the mat on irregular surfaces such as stairs or up walls.
- Use staples to secure the heating element to the sub-floor.
- Shorten the heating element at any time.
- Leave surplus matting rolled up under units or fixtures - USE THE CORRECT SIZE. Run the floor
- sensor wire or power lead over or under the heating element or close to other heat sources such as hot water pipes. **Tape over**
- **the end cap or manufactured joint.** Commence
- tiling before testing the mat. Switch on the
- installed mat until 14 days after fitting to allow the tile adhesive to dry completely. Install the mat in temperatures
- less than +5°C. Use the heating system to dry
- out levelling compound or adhesive.
- Attempt a DIY repair if you damage the heating mat. Contact our technical helpline on 0800 246 5963.
- If you accidentally damage the heating mat BEFORE tiling return the damaged heater to us and we will replace it FREE OF CHARGE as part of our Safeguard Guarantee.
- Cut the heating element wire.
- Cross or overlap the heating wires.
- Cut or prepare tiles on top of the fitted heating system. When other work is going on in the room, avoid damage by keeping the heating covered until you are ready for the final floor finish to be put down.

NOTE

Should not be used under wooden or laminate floor coverings. Please contact us for further advice if you wish to install the underfloor heating mat under any floor finishes other than ceramic, porcelain, quarry or natural stone tiles.

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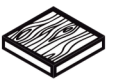
GENERAL INSTRUCTIONS

STEP 1
PREPARE SUB-FLOOR AND ELECTRICS

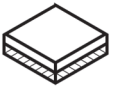
Surface Preparation

The installer should prepare the floor in accordance with modern building regulations as if they were laying ordinary floor tiles.
They should ensure that the floor surface is completely smooth and flat and that loose floorboards are repaired.
You will need to make a groove in the sub-floor for the cold lead connection joint, as this is slightly thicker than the heating cables and
must be covered with adhesive. Only do this once the position of the mat has been finalised. We recommend the application of a suitable tiling primer over the sub-floor especially if installing with self-adhesive mats or tape so the system sticks adequately.



On wooden sub-floors It is recommended you prime the floor using a suitable tiling primer. Always use a suitable flexible tile adhesive and check with the supplier that they are suitable for use on wooden sub-floors. If installing on a de-coupling membrane, always follow the advice from the manufacturer.

Concrete/screeded sub-floors We recommend to prime the floor using a suitable tiling primer. Always use a suitable flexible tile adhesive.



Insulation/tile backer boards Use the same installation process as on wooden sub-floors. Check with the board manufacturer to find out if priming is required.

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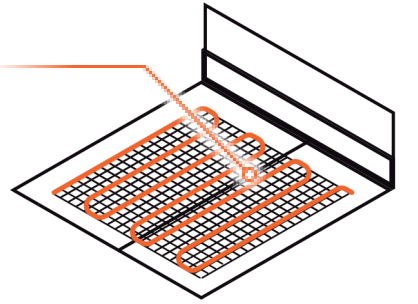
GENERAL INSTRUCTIONS

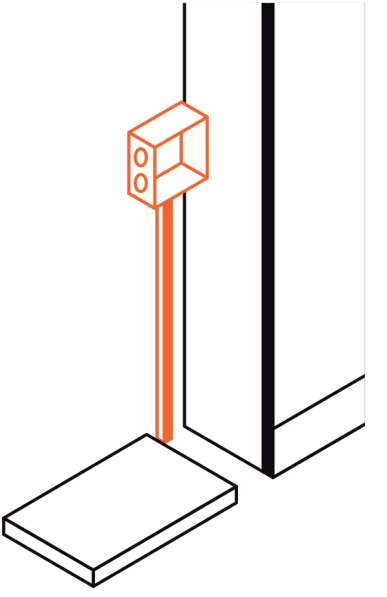
If you have a **concrete sub-floor with an expansion joint**, the heating mat should be positioned so that it does not cover the joint.



B Electrical preparation

Before laying the heating system, a flush mounted deep electrical box should be installed, this is where the cold leads from the heating mat and the wiring from the controls can be connected. If installing the system in a wet environment such as a bathroom, the regulations stipulate that the connections/controls must not be sited within the room. Usually it is possible to place them on a wall outside the room (as with a light switch). All wiring should be chased into the wall and protected by conduit or trunking.

In most instances a 13amp spur is enough. However, to calculate the exact loading in amps, there is a simple calculation. Take the total area in m2 of the heating mat and multiply it by the power rating of the mat, this gives the heating output in watts. To work out the loading, simply divide this amount by the volts. For example, for an 8m2 underfloor heating 160 watts/ 2mm at 8(m2) x 160 watts = 1280 (watts) divide by 230(volts) = 5-57 amps.



STEP 2
NOW TEST THE SYSTEM
(RESISTANCE)

We recommend that you test the system resistance before you start the installation and again as you finish the installation/ before fitting the final floor covering. To take a reading set your meter to the ohms position on the lowest setting (normally 8000 or 20000 K/ohms). Hold one of the probes on the blue centre cable and one on the black centre cable, the reading obtained should be as shown on the label. You have now completed the continuity test.

There is the possibility of a degree of variance in the readings that you take during the course of the installation. If this is not too significant (5% either way) you should not worry too much as the reading can be affected by moisture and other factors. We recommend that you test the floor sensor with an ohm reading (generally 8 to 20 ohms). The sensor is covered by the thermostat guarantee (usually between 3-5 years).

Also, an insulation test should be done by checking for resistance between the conductor (blue or black cable) and the earth braid - with the meter on its highest setting (2M Ohms), one probe on either the blue or black cable and the other probe on the earth braid. Do not hold the probes on with your fingers during this test, as this could affect the result. Any resistance should be greater than 2M Ohms, and therefore not register on the meter. Most multi-meters will read as “1”.

Fill in your test readings at the back of this booklet.

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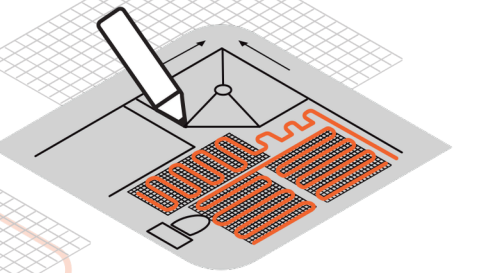
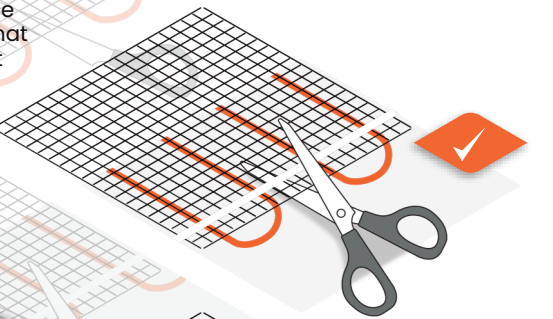
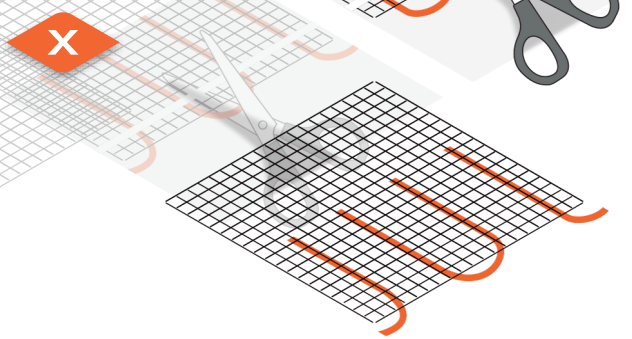
STEP 3
INSTALLING YOUR UNDERFLOOR HEATING

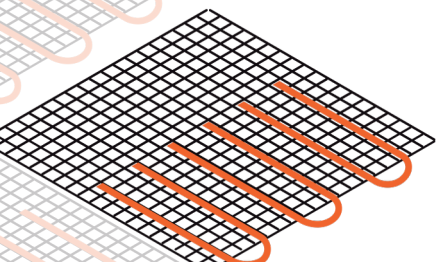
IF INSTALLING OUR WIRE SYSTEM, FOLLOW THE SEPARATE INSTRUCTION SHEET FOR WIRE NOW.



Installing your sticky backed mat system
The mats should never be laid beneath permanent furniture (cupboards or bathroom fixtures), therefore, we recommend that you draw up a detailed plan of the areas where the mats will be before you carry out the installation. Decide where you would like the mats to be and mark them out on the sub-floor, back to the control. Plan the installation and chalk where each run should go to ensure you have the correct size system. Now start to lay the mat taking care n[redacted]cut or damage the mat with sharp to[redacted]ear soft-soled shoes throughout.







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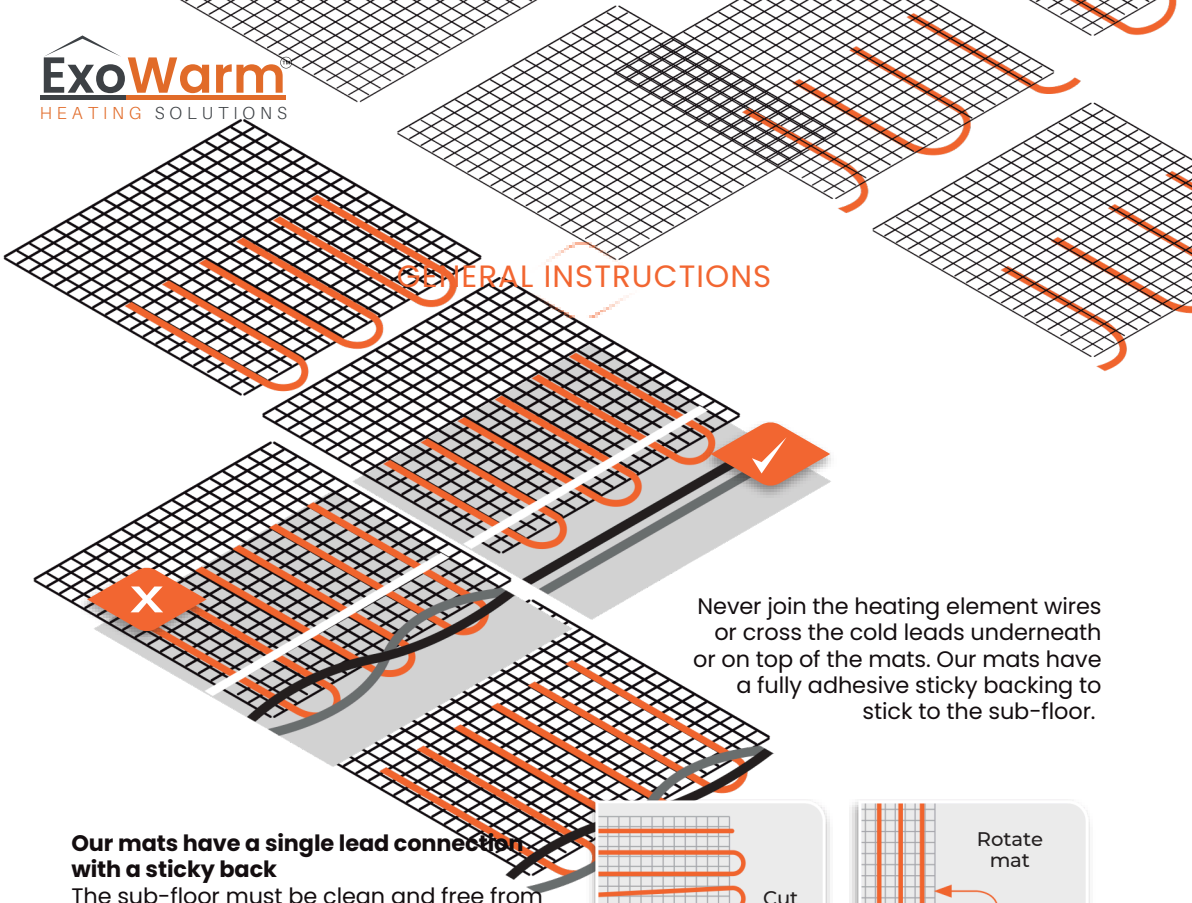
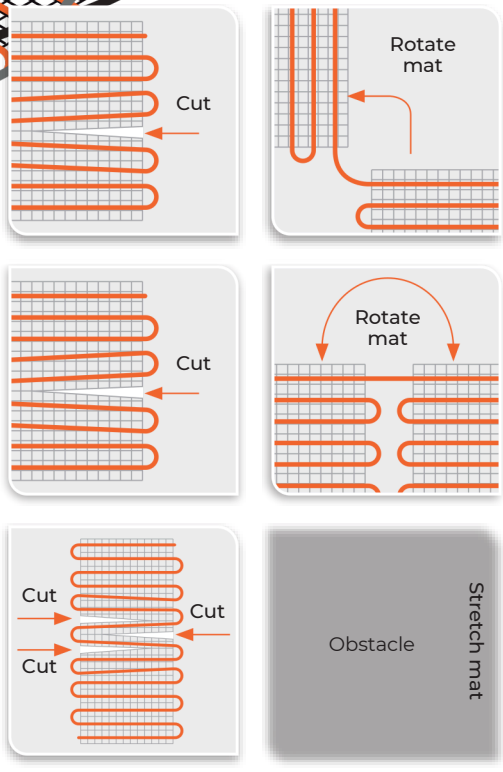
GENERAL INSTRUCTIONS

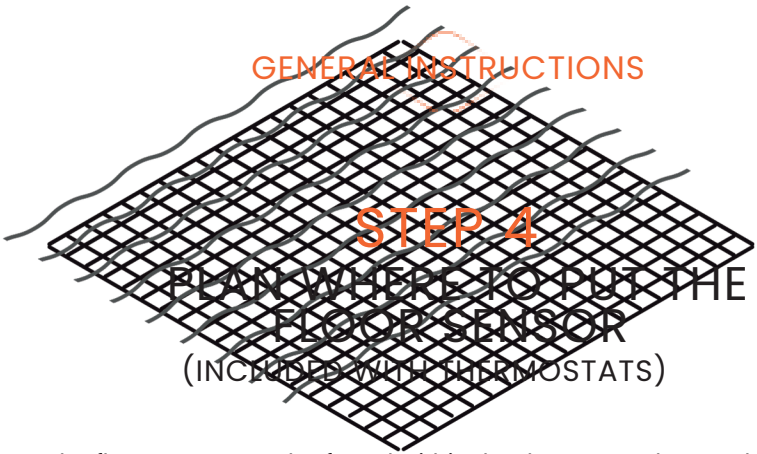


Never join the heating element wires or cross the cold leads underneath or on top of the mats. Our mats have a fully adhesive sticky backing to stick to the sub-floor.

Our mats have a single lead connection with a sticky back

The sub-floor must be clean and free from any dust or debris. We recommend a layer of floor primer is applied to ensure the adhesive works effectively. Start with the cold lead (connection lead) as near to the electrical spur as possible. Roll the mat away from you to the end of the area making any cuts necessary to avoid furniture. Once you reach the end of the room, cut across the mesh backing. Rotate the mat and roll the mat back towards you. Keep a minimum 3cm gap between each row of the mat. Continue until the desired area is covered. If more than one mat is required, each mat must be connected to and begin at the thermostat, and not connected to each other end to end in series.





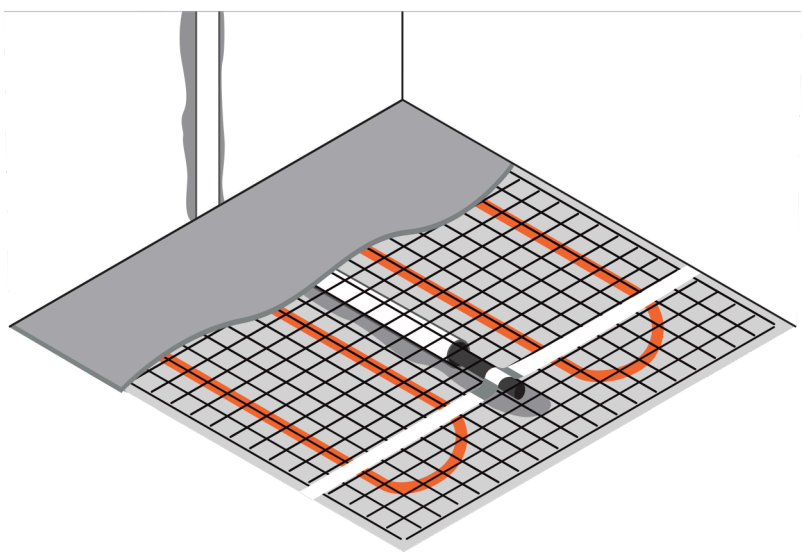
GENERAL INSTRUCTIONS

STEP 4

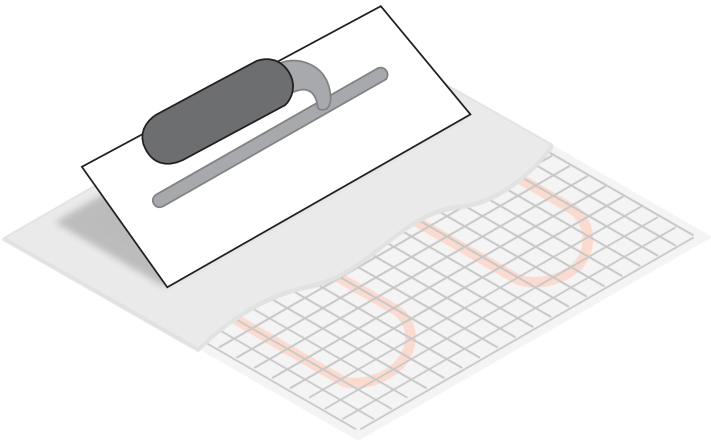
PLAN WHERE TO PUT THE FLOOR SENSOR

(INCLUDED WITH THERMOSTATS)

The floor sensor can be found within the thermostat box and is used to read the floor temperature during programming your thermostat. You should install the floor temperature sensor in-between the heating cables, taking care to ensure the floor sensor does not touch the heating elements. This can be achieved by working out the placement of the heating cable prior to fitting the sensor. When positioning the sensor try to avoid hot water pipes in the floor or any draughty places such as external doorways as this may affect the thermostat. If required, the sensor lead can be extended using twin-flex cable. The sensor tip must not be placed directly under an element wire. This is to ensure that the average heating temperature is measured, and not the temperature of the heating element.



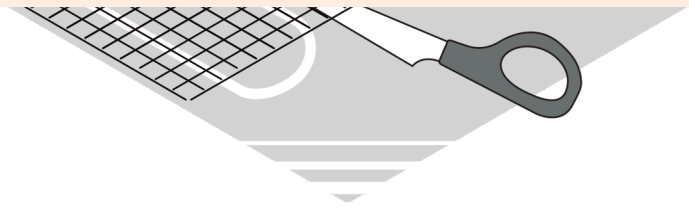
STEP 5
NOW COVER THE CABLES



Now the mat is rigidly fixed to the sub-floor we highly recommend that you cover the cable with a thin suitable flexible levelling compound or flexible tile adhesive. We suggest testing the system again at this stage. Check with your supplier for the levelling compound and/or tile adhesive suitability for use with underfloor heating and the sub-floor.

NOTE

Check with your supplier for the levelling compound and/or tile adhesive suitability for use with underfloor heating and the sub-floor.



STEP 6
CONNECTING THE SYSTEM

Now a part P qualified electrician should make the final connections in accordance with IECC guidelines. It is suggested that you use a connection box if more than one system is being connected to the device. The cold leads on the heating cables are not polarised so either can be used as positive/ live, however normal practice is to make black or brown positive and blue negative. The cables are of co-axial construction and so have a braided earth screen running all the way though. This is a safety feature and the earth screen must be linked together and connected to the earthing point. All our control units (timer/thermostats) have their own manufacturer's wiring diagrams/ instructions enclosed in the packaging. Remember the heating units must be supplied through a residual device (RCD) having a rated residual operating current not exceeding 30mA.

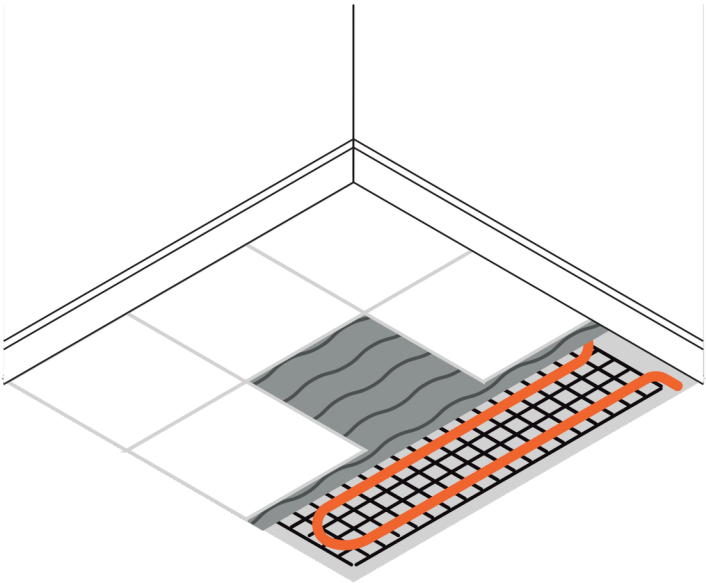
NOTE

Thermostats are normally rated at 16 amps, if you are installing multiple mats, make sure the overall wattage does not exceed 3600 watts.

GENERAL INSTRUCTIONS

STEP 7
TILING

Now you can lay the floor tiles as normal using a suitable flexible tile adhesive. Remember to leave all adhesives to dry naturally, we would recommend waiting for two weeks before turning the heating system on. Once fully cured, we recommend to increase the floor temperature at a rate of 1 degree per day until the desired temperature is reached. If any tiles need to be taken up for any reason, we recommend that extreme care is taken to avoid damaging the heating system.



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GENERAL INSTRUCTIONS

CONGRATULATIONS!

YOU HAVE INSTALLED YOUR UNDERFLOOR HEATING SYSTEM.

Fill in the test cards at the back of this booklet and attach your receipt. This will now act as your guarantee and will be used for reference in the unlikely event of the system malfunctioning.

Should you experience any problems please contact our technical helpline.

If the readings were accurate during the installation, the system will be okay unless accidental damage has occurred during tiling. Should you experience any problems we recommend you check the following:

1. The circuit breaker or fuse is functioning and delivers the power through the thermostat to the heating element.

2. Make sure the RCD has not tripped. If it is a dedicated RCD and it has tripped there is a possibility there could be damage to the cable. Reset the RCD (using the reset button) and, if it trips again contact the customer help-line. NEVER BYPASS THE RCD.

3. Check the thermostat is programmed correctly and is switching on. There should be a light on your control to indicate that it is functioning. If the light is on and it is still not functioning, check you have allowed enough time for the floor to heat up.

NOTE

Please note that the Safeguard Guarantee does not cover accidental damage AFTER tiling.

Uninsulated concrete floor
1 hour

Wooden sub-floor
30 minutes

Insulated tile backer boards
20 minutes

These are approximate times and depend on the thickness of the tiles, concrete and insulation that has been put down. If it is the first time you are turning the heating on it can take up to 24 hours for the heat to come through. If your floor is still not warming up, call the technical helpline and you can speak to one of our engineers.


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UNDERFLOOR HEATING

WARRANTY

All of our electrical underfloor heating systems come with a lifetime guarantee, which covers any manufacturing defects for the lifetime of the final floor covering. This warranty covers the repair/replacement of the underfloor heating systems and any associated costs at the discretion of the manufacturer. The ancillary products that we offer to compliment our underfloor heating range are covered by a separate manufacturer warranty (timer/ thermostats/RCD's).

Our warranty is subject to the following conditions:

- The warranty is dependent on the ohm's readings on the back of this booklet being completed fully and properly.
- We require proof of purchase to validate the warranty. Therefore, we ask that you retain your invoice, however, if there has been any default in payment for the goods or installation then the warranty is automatically null and void.
- The heating system must always be covered by an RCD (Residual Current Device).
- The system must be fitted in accordance with our installation instructions; failure to install the heating mats in accordance with our installation instructions will invalidate the warranty.
- The warranty does not guarantee mats that endure accidental damage before, during or after installation. However, our Safeguard Guarantee protects any accidental damage to the heating cables BEFORE installation of the final floor covering.
- If an engineer is required to attend the site to carry out inspections and subsequent repairs to heating systems, and the faults are found to be caused by anything other than a manufacturing defect, then we have the right to charge a fair sum for all works carried out.
- The warranty does not cover installations where a qualified electrician has not carried out the electrical connection.
- If the mat is damaged during installation you can return it to the store you purchased it from and we will replace the mat free of charge with the same size model (the warranty covers one heater per household/installer). The Safeguard Guarantee does not cover any other type of damage, misuse, or improper installation due to improper adhesive or sub-floor conditions.

We recommend drawing the layout of the heating element after installation, accurately indicating on the drawing where the mat is laid and where you have placed the cold leads / connection cables and floor sensor. Alternatively, you could take a photograph of the installation.

Thermostats & Controls

Underfloor heating controls

An underfloor heating system is controlled via a wiring centre and a thermostat. At ProWarm™ we provide a wide variety of controls to fit every scenario, whether it is WiFi, wired or wireless. We will advise you at every stage of the project and deliver a control solution to fit every application.

Stylish room thermostats

ProWarm™ offer a wide range of thermostats including electronic dial type, button, touch-screen and WiFi. The majority of our room thermostats are designed to be flush mounted, resulting in a slim profile on the wall after installation.

Easy to install wiring centres

The ProWarm™ central wiring switch box, has been designed to be used with wired, wireless and networked thermostats.

The Wiring Centre offers the following functionality;

- Central wiring for up to 8 zones
- Output for underfloor heating valve and pump, activated when any thermostat calls for heat
- Output for a single radiator zone
- Output for domestic hot water
- Three options available; WiFi, Wireless and Wired

WiFi controls

- WiFi Control
- Double Temperature Control
- Programmable
- XL Screen
- Professional Design
- Lifetime Warranty

ProTouch Smart WiFi Thermostat enables control of your underfloor heating via your home WiFi using the easy to use application available on both Android and IOS platforms. Designed to enhance the experience of the end user with a 7-day programmer, optimal start features, multi temperature display and easy to read displays.

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Thermostats & Controls

230v Controls

DS1 Dial Thermostat

- Power On & Heat On Indication
- Single Temperature Control
- Built In Air Sensor

Slimline Thermostat

- Self Learning Preheat
- Temperature Hold Facility
- Key Locking Flexible Programming Blue Back Light

Touchscreen

- Easy Touch Screen Display
- Self Learning Preheat
- Temperature Hold Facility
- Key Locking Flexible Programming Blue Back Light

NeoStat Smart Thermostat

- Networking with NeoHub
- Easy Navigation Self Learning Preheat App Control

Wiring Centres

- Radiator Option
- Din Rail Mounting
- Output Indication

Product code	Description DS1 Dial	For use with UH4
DS1 SLIMLINE	Thermostat Slimline Digital	/ UH8 UH4 / UH8
TOUCH	Programmable Room	UH4 / UH8 UH4 /
NEOSTAT-WHITE	Thermostat Touchscreen	UH8 UH4 / UH8
NEOSTAT-BLACK	NeoStat - Glacier White	UH4 / UH8 Neo
NEOSTAT-	NeoStat - Sapphire Black	Thermostats
PLATINUM	NeoStat - Platinum Silver	230v
NEOHUB GEN2	Neo Hub Gen 2 UH4 4 Zone	Thermostats
UH4WIRINGCENT	Wiring Centre UH8 8 Zone	230v
RE UH8	Wiring Centre	Thermostats