

# FloorWarm UNDER WOOD OWNERS MANUAL



*Please visit our website to ensure you have the very latest version of the installation instructions*

### IMPORTANT NOTICE:

ENSURE THE MAINS SUPPLY IS ISOLATED PRIOR TO INSTALLATION/MAINTANENCE/TESTING  
ALL VITREX FLOORWARM UNDERFLOOR HEATING MATS MUST BE EARTHED  
A DEDICATED 30mA (RCD) MUST BE USED WITH THIS HEATING SYSTEM  
ELECTRICAL WORK WHICH IS SUBJECT TO PART P BUILDING REGULATIONS MUST BE CARRIED OUT BY A QUALIFIED ELECTRICAL CONTRACTOR  
ALL WORK MUST CONFORM TO BS 7671.2008 AND THE LATEST IEE WIRING REGULATIONS (CURRENTLY 17<sup>th</sup> EDITION)  
CONSULT AN ELECTRICIAN PRIOR TO INSTALLATION TO ENSURE THE ROOM IS SUITABLE FOR UNDERFLOOR HEATING SYSTEMS

### PLEASE:

- DO Read all the instructions before commencing installation
- DO Ensure a 30mA RCD is used in conjunction with the heating system
- DO Test the system regularly during the installation process
- DO Take care when planning the layout
- DO Only cut the foil mat using scissors, do not use a knife
- DO Ensure the cables are never less than 50mm apart
- DO Take care when cutting the mat to prevent accidental damage to the heating cable
- DO Ensure a qualified electrician completes the final wiring following the latest electrical regulations
- DO Purchase slightly less than is required as the mats cannot be shortened in anyway
- DO Only connect mats in parallel
- DO Leave a 50mm gap between walls and the heating system
- DO Ensure no metal objects come into contact with the foil, for example transition strips or metal edged locking laminate flooring
- DO always use Foil Joint Tape to connect re-shaped sections of mat to maintain the Earth connection
- DO ensure the floor area is clean and free from any debris. Ensure no protruding nails heads etc.
- DO use a multi meter to continually test the mat before and during the installation and before laying final flooring
- DO ensure all electrical connections conform to Part 'P' of the Building Regulations and latest IEE Wiring Regulations
- DO avoid any unnecessary traffic over the cables during installation
- DO install thermal and sound insulation materials beneath the heating mats and ensure they are suitable for use with Underfloor Heating systems.

### PLEASE:

- Do NOT Install the heating system under any fixtures or fittings i.e. bath tub, cabinets & toilets
- Do NOT Place any heavy items on the matting (e.g. packs of wood) during the installation
- Do NOT Cut the heating cable at ANY point
- Do NOT Overlap the heating mats or cross cables at ANY point
- Do NOT Install the heating system under any flooring other than wood or laminate
- Do NOT Leave any excess matting or cable – use a smaller mat if necessary
- Do NOT Proceed without regular testing of the system
- Do NOT Start up the system until the adhesive is fully dry
- Do NOT Connect mats in series
- Do NOT place items which may prevent the heat rising onto the finish floor, such as heavy rugs, bean bags and solid base furniture. This causes THERMAL BLOCKING and can damage the flooring and heating system
- Do NOT install the floor sensor close to other heat sources for example hot water pipes
- Do NOT install the flooring without final continuity testing of the mats with a multi-meter

## Installation Checklist

Room plan  
Insulation Boards  
Mesh Joint Tape to join insulation boards  
Foil Joint Tape to secure mats and cover any loose cable  
Floorwarm Thermostat  
Residual Current Device 30 mA (RCD)

*Electrical Components:*  
Electrical backbox for thermostat if required  
Junction box if installing more than one mat  
Conduit to house power cables

## Useful Tools

Marker Pen  
Tape Measure

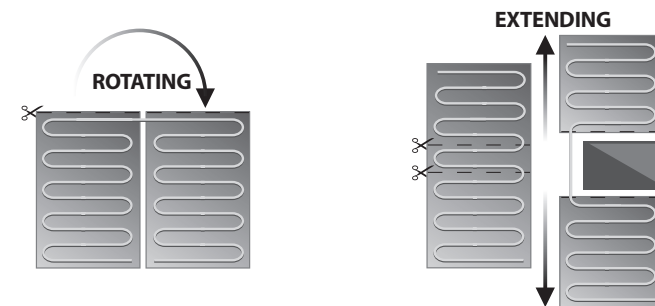
Electrical screwdrivers & multi meter for connections  
Scissors

## Planning your Layout

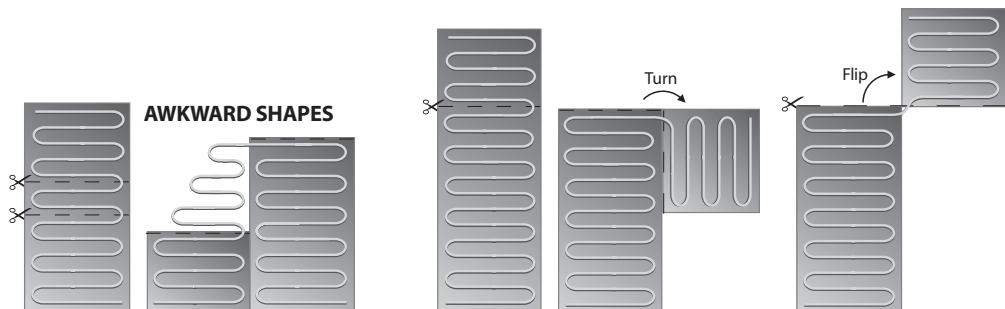
The mats can be adapted to suit all room shapes and layouts. If using more than one mat ensure that the cold tails reach the thermostat. DO NOT cut the cable.  
For awkward areas the mat can be removed and the cable placed directly onto the insulation board and secured into place using foil joint tape. DO NOT use any other tape to secure the cables as the foil tape maintains the ground circuit connection.  
Connect the mats in parallel, ensuring cold tails reach the thermostat. Use the room plan guide supplied in this booklet to plan the layout of mats, cold tails, junction box (if required), thermostat and floor sensor. Ensure that there is at least 50mm gap between the mats and the wall and 50mm between each mat.

## DIAGRAMS

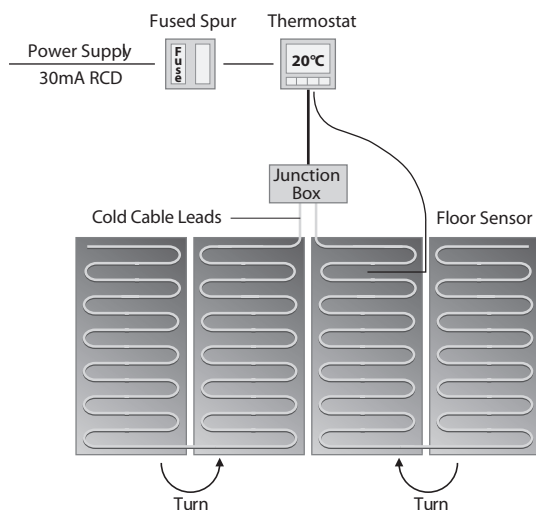
### Layout Example Diagrams



## Layout Example Diagrams (cont.)



## Typical Wiring System



# Technical Specification

## TECHNICAL INFORMATION

<b>Construction</b>	Ultra-low wattage per linear metre heating cable encased between aluminium layers
<b>Voltage</b>	230V ac – 50Hz
<b>Maximum Load</b>	7W/m
<b>Wire Thickness</b>	1.0mm +/- 0.05mm
<b>Cable Flexibility</b>	Minimum bend radius is 10mm
<b>Power Range</b>	140W to 700W
<b>CE Marked in accordance with</b>	EN60335-1:2002+A1:2004+A11:2004+A12:2006+A13:2008 EN60335-2-96:2003+A2:2009 EN62233:2008

## CONSTRUCTION

<b>Thermal Conductor</b>	Stranded resistance wire insulated with Teflon(FEP) tested to 200°C
<b>Heat Dissipation Materials</b>	Full coverage aluminium foil
<b>IP Rating</b>	IPX7

## POWER CONSUMPTION

	Amps per Square Metre	Watts per Square Metre
<b>1sqm</b>	0.61	140
<b>2sqm</b>	1.22	280
<b>3sqm</b>	1.83	420
<b>4sqm</b>	2.43	560
<b>5sqm</b>	3.04	700

## DISPOSAL OF OBSOLETE APPLIANCES

**DO NOT** dispose of this appliance in your general waste. Your local authority or retailer will be able to provide further guidance



# Surface Preparation

The floor must be clean and free from dust and dirt. Remove any old floor coverings.

## Wooden Sub-Floors:

- Ensure the floor has adequate ventilation underneath
- Secure all floorboards to prevent flexing.

## Concrete Sub-Floors:

- Ensure floor is level and structurally sound

# Testing your Heating Mat

We recommend testing the mat before fully un-wrapping. Test using a multi-meter to ensure continuity through the cables.

Test regularly during the installation process and before laying the final flooring

# Insulation

We recommend the use of insulation boards prior to installing underfloor heating. Insulation increases the performance and efficiency of running underfloor heating. Insulation also reduces the heat up time and reduces running costs.

The use of a soft insulation material across the entire floor area is recommended to ensure an even floor surface. Check with the manufacturer of the soft insulation that it is suitable for use with Underfloor Heating systems.

The wood flooring can be laid directly on the heat mat, however if you wish to use acoustic insulation we recommend that the insulation have a tog rating of less than 0.8.

# Instructions

- Ensure the area is clean and free of any debris
- Check the mats visually to ensure they are not damaged. Test the cable using a multi-meter, compare the resistance rating to the following chart. Results should be within +10% / -5% of the following readings:

## Resistance (Ohm) for 230V 140W/m<sup>2</sup>

1sqm	378 Ohm
2sqm	189 Ohm
3sqm	126 Ohm
4sqm	94 Ohm
5sqm	76 Ohm

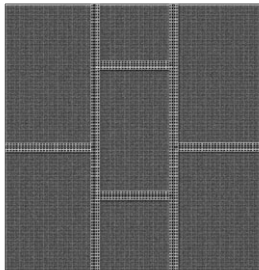


figure 1

- Lay the insulation boards, we recommend a brick pattern layout (see figure 1). To cut the boards simply run a knife through to score and flex. We recommend using a flexible powder

tile adhesive and floor adhesive trowel to install the insulation boards. Press firmly into place and once dry, tape the edges of the board with Mesh Joint Tape.

- Please take time to re-check your room plan ensuring that adequate space is allowed for any additional fixtures and fittings to be installed post installation.
- Start to lay the mats on the floor, starting close to the thermostat. Mark out any cuts and turns. Mark the position where the temperature sensor is to be positioned.
- If you require a specific layout of cable not offered by the matting, simply cut the matting away and fix the cable in place using the Foil Joint Tape. ENSURE THERE IS NEVER LESS THAN 50MM BETWEEN THE CABLES.
- When confident everything is in the correct position, you are ready to install the floor sensor. Place the floor sensor underneath the mat - evenly spaced between 2 cables. Prepare a small channel in the insulation board to house the floor sensor. Ensure the channel accommodates the protective tube supplied. Place the floor sensor into the tube; tape over the end - this stops any foreign objects from coming into contact with the sensor. The tip of the sensor should be at least 500mm away from the edge of the wall.
- Join the mats together by using Foil Joint Tape. Ensure there is at least a 50mm gap between the mats.
- Once in place, it is good practice to test the resistance again using a multi meter.
- CONNECTION – This must be undertaken by a qualified electrician. This also validates your warranty. Ask your electrician to sign and date your warranty card.
- Install the thermostat following the instructions supplied. Ensure the thermostat is positioned away from other sources of heat such as fireplaces, direct sunlight etc.
- As the power cable is thicker than the heating element it may be necessary to cut a channel into the floor to ensure that you maintain an even level.
- Secure the power cables in place using tape.
- Run the power cables and temperature sensor cable to the thermostat using electrical housing if necessary.
- It is possible to shorten or lengthen the cold power cables as necessary. This should only be done by a qualified electrician.
- Test the system again using a multi meter. The electrician should write the meter readings on the warranty card to validate.
- Once laid, protect the cables with cardboard to prevent any accidental damage and avoid any unnecessary traffic over the cables, whilst exposed.

## **THERMAL BLOCKS – caution must be taken to avoid thermal blocks.**

Thermal blocks (increases in temperature at a localised point) are caused when an object placed on the floor prevents the heat generated from being transferred into the air. Thermal blocks can cause damage to the item and / or the flooring. Examples of items that can cause thermal blocks are rubber backed rugs, solid based furniture, floor cushions / beanbags etc.





# Installation, Ownership and Part P Electrical Document

To validate your warranty you must fully complete this form

Owners Name \_\_\_\_\_

Owners address \_\_\_\_\_

Postcode \_\_\_\_\_ Telephone number \_\_\_\_\_

Email \_\_\_\_\_

Date of purchase \_\_\_\_\_

Owners signature \_\_\_\_\_ Date \_\_\_\_\_

Installers Name \_\_\_\_\_

Installers Telephone Number \_\_\_\_\_

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

Kitchen     Bathroom     Conservatory     Hall     Other

I confirm that I have read and fully understand the contents of the terms, conditions and installation manual and that the heater(s) has been installed as directed. I confirm that the heater(s) was working prior to tiling and accept that no claim against the manufacturer or its agents can be made for any loss or damage.

Installers signature \_\_\_\_\_ Date \_\_\_\_\_

Electricians Name \_\_\_\_\_

Electricians Address \_\_\_\_\_

Electricians Phone Number \_\_\_\_\_

Electricians Part P Certificate Number \_\_\_\_\_

## TABLE OF HEATERS INSTALLED

Room	Product Code	Batch No.	Under Tile or Under Wood	RCD Rating	Resistance Reading
Hall	FWT005	12345	Under Tile	30 ma	76.8 ohms

Return completed form to:

Vitrex FloorWarm Warranty, Everest Road, Lytham St. Annes, Lancashire, FY8 3AZ

# WARNING

Please complete and display this page at your distribution board

This building is fitted with an underfloor heating system utilising 240V ac supply.

Do NOT pierce the flooring above the heating system with nails, screws or other fasteners. (See installation diagram for reference.)

Do NOT expose the floor to thermal blocking or attempt to reduce the area of the heated floor. (Ensure the flooring is suitable for use with the heating system.)

In the event of flooding or when carrying out any repairs or alterations, disconnect the underfloor heating system and contact your electrician or Vitrex Floorwarm Technical Helpline for advice. + 44 (0) 1253 789 180.

Details of Installation: \_\_\_\_\_

Electricians Name: \_\_\_\_\_

Company Name and Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Date: \_\_\_\_\_

Room with Heating Installed: \_\_\_\_\_

Total Wattage of System Installed: \_\_\_\_\_

## PLEASE LIST THE HEATING MAT INSTALLED AND THE TEST RESULTS

Mat Type	Resistance Rating	Insulation Test Passed

