IMPORTANT WARRANTY DETAILS ENCLOSED

THERMONET UNDERFLOOR HEATING HEATMAT INSTALLATION GUIDE

thermonet UNDERFLOOR HEATING

IMPORTANT DO NOT PROCEED WITHOUT READING AND UNDERSTANDING THIS INSTALLATION GUIDE FAILURE TO DO SO WILL INVALIDATE THE WARRANTY

CONTENTS

SUBFLOOR PREPARATION - CONCRETE/SCREED 2
SUBFLOOR PREPARATION - TIMBER 3
ELECTRICAL PREPARATION 4
INSTALLATION 5
FLOOR TEMPERATURE SENSOR 7
LAYOUT DRAWING 8
ON SITE TEST PROCEDURE 9
WARRANTY VALIDATION FORM 10
ELECTRICAL CONNECTIONS 11
FLOOR FINISHES 12
TROUBLE SHOOTING 13
CUSTOMER HANDOVER 14

YOU MUST

1 Read this document in conjunction with instructions for associated accessories (eg thermostats)

2 Follow in full the test procedure on Page 9, complete the warranty form and return to Thermonet

3 Ensure adequate substrate insulation for optimum performance (see thermal insulation notes on Page 2)

4 Install sensor conduit in accordance with instructions on Page 7 to facilitate easy replacement

5 Ensure that the yellow element and connectors are totally covered in tile adhesive or levelling compound

YOU MUST NEVER

1 Cut or shorten the yellow wire

2 Cross or overlap any wires

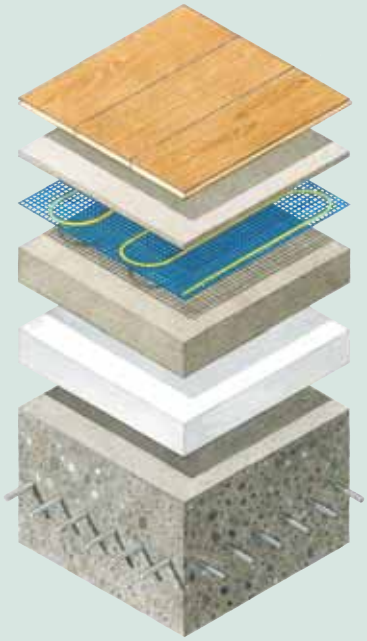
3 Wire multiple mats in series

4 Turn on the system until the adhesive or levelling compound has cured

5 Staple or clip the heatmat cables independently of the mesh

Important do not proceed without understanding this booklet, if you have any questions phone the Thermonet helpline on 091 1163 2003*

**Calls cost 50p per min.*



1 Finished floor covering, could be ceramic, stone, timber, carpet or vinyl

2 Flexible tile adhesive, when tiling over Thermonet®, or self levelling compound when laying a soft floor finish (vinyl, carpet or timber)

3 Thermonet®

4 Sand and cement screed

5 Polystyrene insulation

6 Concrete ground slab

Use of a thermal insualtion board such as Econoboard will greatly reduce heat up times.

TYPICAL THERMONET® INSTALLATION ON INSULATED SOLID FLOOR

CONCRETE / SCREED SUBFLOORS

Concrete and screed subfloors are ideal for Thermonet® installations.

CHECKLIST

- ☐ STABLE SUBFLOOR
- ☐ SMOOTH SUBFLOOR
- ☐ FULLY CURED
- ☐ ADEQUATE THERMAL INSULATION
- ☐ ACOUSTIC INSULATION (IF REQUIRED)
- ☐ WATERPROOF TANKING SYSTEM (IF REQUIRED)

Unstable, uneven or new subfloor

Subfloors that are unstable, cracked, damp or freshly laid should be made good before laying heatmats. Thermonet® recommend Dukkaboard® backer board or Watec decoupling matting.

Uneven surfaces or levels should be made good before laying heatmats. Thermonet® recommend Mira X-Plan fibre reinforced self levelling floor compound.

Thermal insulation

Subfloors that are not thermally insulated or that require a higher level of insulation should be improved before laying heatmats. Improving the thermal insulation will reduce floor heat up times. Thermonet® recommend using Econoboard insulation panels laid onto concrete subfloors.

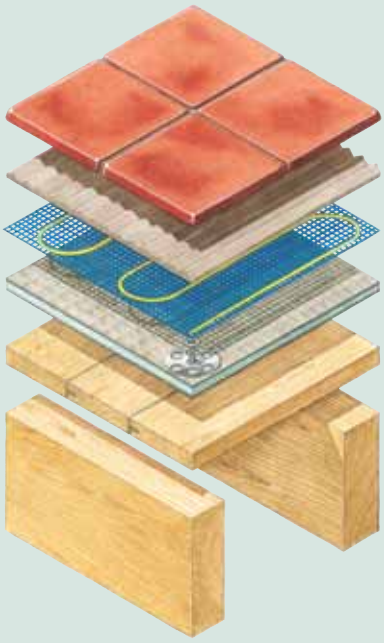
Acoustic Insulation

If required, an acoustic insulation system should be fitted before laying heatmats. Thermonet® recommend Dukkaboard® Acoustic – SS soundproofing matting.

Waterproof tanking

If required, a waterproof tanking system should be installed after the appropriate subfloor preparation is complete and before laying heatmats. Thermonet® recommend the Mira tanking system.

BEFORE INSTALLATION ALWAYS CHECK THE SUBFLOOR HAS ADEQUATE THERMAL INSULATION. THIS IS PARTICULARLY IMPORTANT WHERE THERMONET® IS THE PRIMARY HEAT SOURCE



1 Finished floor covering, could be ceramic, stone, timber, carpet or vinyl

2 Flexible tile adhesive, when tiling over Thermonet®, or self levelling compound when laying a soft floor finish (vinyl, carpet or timber)

3 Thermonet®

4 12mm Dukkaboard® screwed down at 300mm centres

5 Floorboards or chipboard flooring

6 Floor joists

TYPICAL THERMONET® INSTALLATION ON SUSPENDED FLOOR

TIMBER SUBFLOORS

Both suspended and floating timber floors are suitable after preparation for Thermonet® installations.

CHECKLIST

- ☐ IS SUBFLOOR RIGID
- ☐ ALL BOARDS/SHEETS SECURED
- ☐ OVERBOARD OR DECOUPLING MATTING
- ☐ ADEQUATE THERMAL INSULATION
- ☐ ACOUSTIC INSULATION (IF REQUIRED)
- ☐ WATERPROOF TANKING SYSTEM (IF REQUIRED)

Floor preparation

Floors should be rigid and all boards or sheeting must be secured and level.

The rigidity of the floor should be checked. Using a straight edge, measure the distance the floor deflects under a typical load. Where deflection exceeds 1mm over 3m, additional floor joists bracing or support should be fitted.

Uneven levels or floorboards that are cupped should be made good using a suitable floor compound. Thermonet® recommend Mira X-Plan fibre reinforced self levelling floor compound.

Overboarding

All timber floorboards and sheet flooring must be overboarded. Use either backer board minimum thickness 12mm or WBP grade plywood minimum thickness 18mm. When using plywood always prime seal the back and edges of the sheet before fixing. Thermonet® recommend Dukkaboard® backer board.

Decoupling matting

In certain situations decoupling matting can be used as an alternative to overboarding. Heatmats should be laid after the matting is installed. Thermonet® recommend Blanke and Watec decoupling matting.

Thermal insulation

Subfloors that are not thermally insulated or that require a higher level of insulation should be improved before laying heatmats. Improving the thermal insulation will reduce floor heat up times. Thermonet® recommend using Dukkaboard® tile backer board to improve insulation levels on timber subfloors.

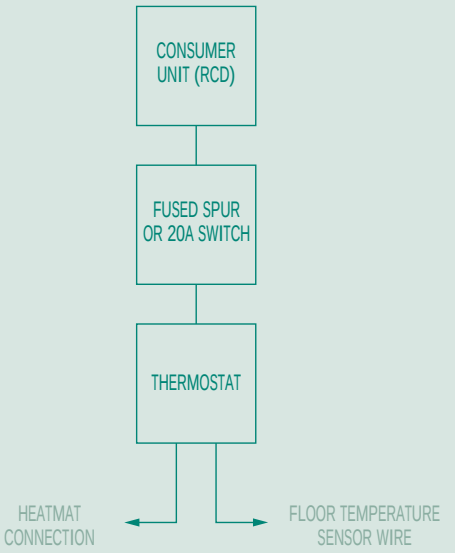
Acoustic Insulation

If required an acoustic insulation system should be fitted before laying heatmats. Thermonet® recommend Dukkaboard® Acoustic – SS soundproofing matting.

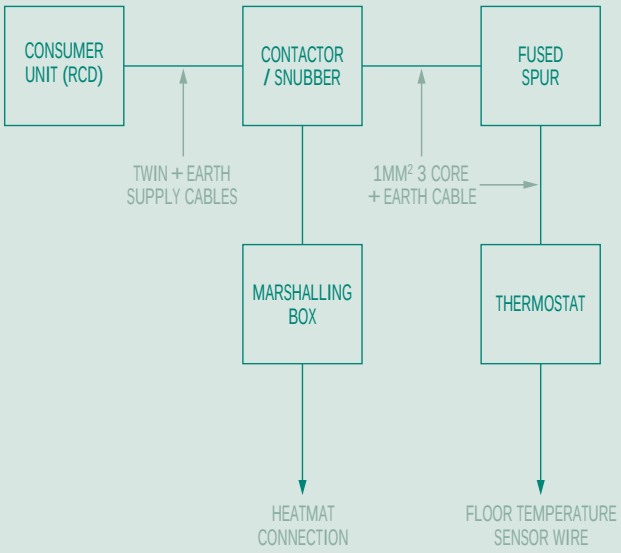
Waterproof Tanking

If required, a waterproof tanking system should be installed after the appropriate preparation is complete and before laying heatmats. Thermonet® recommend the Mira tanking system.

BEFORE LAYING HEATMATS, IT IS IMPORTANT THAT TIMBER SUBFLOORS ARE PROPERLY PREPARED, CLEAN AND FREE OF SHARP EDGES



SCHEMATIC WIRING LAYOUT FOR STANDARD INSTALLATION



SCHEMATIC WIRING LAYOUT FOR INSTALLATIONS USING A CONTACTOR ONLY

LOAD CALCULATION / CONTROL RATING / THERMOSTAT LOCATION

Prior to heatmat installation, work out the electrical requirements.

CHECKLIST

- ☐ TOTAL HEATMAT CURRENT DRAW (AMPS)
- ☐ HEATMAT CONTROL RATINGS
- ☐ THERMOSTAT LOCATION
- ☐ CIRCUIT PROTECTION

Total heatmat current draw

Firstly calculate the total load. The load in watts(W) of each heatmat is shown on the heatmat factory test certificate. To find the total load, add the load of each individual heatmat together.

Sum of individual heatmat loads = Total load(W)

Calculate the current draw in amps(A) by dividing the total load(W) by the working voltage.

$$\frac{\text{Total load W}}{230\text{ v}} = \text{Total current draw A}$$

Heatmat control ratings

Thermonet® heatmats must be controlled by a Thermonet® thermostat. Thermostats have a maximum current draw rating of 16.0A.

If the total current draw exceeds 16.0A and the system has to be controlled by a single thermostat, a contactor/snubber must be used in addition to the thermostat. The rating of the contactor/snubber must always exceed the total current draw of the system.

25.0A CONTACTOR / SNUBBER	STOCK NO 5279
40.0A CONTACTOR / SNUBBER	STOCK NO 5280

Alternatively larger areas can be divided into zones. The total heatmat current draw for each zone must not exceed the maximum rating of the thermostat or contactor/snubber controlling that zone.

One benefit of zoning larger areas is that each zone can have different thermostat settings leading to enhanced efficiency.

The floor area of each zone is governed by the area of the heatmat(s) in each zone. Heatmats must never be shortened or joined together.

Thermostat Location

Select a location for the thermostat. Thermostats require an electrical supply and a conduit feed to floor level. Thermostat operation is via a floor temperature sensor.

Thermostats are only suitable for dry locations. Dry locations are areas outside zone 3 as defined in the current IEE wiring regulations.

The recommended thermostat position is 1.3m above floor and within a 3m wiring run of the heatmat(s). Where possible thermostats should be flush mounted. If required thermostats can be located in cupboard spaces or up to 50m away from the room to be heated.

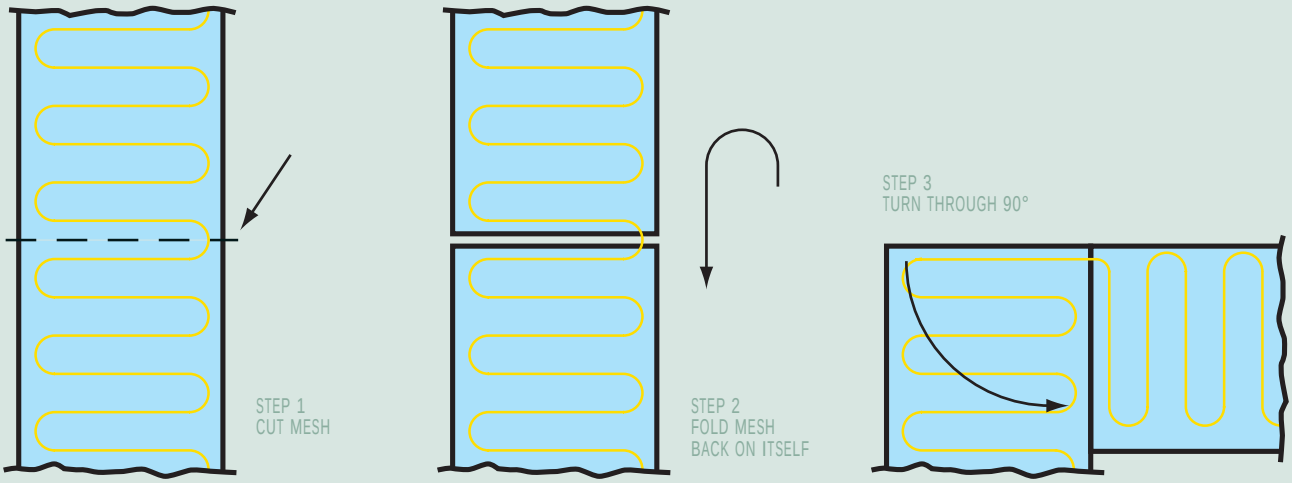
Installations of three or more heatmats controlled by a single thermostat will require the heatmat connection wires to terminate at a separate location. We recommend installing a marshalling box just above skirting level and in line with the thermostat mounting box. Use this marshalling box to house a terminal block and take single wire feeds to the thermostat.

Where possible, 2 x 20mm conduits should be installed between the thermostat, termination mounting box (if fitted) and the floor level.

ALL ELECTRICAL WORK MUST CONFORM TO CURRENT IEE WIRING REGULATIONS AND BE CHECKED OR CARRIED OUT BY A QUALIFIED ELECTRICIAN. ELECTRICAL INSTALLATION WORK IN DWELLINGS IS SUBJECT TO THE BUILDING REGULATIONS PART P

TURN OFF THE ELECTRICAL SUPPLY AT THE POWER DISTRIBUTION UNIT TO AVOID RISK OF ELECTRICAL SHOCK

THE ELECTRICAL SUPPLY TO THE INSTALLATION MUST ALWAYS BE PROTECTED BY A RESIDUAL CURRENT DEVICE (RCD).
THE TRIPPING CURRENT RATING OF THE RCD MUST NOT EXCEED 30MA



90° RETURN RUNS

PLANNING LAYOUT / INSTALLATION TIPS

CHECKLIST

- ☐ PLAN HEATMAT LAYOUT
- ☐ HAVE YOU GOT THE CORRECT HEATMAT SIZE
- ☐ ALWAYS WIRE HEATMATS IN PARALLEL
- ☐ WILL YOU NEED EXTRA CABLE OR CONNECTION KITS

Plan heatmat layout
Decide the best layout for the heatmat(s). All the connection wires from the heatmat(s) must return to the thermostat or the junction box, if fitted.

Heatmat connection wires are a minimum of 3m long. Where possible, try to arrange the start and finish position of each heatmat so that the connection wires reach back to the thermostat or junction box, if fitted.

Extra cable/connection kits
Heatmat connection wires can be extended if necessary. Each extension will require a slimline connection kit and a length of connection wire extension cable.
Slimline connection kits and extension cable (sold by the metre) are available from your Thermonet® stockist.

Installations where slimline connection kits have been fitted on site must undergo an insulation test in accordance with current regulations.

CONNECTION WIRE EXTENSION CABLE - BLUE	STOCK NO 5268
CONNECTION WIRE EXTENSION CABLE - BROWN	STOCK NO 5269
SLIMLINE CONNECTION KIT (1 PER CONNECTION)	STOCK NO 5270

Roll out the heatmat(s) onto a clean floor. Heatmats can be laid either way up.

Where required, Thermonet® can be fitted as a single wire. Cut the mesh backing either side of the yellow heating wire. Secure the mesh backing to the floor using staples, hot melt glue or spray adhesive.

Do not join one heatmat to another in series. Heatmats must be wired in parallel with all connection wires terminating at the thermostat or termination mounting box.

Do not install heatmats under fixtures (e.g. kitchen units, bath, etc), or over floor movement joints. Contact your Thermonet® stockist for advice when installing Thermonet® when floor movement joints are present.

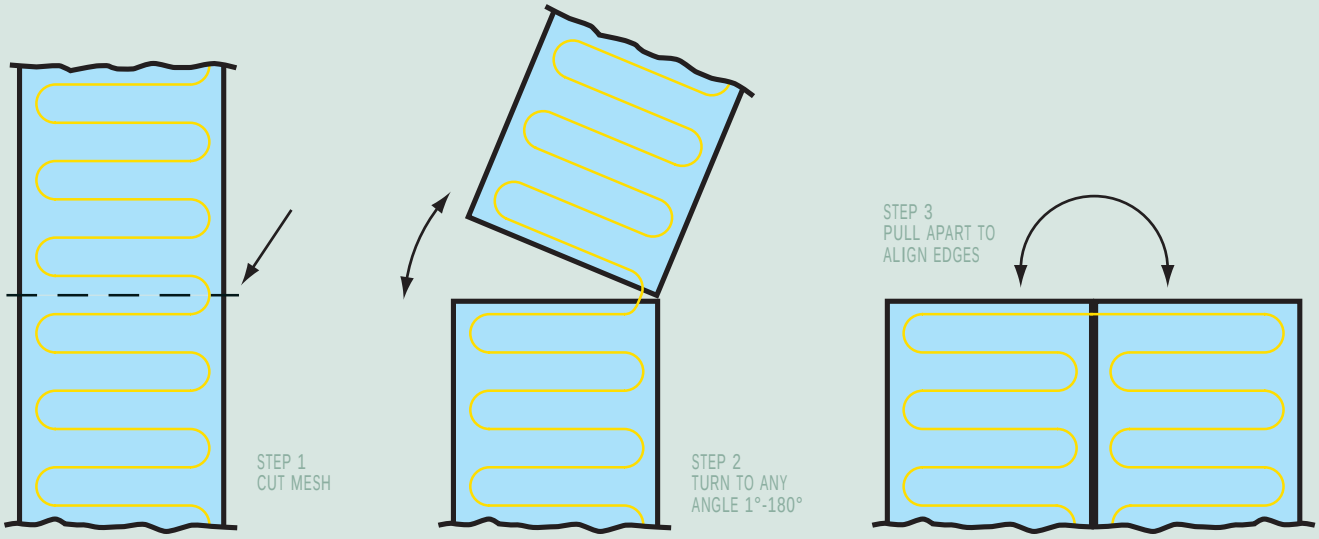
NEVER CUT THE YELLOW HEATING WIRE. HEATING WIRE MUST NEVER BE SHORTENED OR LENGTHENED

ALWAYS CONNECT MULTIPLE HEATMATS IN PARALLEL. ALL CONNECTION WIRES MUST RETURN TO THE THERMOSTAT OR A COMMON TERMINATION POINT

YELLOW HEATING WIRES MUST NEVER CROSS AND MUST ALWAYS BE AT LEAST 50MM APART

DO NOT BEND OR STRESS THE ELEMENT / COLD TAIL CONNECTION

ENTIRE HEATMAT INCLUDING COLD TAIL CONNECTION SHOULD BE IN THE ADHESIVE LAYER



ANGLED AND 180° RETURN RUNS

180° RETURN RUNS

STEP 1

USE A CRAFT KNIFE TO CUT THE BLUE MESH BACKING. TAKE CARE NOT TO DAMAGE THE YELLOW HEATING WIRE.

STEP 2

SEPARATE THE YELLOW HEATING WIRE FROM THE BLUE MESH AT THE LOOP ENDS AND CUT FROM THE UNDERSIDE.

BE CAREFUL NOT TO DAMAGE THE YELLOW HEATING WIRE DURING INSTALLATION AND FLOOR FINISHING

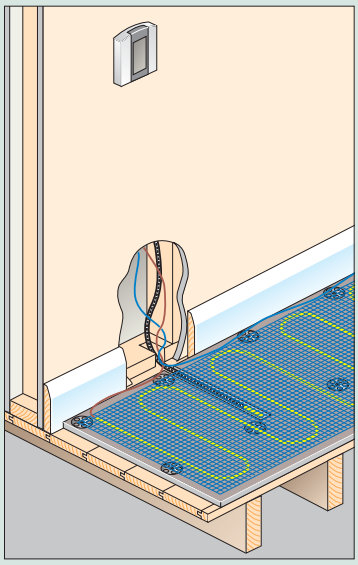
AFTER INSTALLATION, THERMONET® SHOULD LIE FLAT. WHERE NECESSARY, SECURE THE MESH BACKING TO THE FLOOR USING STAPLES OR HOT MELT GLUE. TAKE CARE NOT TO DAMAGE THE YELLOW HEATING WIRE.

STEP 3

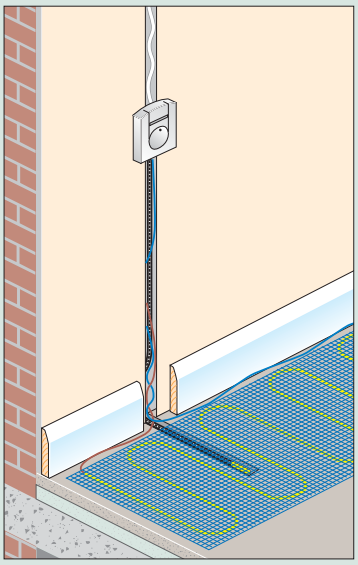
AFTER CUTTING THE MESH, THE NEXT RUN CAN BE AT ANY ANGLE 1-180.

STEP 4

LONG LENGTHS OF THERMONET® CAN BE CUT AND RETURNED ANY NUMBER OF TIMES.



SENSOR CONDUIT
DRYLINED WALLS



SENSOR CONDUIT
SOLID WALLS

SENSOR LOCATION / INSTALLATION / TESTING

CHECKLIST

- ☐ LOCATE SENSOR BETWEEN YELLOW HEATING WIRES
- ☐ ALWAYS INSTALL SENSOR IN CONDUIT
- ☐ RECESS CONDUIT INTO SUBFLOOR
- ☐ BEND CONDUIT AT FLOOR LEVEL FOR EASY SENSOR REPLACEMENT IF REQUIRED
- ☐ TEST THE SENSOR RESISTANCE

Sensor location

The sensor head should be placed in a representative area of the heatmat(s) for optimum system performance. Locate the sensor head and wire centrally between any two of the yellow heatmat wires. The sensor must not cross or touch any yellow heatmat wires and must be installed in conduit to facilitate removal if necessary. Sensor conduit extension kits (Stock no 5267) are available from your Thermonet® stockist.

Sensor installation

Mark the position of the conduit on the floor. Remove the surrounding heatmat(s) and cut a channel 12mm wide x 8mm deep in the floor to accommodate the conduit. This will maintain the overall finished floor level. Ensure that the floor is clean before installation of heatmat(s).

Sensor testing

Using a multimeter, measure the resistance between the two connection wires in the floor temperature sensor flex, and check against the Thermostat Kit Installation/Operation Guide supplied with the thermostat. Check the resistance before and after installation.

Sensor description

The sensor comes complete with 3m of cable and can be extended if necessary up to a maximum of 50m using 1mm^2 twin core flex.

THE SENSOR MUST BE PLACED IN CONDUIT TO FACILITATE REMOVAL, IF NECESSARY

THE SENSOR WIRE MUST NOT CROSS OR TOUCH ANY YELLOW HEATMAT WIRES

IT IS IMPORTANT TO CHECK FOR OTHER SOURCES OF HEAT SUCH AS CENTRAL HEATING PIPES OR RECESSED DOWNLIGHTERS BELOW THE FLOOR AS THIS CAN ALTER READINGS

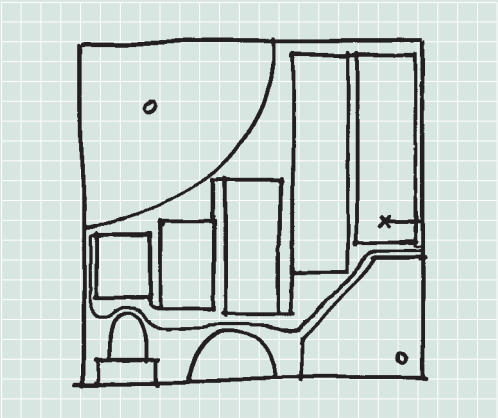
2M CONDUIT EXTENSION KIT	STOCK NO 5267

LAYOUT DRAWING

CHECKLIST

- ☐ DRAW THE HEATMAT LAYOUT
- ☐ MARK THE POSITION OF FLOOR TEMPERATURE SENSOR
- ☐ MARK ROUTE OF CONNECTION WIRES
- ☐ MARK POSITION OF CONNECTIONS (IF APPLICABLE)
- ☐ PHOTOGRAPH HEATMAT LAYOUT PRIOR TO TILING

Heatmat layout
Make a record of the installation layout below.



MAKE SURE ALL RELEVANT CONTRACTORS, PARTICULARLY BATHROOM AND KITCHEN FITTERS, KNOW THAT ELECTRICAL UNDERFLOOR HEATING IS INSTALLED

USE OF MECHANICAL FLOOR FIXINGS OVER THE HEATING AREA IS PROHIBITED

USE THE GRID BELOW TO DRAW THE HEATMAT LAYOUT

TEAR HERE

FACTORY TEST CERTIFICATE

Stock code: 5255A
Size: 17000 x 500mm
Wattage: 1356
Working Voltage: 230 ac
Batch No.

RESISTANCE	
Centrecore/Centrecore	39 Ohm
Centrecore/Earth braid	Open Circuit

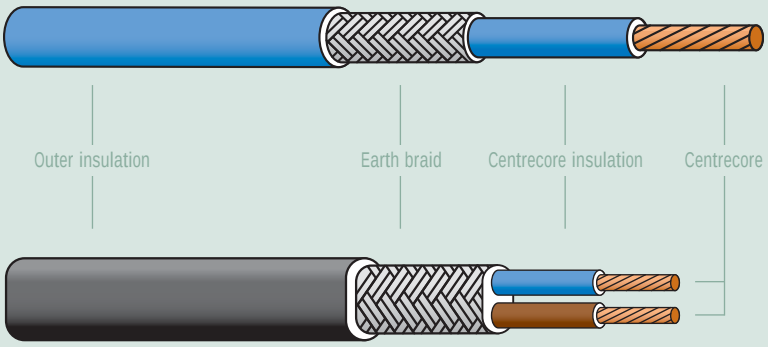
Install and test in accordance with the Thermonet Installation Guide.
Detach and file this certificate in the Thermonet Customer Installation File.

thermonet UNDERFLOOR HEATING TFTC/03

EXAMPLE

TYPICAL FACTORY TEST CERTIFICATE

CROSS SECTION OF A CONNECTION WIRE



CROSS SECTION OF TWIN CONNECTION WIRE

HOW TO TEST HEATMATS

CHECKLIST

- ☐ LOCATE THE HEATMAT FACTORY TEST CERTIFICATE
- ☐ CHECK CENTRECORE / CENTRECORE RESISTANCE
- ☐ CHECK CENTRECORE / EARTHBRAID RESISTANCE
- ☐ REPEAT RESISTANCE CHECKS FOR EACH HEATMAT AS REQUIRED
- ☐ COMPLETE WARRANTY VALIDATION FORM

Factory test certificate

Each heatmat is supplied with a factory test certificate. Locate and detach the certificate before proceeding. Factory test certificates must be handed to the customer on completion.

Each heatmat must be checked for both centrecore/centrecore and centrecore/earthbraid resistance at 3 stages. The results must be checked against the factory test certificate and recorded on the warranty validation form.

All heatmat resistance checks must be carried out before connecting any control equipment.

Centrecore/Centrecore resistance

All heatmats have individual resistance readings. Always check readings against the heatmat factory test certificate. Using a multimeter, measure the resistance in ohms Ω between the centrecores of the two connection wires for each heatmat.

The Centrecore / Centrecore resistance value should equal the factory test certificate value to within a tolerance of +10% / -5%.

For example Stock no 5229 has a factory test certificate value of 121 ohms. On-site value must be between 115 - 133 ohms for this heatmat.

Check and record resistance values on the warranty validation form at Stage 1, Stage 2 and Stage 3 of installation.

Should the resistance value fall outside the allowable tolerance at any stage of installation, contact your Thermonet® stockist for advice. Do not continue installation.

How to check centrecore/earth braid resistance

Using a multimeter, measure the resistance in ohms between either one of the connecting wire centre cores and either one of the earth braids for each heatmat.

The centrecore / earth braid resistance value should always be open circuit (infinity). Check and record resistance values on the warranty application form at Stage 1, Stage 2 and Stage 3 of installation.

Should the resistance value change from open circuit at any stage of installation, contact your Thermonet® stockist for advice. Do not continue installation.

EACH HEATMAT REQUIRES 2 ELECTRICAL RESISTANCE TESTS AT 3 STAGES:

1 - BEFORE
2 - DURING
3 - AFTER FLOOR FINISHING

TO VALIDATE THE 10 YEAR WARRANTY ALL HEATMATS MUST BE CHECKED AND THE RESULTS RECORDED ON THE WARRANTY VALIDATION FORM AT THE TIME OF INSTALLATION

THE USE OF A THERMONET® ELECTRONIC HEATMAT MONITOR DURING INSTALLATION DOES NOT REPLACE THE NEED TO TEST THE MAT AT STAGES 1 AND 3

3 YEAR WARRANTY ON THERMOSTAT

HEATMAT ON SITE RESISTANCE TEST RESULTS

STAGE 1 AFTER LAYING HEATMAT(S) AND BEFORE STARTING FLOOR FINISHING
STAGE 2 DURING FLOOR FINISHING
STAGE 3 ON COMPLETION OF FLOOR FINISHING

CUSTOMER NAME	INSTALLER NAME
ADDRESS	ADDRESS
POSTCODE	POSTCODE
TELEPHONE	TELEPHONE

ROOM REFERENCE	STOCK NUMBER	HEATMAT SIZE (M)	CONNECTION WIRE EXTENSION	CENTRECORE / CENTRECORE			CENTRECORE / EARTHBRAID		
				STAGE 1	STAGE 2	STAGE 3	STAGE 1	STAGE 2	STAGE 3
1 BATHROOM	5229	5.8x0.5	YES (NO)	126 Ω	127 Ω	125 Ω	OPEN CIRCUIT		
2			YES / NO	Ω	Ω	Ω			
3			YES / NO	Ω	Ω	Ω			
4			YES / NO	Ω	Ω	Ω			
5			YES / NO	Ω	Ω	Ω			
6			YES / NO	Ω	Ω	Ω			
7			YES / NO	Ω	Ω	Ω			
8			YES / NO	Ω	Ω	Ω			
9			YES / NO	Ω	Ω	Ω			
10			YES / NO	Ω	Ω	Ω			
11			YES / NO	Ω	Ω	Ω			
12			YES / NO	Ω	Ω	Ω			
13			YES / NO	Ω	Ω	Ω			
14			YES / NO	Ω	Ω	Ω			
15			YES / NO	Ω	Ω	Ω			

THE THERMONET® HEATMAT TEN YEAR WARRANTY AGAINST MANUFACTURERS DEFECTS IS A LIMITED LIABILITY WARRANTY. YOUR STATUTORY RIGHTS ARE NOT AFFECTED.

IN THE EVENT OF A PROBLEM WITH YOUR INSTALLATION CONTACT YOUR THERMONET® STOCKIST. ALTERNATIVELY TELEPHONE THE THERMONET® ADVICE LINE 091 1163 2003.

NOTES

I/WE DECLARE THAT ALL DETAILS ARE CORRECT

PRINT NAME

DATE

SIGNATURE

WARRANTY VALIDATION FORM (EXAMPLE)

FINAL ELECTRICAL CONNECTION

CHECKLIST

- ☐ ALL HEATMAT CHECKS COMPLETED
- ☐ WARRANTY VALIDATION FORM COMPLETED
- ☐ HEATMAT CONTROLS RATING CHECKED (PAGE 4)
- ☐ CIRCUIT PROTECTION CHECKED AND OK
- ☐ PROCEED WITH ELECTRICAL CONNECTION

Circuit protection

The electrical supply to the installation should always be protected by a residual current device (RCD). The tripping current rating of the RCD must not exceed 30mA.
The current rating of the equipment and cable used must be sufficient for the installation. Electrical connection

Electrical connection

Connect the heatmat connection wires and floor temperature sensor in accordance with the electrical preparation section of this guide (page 4) and the installation guide supplied with the thermostat.

It is the responsibility of the electrician to ensure that all electrical equipment and cables are suitable for the installation.

ALL ELECTRICAL WORK MUST CONFORM TO CURRENT IEE WIRING REGULATIONS AND BE CHECKED OR CARRIED OUT BY A QUALIFIED ELECTRICIAN. ELECTRICAL INSTALLATION WORK IN DWELLINGS IS SUBJECT TO THE BUILDING REGULATIONS PART P

TURN OFF THE ELECTRICAL SUPPLY AT THE POWER DISTRIBUTION UNIT TO AVOID RISK OF ELECTRICAL SHOCK

FLOOR FINISH OPTIONS

Thermonet® underfloor heating is suitable for use with most types of floor finishes including ceramics, vinyls, timber/laminates and carpet.

It is generally accepted that the maximum surface temperature of the floor finish should be between 27-29ºC. Thermonet® underfloor heating thermostats are fully adjustable to meet the floor finish manufacturer's specification.

Consideration should be given to the moisture content of the subfloor and its effect on the adhesive or floor finish being used. New concrete and screeds will require a drying time see subfloor preparation section for further details (page 2). All surfaces must conform to current building regulations.

Follow the adhesive or floor compound manufacturer's recommended curing instructions. As a general rule, the heating system should be gradually brought up to working temperature over a 7 day period.

Ceramic floor tiles including slate, flagstones etc

Thermonet® underfloor heating works very well with all types of ceramic and stone based floor finishes, as these all offer a minimum resistance to heat transfer.

Using a notched trowel and a cement based flexible tile adhesive approved for underfloor heating, e.g. Vitriflex, trowel out the adhesive over the heatmats. The consistency of the adhesive should allow it to penetrate through the blue mesh and surround all the yellow heating wire. Use sufficient adhesive to ensure that there are no voids under the tiles.

If required, before tiling Thermonet® can be covered with a layer of self levelling floor compound e.g. Mira X Plan. A 3mm layer of Mira X-Plan is recommended when tiling with mosaics or when tiling is planned at a later date.

Take care not to snag the heatmat wires during floor finishing.

Installation of Thermonet® with floor tiles or stone will add approximately 2.5mm to the finished floor height.

Vinyl/linoleum including strip flooring

Almost every type of vinyl or linoleum floor finish is suitable for use with Thermonet® underfloor heating. Heat conduction remains high as these types of materials offer little resistance to heat transfer.

Thermonet® recommend that the suitability of electrical underfloor heating for floor finishes of this type is verified by the floor finish manufacturer.

Thermonet® heatmats are laid in the normal way and covered with a layer of self levelling compound, e.g. Mira X-Plan. To ensure even heat distribution, the self levelling floor compound must be a minimum thickness of 10mm and laid to a consistent thickness. Take care not to snag the heatmat wires during floor finishing.

Allow the self levelling floor compound to cure. The vinyl or linoleum floor finish can then be laid in the normal way.

Timber/laminate flooring

Solid wood laminate type flooring can be suitable for use with Thermonet® underfloor heating. Thermal resistance can vary as can the moisture content of wood based flooring. Thermonet® recommend that the suitability of electrical underfloor heating for floor finishes of this type is verified by the floor finish manufacturer.

Thermonet® heatmats are laid in the normal way and covered with a layer of self levelling floor compound, e.g. Mira X-Plan. To ensure even heat distribution, the self levelling floor compound must be a minimum thickness of 10mm and laid to a consistent thickness. Take care not to snag the heatmat wires during finishing.

Allow the self levelling floor compound to cure. The timber or laminate floor finish can then be laid in the normal way.

Where the floor is to be laid or fixed on battens, ask your Thermonet® stockist for assistance.

Carpet/carpet tiles

Many carpets, carpet tiles and underlays are suitable for use with Thermonet® electrical underfloor heating. However, as all these types of floor finish act as thermal insulators, this must be taken into account at the design stage. Use of Thermonet® Extra may be necessary to maintain heat output.

Selecting a carpet and underlay with a low thermal resistance (Tog rating) and a high thermal conductivity (U value) will be beneficial to the operation of the heating system. Thermonet® recommend that the suitability of electrical underfloor heating for floor finishes of this type is verified by the floor finish manufacturer.

Thermonet® heatmats are laid in the normal way and covered with a layer of self levelling compound, e.g. Mira X-Plan. To ensure even heat distribution, the self levelling floor compound must be a minimum thickness of 10mm and laid to a consistent thickness. take care not to snag the heat mat wires during floor finishing.

Allow the self levelling floor compound to cure. The carpet or carpet tiles can then be laid in the normal way. Installation of carpet and underlay using the double stick bonding method will avoid uneven heating pockets.

ALWAYS FOLLOW THE FLOOR FINISH MANUFACTURER'S GUIDELINES FOR ELECTRICAL UNDERFLOOR HEATING

ON INSTALLATIONS WHERE THERE IS A TIME DELAY BEFORE THE FINAL FLOOR FINISH IS COMPLETED CONSIDER LAYING A SKIM COAT OF SELF LEVELLING COMPOUND TO PROTECT THE HEATMATS

ALWAYS ALLOW FOR ANY ADHESIVE / GROUT TO CURE COMPLETELY

ALWAYS ALLOW ADEQUATE EXPANSION JOINTS ON FLOOR FINISHES

SOLUTIONS TO COMMON PROBLEMS

PROBLEM	CAUSE	SOLUTION
Heatmat(s) do not fit as planned	Insufficient heatmat	For areas of Thermonet® greater than 0.7m² (Thermonet® Extra greater than 1.05m²) purchase additional heatmat(s) from your Thermonet® stockist. For areas of Thermonet® less than 0.7m² (Thermonet® Extra less than 1.05m²) rearrange heatmat layout.
	Excess heatmat	Run surplus yellow heating wire around perimeter of room. Purchase smaller heatmat from your Thermonet® stockist.
Wire has been damaged during installation	Inadequate protection of heatmat	Do not continue installation. Assess damage and check resistance readings. If resistance readings fall outside the allowable tolerance, repair the wire using a Thermonet® Connection Kit. Thermonet® Connection Kits are available from your Thermonet® stockist (Stock no 5270). If resistance readings are within the allowable tolerance, but the wire insulation has been broken, repair the wire using a Thermonet® Connection Kit.
On-site resistance test results do not comply with Factory Test Certificate	Wire or connector damaged	Do not continue installation. Contact your Thermonet® stockist for advice.
Floor takes more than 2 hours to heat up	Solid floor with inadequate or no insulation	Average floor heat up time 3-5 hours. Set heating to come on earlier.
Only part of the floor is heating up	Heatmat(s) not functioning	Check all heatmats are connected to the thermostat. Check the wires are connected correctly. Disconnect the heatmats from the thermostat and check resistance readings against the Factory Test Certificates. If any resistance readings fall outside the allowable tolerance, contact your Thermonet® stockist or call the Thermonet® Advice Line 091 1163 2003.
The floor does not heat up	Heatmat(s) not functioning	Check that the heatmat(s) are connected to the thermostat correctly. Check that the mains power supply is connected and the thermostat mains supply terminals are live. Disconnect the heatmat(s) from the thermostat and check the resistance readings against the Factory Test Certificate(s). If any resistance reading falls outside the allowable tolerance, contact your Thermonet® stockist or call the Thermonet® Advice Line 091 1163 2003. Disconnect the floor temperature sensor from the thermostat and check the resistance readings against the thermostat installations/operations guide. If the resistance is not within range, contact your Thermonet® stockist or call the Thermonet® Advice Line 091 1163 2003.
	Thermostat set below ambient temperature	Increase thermostat temperature set point.

GOT A PROBLEM YOU CAN'T SOLVE? CALL THE THERMONET® ADVICE LINE ON 091 1163 2003

INFORMATION AND DOCUMENTS YOUR CUSTOMER WILL NEED

CHECKLIST

- ☐ THERMOSTAT INSTALLATION/OPERATION GUIDE
- ☐ THERMONET® INSTALLATION GUIDE
- ☐ COMPLETED HEATMAT LAYOUT DRAWING PAGE 8
- ☐ COMPLETED WARRANTY VALIDATION FORM PAGE 10
- ☐ HEATMAT FACTORY TEST CERTIFICATE(S)
- ☐ DEMONSTRATE HOW TO USE THERMONET®
- ☐ MECHANICAL FLOOR FIXINGS PROHIBITED

Where possible give the customer an indication of the floor heat up time.

Heat up times will be governed by floor construction and floor finish. As a guide, solid uninsulated floors may take up to 5 hours. Insulated timber floors may take 0.5 hours. For installations where heat up times are extended, cool down times are also extended, so it is unlikely that the floor will be heating up from cold each day.

Make the customer aware that Thermonet® is maintenance free. Once installed, the system does not require a regular service.

All Thermonet® documents should be kept with other building documents and passed onto any future owners.

Thank you for selecting Thermonet® underfloor heating. You can look forward to years of reliable service.

MAKE SURE ALL THE NECESSARY DOCUMENTS ARE HANDED TO THE CUSTOMER ON COMPLETION

EXPLAIN TO YOUR CUSTOMER HOW TO SET UP AND OPERATE THE THERMOSTAT CONTROLS

TIG/08

THERMONET SYSTEMS (UK)
ADVICE LINE 091 1163 2003

E&OE

thermonet
UNDERFLOOR HEATING