

# ROMA HEATING

Underfloor Heating.

For Use Under

- Wood
- Laminate
- Carpet



01803 316131

[www.romaheating.co.uk](http://www.romaheating.co.uk)

## FITTING INSTRUCTIONS

# Welcome To The Underfloor Heating Specialists.

Our Underfloor Heating systems are suitable for use under virtually any type of floor covering. All Our Heating systems are suitable for use as a primary heat source, no radiators required or for just floor warming. (This assumes sufficient coverage and insulation is installed.) For further information on all underfloor heating systems and ancillary products please ask your supplier or visit our website.

- Page 2 + 3, Index & Q&A.
- Page 4 + 5, Under Tile & Stone Loose Wire Heating Cables.
- Page 6 + 7, Under Tile & Stone Heat Mats 150w + 200w/sqm.
- Page 8 + 9, Under Wood & Laminate 150w/sqm Foil Heat Mats.
- Page 10 + 11, Underfloor Heating Film System.
- Page 12 + 13, Underfloor Heating In Screed Cable.
- Page 14 + 15, Hard Insulation Board.
- Page 16 + 17, Tile Backer Insulation Board.
- Page 18 + 19, Impact Plus Insulation + Duo Overlay
- Page 20, Warranty

## Thermostat

All our thermostats are suitable for use with all our underfloor heating systems. All three thermostat options are rated at 16amps which will allow the units to control 3600watts without the need of any additional switching. If over 16amps/3600watts of heating is being installed, either additional thermostats or a relay switch, (sometimes known as a contactor) should be installed to carry the load.

M100 Thermostat

D600 Thermostat

T700 Thermostat

CT1000 Thermostat



# Frequently Asked Questions.

## Can I use this as a primary heat source; do I still need radiators?

All our underfloor heating systems have been designed to be suitable for use as the primary heat source (no radiators required). This is providing you install a minimum of 150w/m<sup>2</sup> system over 70%+ of the floor area. Also the floor and room must have suitable insulation levels which will then mean no additional heating will be required.

## Can I cut the cable or mat if I have too much?

When considering what size system you require it is important not to over order as the heating cannot be cut down to fit. A good rule of thumb is to order approximately 80% of the total floor area. This will allow you to easily fit the heating system leaving only a small unheated border around the room edge. The heating cable must never be cut or reduced in length.

## Do I need insulation? How long will it take to warm up?

Although not always a necessity over wood sub floor, insulation will still greatly increase the response rate and overall efficiency of all underfloor heating systems. When installing heating over a concrete subfloor a suitable insulation must be installed as un-insulated concrete will drain the heat from the heating system. The table opposite shows some approximate timing's.

Subfloor Construction	Heat Up Time
Plywood	35 Minutes
Plywood + 10mm HIB	15 Minutes
75mm Insulated Concrete in Screed	2 - 4 Hours
Un-insulated Concrete	2 - 8 Hours
Concrete + 10mm HIB	20 Minutes

## Is underfloor heating expensive to run?

Underfloor heating is the most efficient way to heat an area due to the even heat distribution from the floor up. This helps to keep the heat at a low, effective and usable level. Studies have shown that when a person's feet are warm they perceive the environment to be warmer than when their feet are cold. Because of this the ambient temperature of the room can then be lowered without the person feeling cold which reduces the running cost of the heating but still providing the occupant with a more consistent and comfortable heat distribution.

## Can I fit the heating and will it require maintenance?

Electric underfloor heating does not require any specialist labour or equipment to install or maintain the system, (other than a qualified electrician to make the final connections to the mains power). With a little patience and common sense most competent DIY enthusiasts would be able to install our underfloor heating systems with ease.

Unlike other forms of heating, electric underfloor heating requires no maintenance once installed. With no moving parts, no excessive heats or leaks to consider once installed and protected by the floor covering our underfloor heating can provide a lifetime of hassle free heating.

## How do you control the heating?

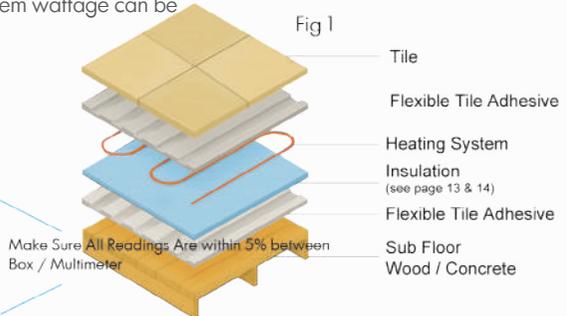
All our underfloor heating systems should be controlled with a suitable thermostat, (please see page 18). There are various thermostat options but all options control the heating through the same principle. Mains 220/240v power is fed through the thermostat to the heating system as and when needed. The user will set a desired temperature and the thermostat will switch the power on and off accordingly to the heating system as and when needed to achieve and maintain the set temperature.

Insulation must be fitted over un-insulated sub-floors.

# Loose Wire Under Tile & Stone Heating Cable.

1: The sub floor must be clean, sound and suitable for the chosen floor covering prior to laying the heating. We highly recommend the use of a suitable insulation layer over concrete and uninsulated sub floors.

2: Measure the floor accurately allowing for a 100mm+ unheated border around the perimeter of the area. Once measured make sure the heating cable is suitably sized for the area to be heated. Typically most domestic loose wire systems (depending upon your requirements) will be fitted with 140w-200w/m<sup>2</sup>. To work out your floor/system wattage, simply divide the heating system total wattage by the total floor area m<sup>2</sup> to be heated. The end figure should ideally be between 140 - 200w/m<sup>2</sup>. The length of the cable and total system wattage can be found on the outer box's/cable spools.



3: Before the cable is unrolled it must be tested for continuity and resistance. Mark this reading down on the back warranty page of this manual. (See Fig 2)

(IMPORTANT, If the cable is incorrectly sized or the resistance readings do not match the test results on the box label, stop and return for the correct size. Once the cable is unrolled over the floor it becomes the responsibility of the installer and the cable can not be returned for an alternate size).

4: Using the figures worked out in stage 2, the spacing's between cable runs are worked out by:

A: Divide 1000 by the length (meters) of the heating cable.

B: Multiply result A by the size of the area you are heating in m<sup>2</sup>.

The final figure is the spacing in mm the cables should be spaced out at. Please note the figure should be somewhere between 50 - 80mm. This figure is a guide required to the final spacings to achieve the best coverage. The

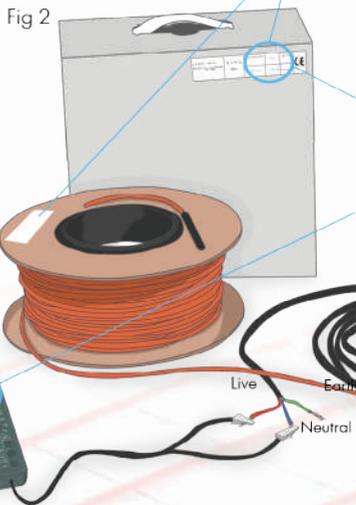
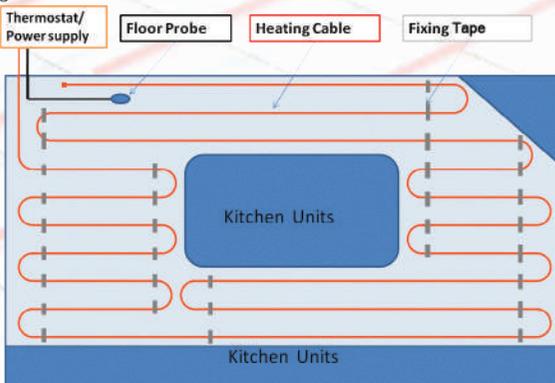


Fig 3 Typical Loose Wire Floor Layout For Kitchen Type Area.



cable must NOT be cut or reduced in length. The spacings between cables are either increased to increase the heated area, or reduced to reduce the heated area. Only the black cold / connection ends can be reduced or lengthened if required.

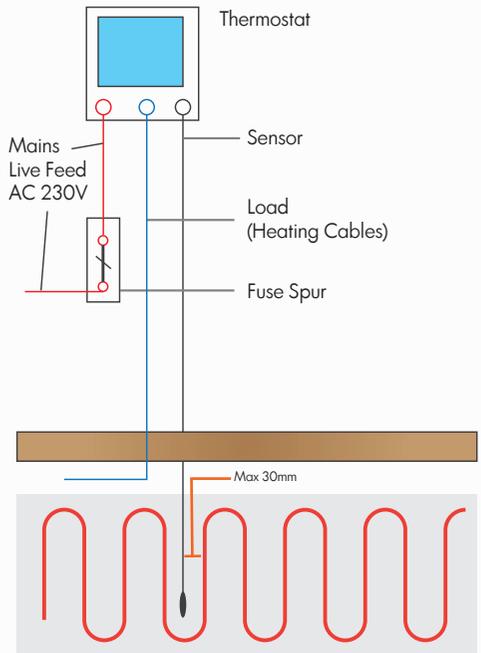
5: Before the cable is unrolled and fitted it is advisable to mark the floor accurately using the results from stage 4 showing precisely where the heating cable is to be laid. This will allow the installer to accurately design the floor layout to best use the available cable making sure to keep even spacings between cable runs. (See Fig 3)

6: If possible start laying the cable working away from the thermostat location. Using small tabs of fixing tape, accurately lay the cable. It is un-advisable to cover the entire cable with fixing tape as this can affect the performance of subsequent adhesives to adhere sufficiently to the sub floor. The tape is only required to maintain a consistent spacing between cable runs until the levelling/adhesive is applied over. It is important that cables are not laid too close together. A minimum of 50mm should be maintained between cable runs. If the heating cable is set to close, touch or overlapped at any point the cable may overheat.

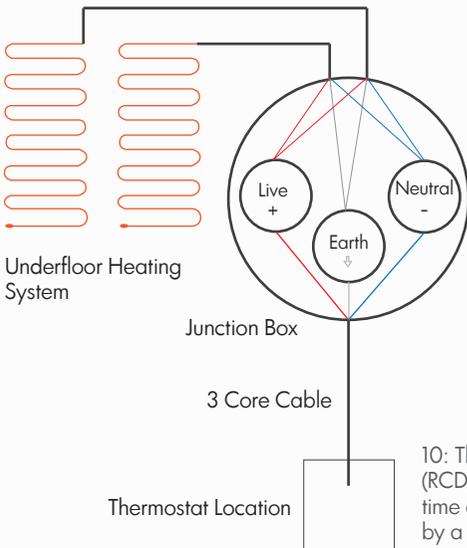
7: Once the heating is fitted the insulation resistance, electrical resistance and continuity test should be repeated and noted down on the warranty page. Make sure these readings are the same as the readings noted down during stage 2. The heating should also be tested and results recorded after the flooring has been fitted. There is no limit to how much the cable can be tested but to complete the warranty the heating must be tested before it is laid, after being laid and after the floor covering has been installed. All figures must be accurately recorded. (See Fig 2)

8: The floor probe supplied with the thermostat should now be fitted. The probe must be installed between 2 heating wires but no more than 30mm away from one cable. Make sure when fitting the probe no other heating or cooling sources can influence the floor probe such as hot water pipes. Once the probe is fitted a resistance check should be carried out to confirm the probe is fully functional and the readings noted down on the warranty card. (See Fig 4)

Fig 4



9: If multiple cables are to be installed, all cables can be connected together into a suitable junction box and then one suitable spur run to the thermostat location and left ready to be wired in. (See Fig 5)



10: The heating system must be run via a residual current device (RCD), fitted in accordance with all current electrical regulations at time of installation. All electrical connections should be carried out by a qualified electrician. It is the installer/electrician's responsibility to make sure the system is fitted correctly and any additional materials are suitable for use with the heating system installed.

# Under Tile & Stone Heat Mats.

1: The sub floor must be clean, sound and suitable for the chosen floor covering prior to laying the heating. We highly recommend the use of a suitable insulation layer over concrete sub floors.

2: Measure the floor accurately allowing for a 100mm+ unheated border around the perimeter of the area. Once measured make sure the heating mat is a suitable size for the area. The mat size and wattage can be found on the outer box and heating mat label. The mat should also be tested for continuity and resistance at this stage. The readings should be noted down on the back warranty page of this manual. (See Fig 2)

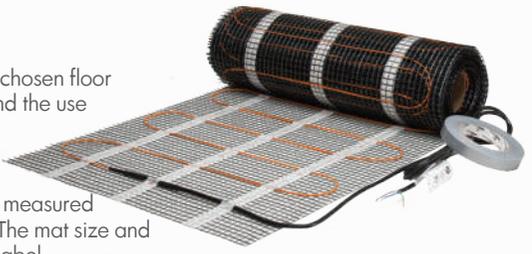


Fig 1

(IMPORTANT, If the mat is incorrectly sized or the resistance readings do not match the test results on the box label, stop and return the mat for the correct size. Once the mat is unrolled over the floor it becomes the responsibility of the installer and the mat can not be returned for an alternate size.)

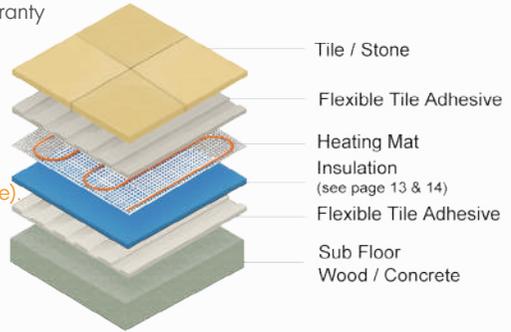
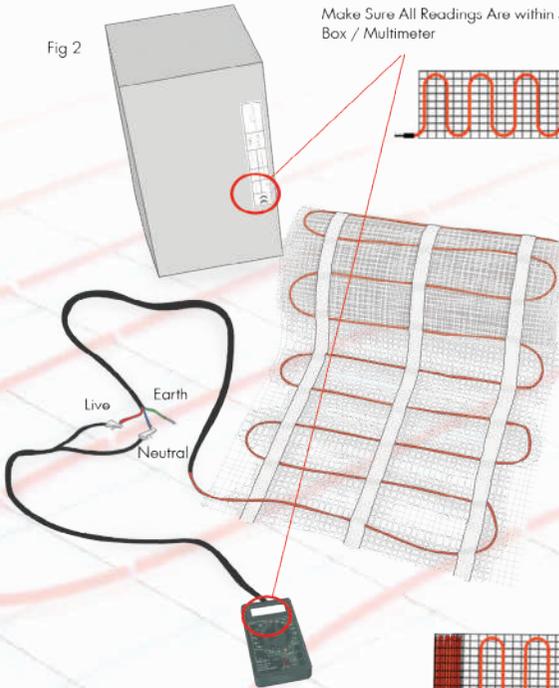


Fig 2

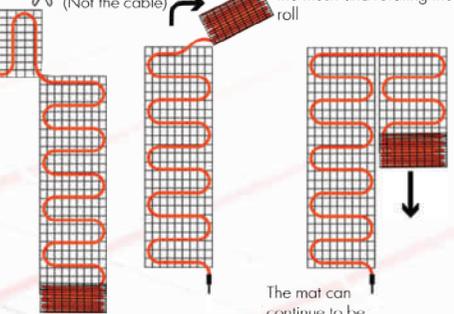
Make Sure All Readings Are within 5% between Box / Multimeter



Use Scissors to cut the mesh backing (Not the cable)

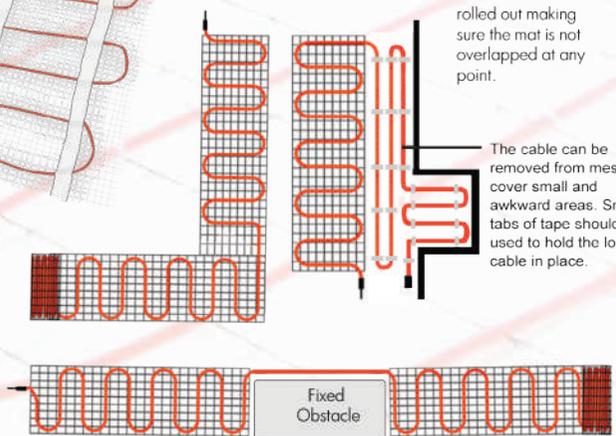
Fig 3

The cable mat can be turned in any direction by cutting the mesh and rotating the roll



The mat can continue to be rolled out making sure the mat is not overlapped at any point.

The cable can be removed from mesh to cover small and awkward areas. Small tabs of tape should be used to hold the loose cable in place.



3: Start the heating close to the thermostat location if possible. If this is impractical the cold tail can be easily extended with a suitable electrical wire. Slowly unroll the mat peeling the adhesive backing tape on the mat off as you proceed. The mat must be firmly pressed onto the floor making sure the heating element is not twisted or stressed at any point.

4: To turn the mat in any direction or return it back on itself the installer can cut through the mesh backing, (**DO NOT CUT THE HEATING CABLE**) to allow the mat to be redirected in any direction. (See Fig 3)

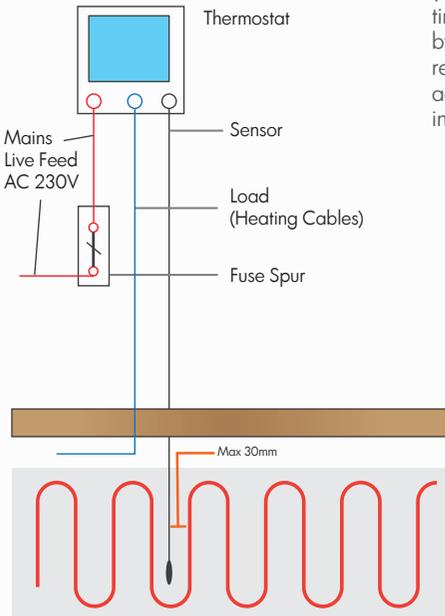
5: Alternatively if the area to be covered is an irregular shape or an obstacle has to be avoided the heating cable can be detached from the mesh backing and laid loose. This will allow the cable to be laid in any direction and a suitable fixing tape can then be used to hold the cable in position ready for the subsequent floor covering to be installed over. When laying the heating cable loose a consistent spacing between cable runs must be maintained, (the same spacing as when attached to the mesh backing) to achieve an even heat output across the floor. It is important that cables are not laid too close together. A minimum of 50mm should be maintained between cable runs. If the heating cables get too close, touch or overlap at any point the cable may overheat. (See Fig 3)

6: Once the heating is fitted the electrical resistance and continuity test should be repeated and noted down on the warranty page. Make sure these readings are the same as the readings noted down during stage 2. The heating should also be tested after the flooring has been fitted. There is no limit to how much the cable can be tested but to complete the warranty the heating must be tested before it is laid, after being laid and after the floor covering has been installed. All figures must be accurately recorded.

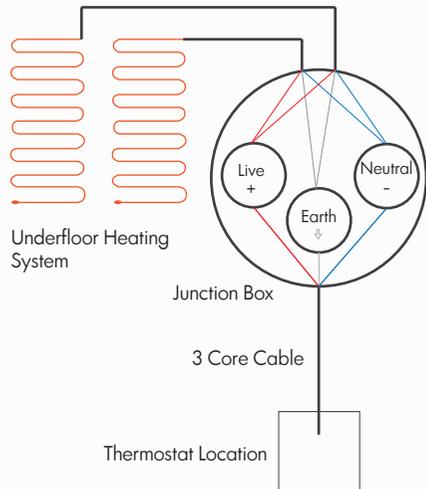
7: The floor probe supplied with the thermostat should now be fitted. The probe must be installed between 2 heating wires but no more than 30mm away from one cable. Make sure when fitting the probe no other heating or cooling sources can influence the floor probe such as hot water pipes. Once the probe is fitted a resistance check should be carried out to confirm the probe is fully functional and the readings noted down on the warranty card. (See Fig 4)

8: If multiple mats are to be installed all mats can be connected together in parallel into a suitable junction box and then one suitable spur run to the thermostat location and left ready to be wired in. (See Fig 5)

Fig 4



9: The heating system must be run via a residual current device (RCD), fitted in accordance with all current electrical regulations at time of installation. All electrical connections should be carried out by a qualified electrician. It is the installer/electrician's responsibility to make sure the system is fitted correctly and any additional materials are suitable for use with the heating system installed.



# Under Laminate Wood Vinyl & Carpet Aluminium Foil Heating

1: The Sub floor must be clean, sound and suitable for the chosen floor covering prior to laying the heating. Impact plus 6mm insulation or hard insulation boards must then be installed over the sub floor prior to fitting the heating, (see insulation fitting instructions).

2: Measure the floor accurately allowing for a 100mm+ unheated border around the perimeter of the area. Once measured make sure the heating mat is a suitable size for the area. The mat size and wattage can be found on the outer box and heating mat. The mat should also be tested for continuity and resistance at this stage. The readings should be noted down on the back warranty page of this manual. (See Fig 2)

**(IMPORTANT, If the mat is incorrectly sized or the resistance readings do not match the test results on the box label, stop and return the mat for the correct size. Once the mat is unrolled it becomes the responsibility of the installer and the mat can not be returned for an alternate size).**



Fig 1



Fig 2

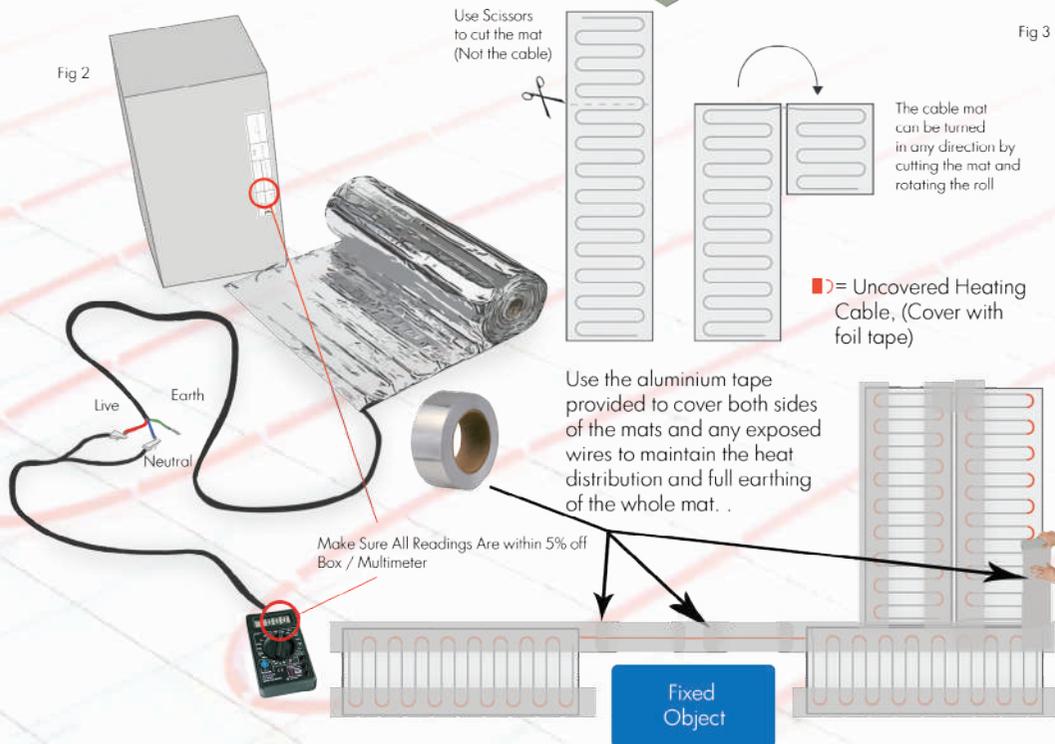


Fig 3

3: Start the heating as close to the thermostat location as possible. If this is impractical the cold tail can be easily extended with a suitable electrical wire. Slowly unroll the mat using the foil tape to hold the mat in place. All exposed cables at the side of mats must be covered with the foil tape provided. As you proceed, the mat must be laid flat making sure the heating element is not twisted or stressed at any point.

4: To turn the mat in any direction or turn it back on itself the installer can cut through the mesh/foil backing, (**DO NOT CUT THE HEATING CABLE**) to allow the mat to be redirected in any direction. (See Fig 3)

5: Alternatively if the area to be covered is an irregular shape or an obstacle has to be avoided the mat can be cut several times into strips, (the cable must never be detached from its foil casing.) This will allow the thin strips of cable enveloped in the foil to be laid in any direction. The foil tape must then be used to cover any exposed wire and join all strips and mat runs together. Exposed wire can cause hot spots also disrupt the earthing continuity between heating sections. It is important that cables are not laid to close together. A minimum of 50mm should be maintained between cable runs. If the heating cables get too close, touch or overlap at any point the cable may overheat. (See Fig 3)

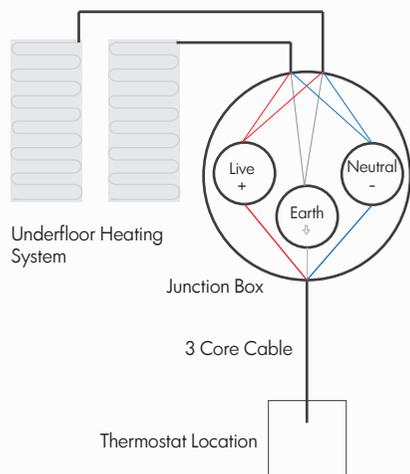
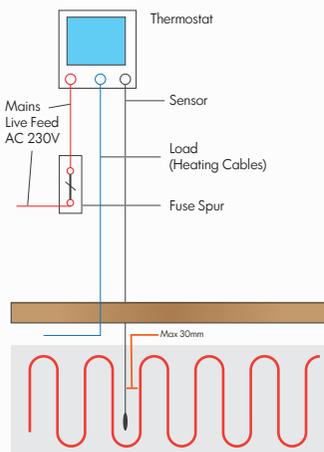
6: Once the heating is fitted the electrical resistance and continuity test should be repeated and noted down on the warranty page. Make sure these readings are the same as the readings noted down during stage 2. The heating should also be tested after the flooring has been fitted. There is no limit to how much the cable can be tested but to complete the warranty the heating must be tested before it is laid, after being laid and after the floor covering has been installed. All figures must be accurately recorded.

7: The floor probe supplied with the thermostat must now be fitted. The probe must be installed under the foil and between 2 heating wires but no more than 30mm away from one cable. Make sure when fitting the probe, no other heating or cooling sources can influence the floor probe such as hot water pipes. Once the probe is fitted a resistance check should be carried out to confirm the probe is fully functional and the readings noted down on the warranty card, (See Fig 4) When heating wood or laminate the floor covering manufactures recommended max floor temperature should be programmed into the thermostat. The thermostat must also be set to regulate floor temperature, not air temperature.

8: If multiple mats are to be installed all mats can be connected together into a suitable junction box and then one suitable spur run to the thermostat location and left ready to be wired in. (See Fig 5)

9: The heating system must be run via a residual current device (RCD), fitted in accordance with all current electrical regulations at the time of installation. All electrical connections should be carried out by a qualified electrician. It is the installer/ electrician's responsibility to make sure the system is fitted correctly and any additional materials are suitable for use with the heating system installed.

Fig 4



# Under Wood Laminate Vinyl & Carpet Heat Film.

1: The sub floor must be clean, sound and suitable for the chosen floor covering prior to laying the heating. 6mm impact plus thermal insulation or had insulation boards must be installed over the sub floor prior to fitting the heating, (see insulation fitting instructions).

Please note the max tog rating for underlay is 0.8 tog and for carpet is 2 tog. No additional coverings, flat bottom furniture or highly insulated objects such as rugs, bean bags should be fitted over heated floor areas.

2: Before laying the heating the floor should be measured accurately and a plan done to show where the individual mats are to be laid. All heat film mats are made to the customer's measurements. If a proposed mat layout was produced and agreed this can now be followed which will show which mats are to be laid in which areas. If a proposed mat layout was not agreed the mat sizes would have been produced according to the customers stated mat sizes. (See Fig 2)

3: Once the mat layout has been determined the mats must be tested for continuity and resistance at this stage. The readings must be checked off and noted down on the back of the warranty page of this manual. All readings must be within tolerance. **(IMPORTANT, Once the mat is unrolled and taped to the floor it becomes the responsibility of the installer and the mat can not be returned for an alternate size).**



Fig 1

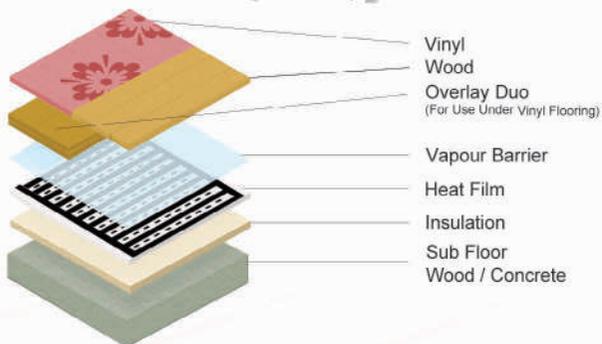
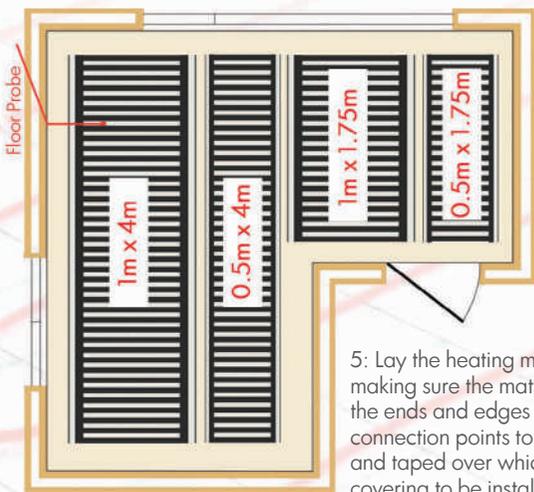


Fig 2



4: The floor probe supplied with the thermostat should now be fitted. The probe must be installed directly under an area that will have a heat mat laid over. The probe must be scored into the floor/insulation and taped in place, leaving it flush with the insulation. The end of the probe should not be covered. Make sure when fitting the probe no other heating or cooling sources can influence the floor probe such as hot water pipes. Once the probe is fitted a resistance check should be carried out to confirm the probe is fully functional and the readings noted down on the warranty card. (See Fig 2 +4)

5: Lay the heating mats over the insulation **COPPER BAR DOWN**, making sure the mats do not overlap at any point. Tape can be used on the ends and edges to hold the mats in place. All cold tails and connection points to the heating mats must be scored into the insulation and taped over which will leave a flat level floor layer for the floor covering to be installed over.

6: The mats must always be connected in parallel, **NOT** series. If multiple mats are used, it is recommended to run all the cold connection wires back to one point. This will allow the installer at a later date to join all live wires together and all neutral wires together in a suitable junction box. One spur can then be taken from the junction box to the thermostat. (See Fig 3)

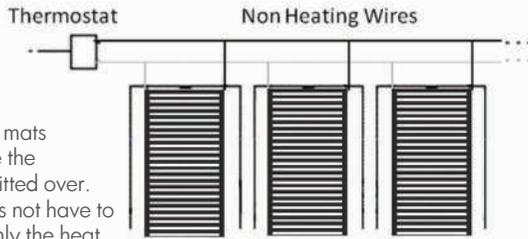


Fig 3

7: Once all the heating mats have been laid in place the vapour barrier can be fitted over. The vapour barrier does not have to cover the entire area only the heat mats themselves. Please note every 1 meter of vapour barrier folds out to be 4m in width. This like the heating mats can be held in place with the tape provided. (See Fig 4) If the final flooring is not to be fitted for some time the heat mats should be protected from damage with a suitable protective layer.

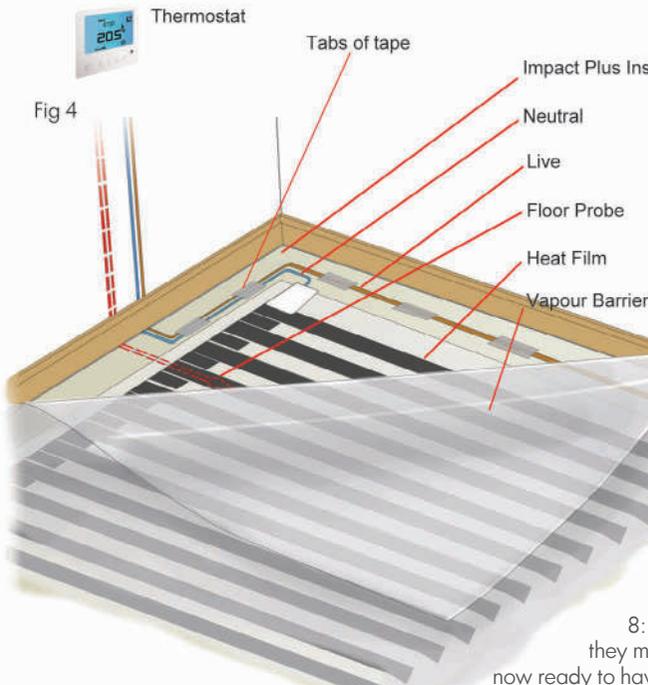
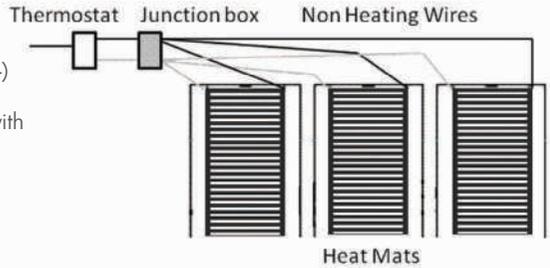


Fig 4

Impact Plus Insulation

Neutral

Live

Floor Probe

Heat Film

Vapour Barrier

Resistance Check.

To check heat film mat resistance in Ohms ( $\Omega$ ) please follow the equation below

$$250 \div \text{SQM (of mat)} \times 0.95 = \Omega \pm 10\%$$

The reading must be within 10%, if not test the mat again or call technical for assistance.

The cold tails on each mat can be extended or shortened on site please consult your electrician as this will depend on mat layout and total heating load.

8: Once all the mats have been installed they must be retested, See step 3. The heating is now ready to have the final floor covering installed over. The

heating must also be tested after the flooring has been fitted. There is no limit to how much the heating can be tested but to complete the warranty the heating must be tested before it is laid, after being laid and after the floor covering has been installed. All figures must be accurately recorded.

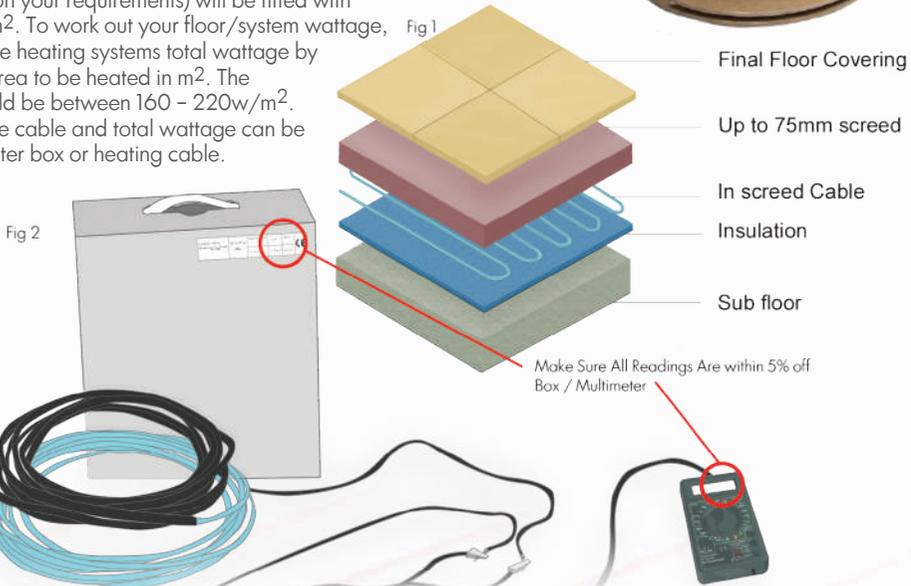
9: Before the heating is turned on, the floor manufacturer's max recommended floor temperature must be programmed into the thermostat. The thermostat installed must have a max default floor temperature setting and the thermostat must be set to regulate floor temperature only via a suitable floor probe / probes, (never run the thermostat on air temperature). If floor temperature is not regulated correctly, some floor coverings can be overheated and damaged. Please refer to your thermostat instructions for max floor temperature settings.

When fitting carpet or vinyl as the final floor covering duo overlay must be fitted first. Please see duo overlay fitting instructions toward the back of this book.

# In Screed Heating Cable, (for all floor coverings).

1: The Sub floor must be insulated with a suitable insulation, clean, sound and made ready to receive the screed covering prior to the heating cable being installed.

2: Measure the floor accurately allowing for a 100mm+ unheated border around the perimeter of the area. Once measured make sure the heating cable is suitably sized for the area to be heated. Typically most domestic in screed floors (depending upon your requirements) will be fitted with 160w-220w/m<sup>2</sup>. To work out your floor/system wattage, simply divide the heating systems total wattage by the total floor area to be heated in m<sup>2</sup>. The end figure should be between 160 - 220w/m<sup>2</sup>. The length of the cable and total wattage can be found on the outer box or heating cable.



3: Before the cable is unrolled it must be tested for continuity and resistance. Mark this reading down on the back warranty page of this manual. (See Fig 2)

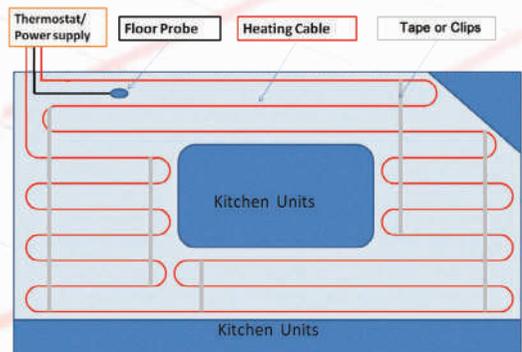
**(IMPORTANT, if the cable is incorrectly sized or the resistance readings do not match the test results on the box label, stop and return for the correct size. Once the cable is unrolled it becomes the responsibility of the installer and the cable can not be returned for an alternate size).**

4: Using the figures worked out in stage 2, the spacing's between cable runs are worked out by:

A: Divide 1000 by the length (meters) of the heating cable.

B: Times result A by the size of the area you are heating in m<sup>2</sup>. The final figure is the spacing in mm the cables should be spaced out at.

Please note the figure should be somewhere between 70 - 110mm. This figure is a guide and small adjustments may be required to the final spacing's to achieve the best coverage. The cable must NOT be cut or reduced in length. The spacing's between cables are either increased to increase the heated area, or reduced to reduce the heated area, (the black cold/connection ends can be reduced or lengthened if required). (See Fig 3)



5: Before the cable is unrolled and fitted it is advised to mark the floor accurately showing precisely where the heating cable is to be laid. This will allow the installer to accurately design the floor layout to best use the available cable making sure to keep even spacing's between cable runs. (See Fig 3)

6: If possible start laying the cable working away from the thermostat location using small tabs of fixing tape or fixing clips to accurately lay the cable. It is inadvisable to cover the entire cable with fixing tape as this will affect the screeds ability to fully envelope the cable. The tape is only required to maintain a consistent spacing between cable runs to achieve an even floor covering until the screed is applied over. It is important that cables are not laid too close together. A minimum of 50mm should be maintained between cable runs. If the heating cable is set too close, touch or overlap at any point the cable may overheat.

7: Once the heating is fitted the electrical resistance and continuity test should be repeated and noted down on the warranty page. Make sure these readings are the same as the readings noted down during stage 2. The heating should also be tested after the screed has been laid. There is no limit to how much the cable can be tested but to complete the warranty the heating must be tested before it is laid, after being laid and after the covering screed has been installed. All figures must be accurately recorded.

8: The floor probe supplied with the thermostat should now be fitted. The probe must be installed between 2 heating wires but no more than 30mm away from one cable. Make sure when fitting the probe no other heating or cooling sources can influence the floor probe such as hot water pipes. Once the probe is fitted a resistance check should be carried out to confirm the probe is fully functional and the readings noted down on the warranty card. (See Fig 5)

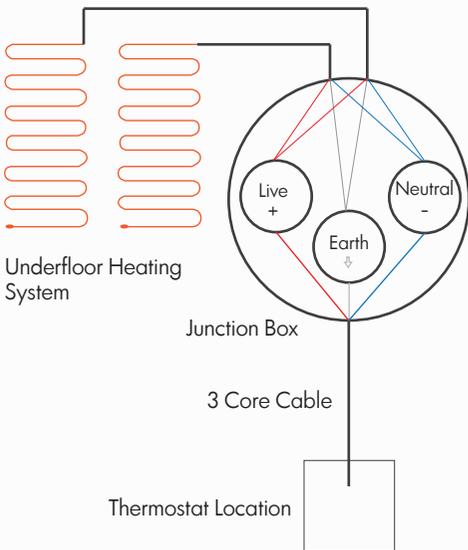
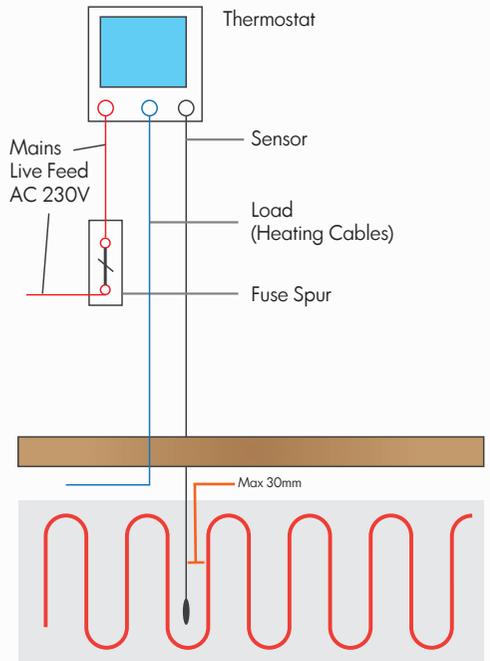


Fig 4

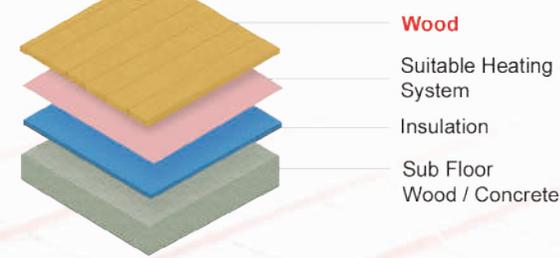
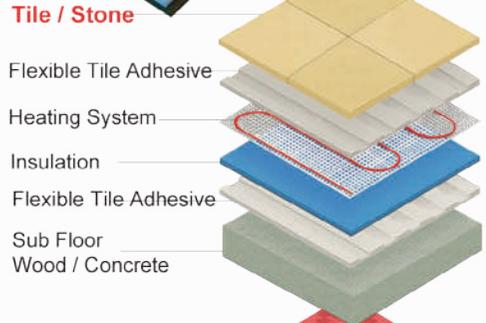
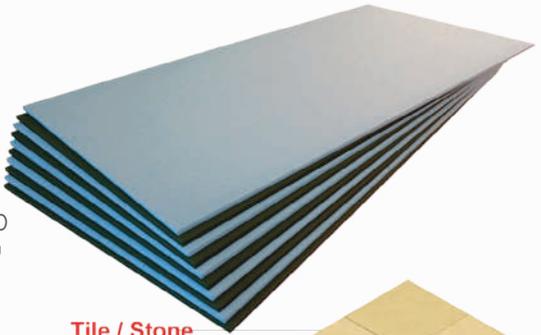


9: If multiple cables are to be installed all cables can be connected together into a suitable junction box and then one suitable spur run to the thermostat location and left ready to be wired in. (See Fig 5)

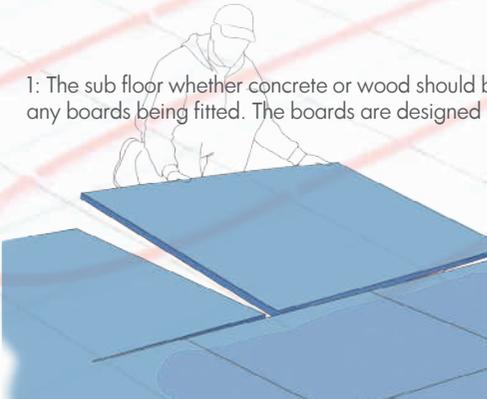
10: The heating system is now ready to have either, flexible 20-75mm self leveling compound or screed installed over in accordance with the adhesive manufactures instructions. The heating must be run via a residual current device (RCD) and connected to the mains power in accordance with all current electrical regulations at time of installation. All electrical connection should be carried out by a qualified electrician. It is the installer/electrician's responsibility to make sure the system is fitted correctly and any additional materials are suitable for use with the heating system installed.

# Hard insulation boards.

Underfloor hard thermal insulation boards are designed for use directly under tile, stone, wood and laminate floors. It can also be used under mosaic, vinyl and carpet flooring but must first have a suitable 9+mm layer of flexible self levelling installed over prior to the vinyl or carpet being fitted. The insulation comes in 6, 10 & 20mm depths. The steps below are to help guide you through the installation process.



1: The sub floor whether concrete or wood should be made suitable for the chosen floor covering, (ie tiles) prior to any boards being fitted. The boards are designed to provide increased insulation levels not structural rigidity.



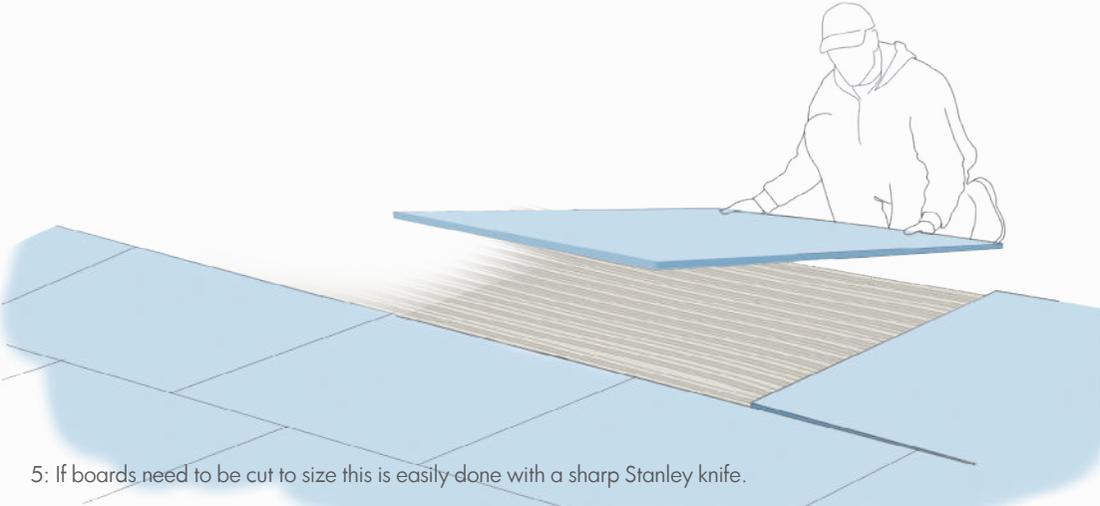
2A: For Wood and Laminate Floors.  
Once step one is completed and the floor is level, clean, dust and debris free the boards are ready to be laid. The boards can be laid directly over the sub floor making sure to butt the boards tightly together so not to leave gaps between boards and round the edge of the room. This will help prevent movement and maximise the floor insulation. Once the floor is fully covered the heating, wood or laminate can be fitted directly over the insulation boards.

2B: For all other floor types.

Make sure the floor is level, clean, dust and debris free as only then the boards can be laid. A suitable floor primer should be applied to provide a good fix for the adhesive (see adhesive fitting instructions).

3: Using a standard 1 part flexible floor tile adhesive, suitable for use with the sub floor construction, (ie wood or concrete) spread a thin full bed of adhesive over the floor. It is advisable to work in board size areas at a time and rather than using a typical floor tiling trowel, to use a smaller notched trowel such as a 6mm notch size which will increase the coverage of adhesive per bag.

4: Once the adhesive is spread lay the insulation boards over the freshly spread adhesive using a large, rigid, flat trowel/board to press the insulation boards down flat into/onto the adhesive. Care should be taken to make sure the boards are fully pressed into the adhesive and no air pockets or gaps are left under the boards. All boards should be butted tightly together making sure to achieve a full floor coverage. It is good practice to stagger joints between boards and if necessary the flexible floor adhesive can be used to fill any small gaps between boards.



5: If boards need to be cut to size this is easily done with a sharp Stanley knife.

6: Once the boards are laid and the adhesive is set, care should be taken not to apply excessive point loads to the insulation until the tiles or levelling has been installed. Small dents and damage caused to the surface of the boards are quite normal and of no concern. If however the boards are to be left exposed for long periods of time or other work is to be carried out over the boards they should be covered with sheets of ply or other hard sheet material to minimise the chance of damage.

7: It is advisable to fit the final floor covering as soon as possible once the insulation has been installed. When fitting the chosen final floor covering it is advisable to work on top of a hard board. This will help prevent damage to the insulation when the work is being carried out.

8A: Wood and laminate flooring. (If not following step 2A)

Both under floor heating and wood type tongue and groove flooring can now be fitted directly over the insulation in accordance with the manufactures fitting instructions.

8B: Tile & Stone Flooring

Tiles measuring 150x150mm or bigger can be fitted directly over the insulation. A suitable flexible tile adhesive should be used as directed by the adhesive manufacture. The tiling should be carried out in the normal way making sure to fit the tiles with a full bed of adhesive, (never dot and dab tiles).

8C: Fitting vinyl, carpet or mosaics.

When fitting non interlocking rigid sheet material over the insulation boards an 9+mm layer of flexible levelling compound should first be fitted over the insulation. This will provide protection from high point loads as it will spread the weight over the insulation surface allowing the subsequent layers to be fitted. The levelling should be fitted in

accordance with the manufacturer's instructions.

# Cementitious Tile Backer Boards. (Wall and Floor Boards)

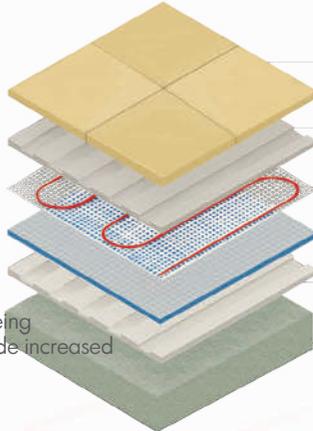
Cementitious tile backer boards are designed to insulate and water proof walls and floors. Ideal for wet room installations, the boards can be used directly under tile, stone, wood and laminate floors.

It can also be used under mosaic, vinyl and carpet flooring but must first have a 9+mm layer of flexible self levelling installed over prior to the vinyl or carpet being fitted. The insulation comes in 6, 10 & 20mm depths. The steps below are listed to help guide you through the installation process.

1A: If you are fitting tile backer board to a floor loosely or with tile adhesive please follow the instructions on page 9 - 10 (Hard insulation boards)

1B: If you are screwing the boards in place or tanking a room please follow the instructions below.

2: The sub floor or walls whether concrete, wood or plasterboard should be made suitable for the chosen floor covering, (ie tiles) prior to any boards being fitted. The boards are designed to provide increased insulation levels not structural rigidity.



Tile

Flexible Tile Adhesive

Heating Mat / Cable

Cementitious Insulation

Flexible Adhesive

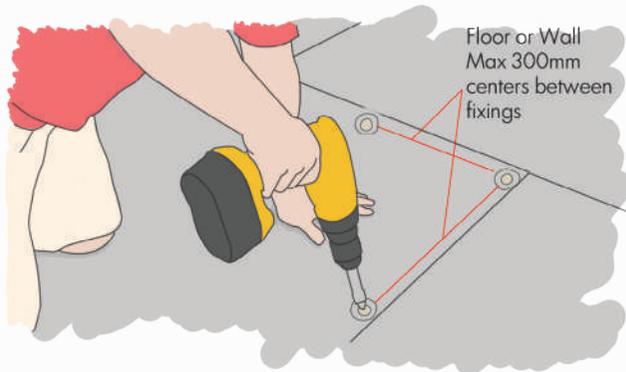
Sub Floor

Wood / Concrete



3: Tile backer boards can be screwed to walls and floors using suitable fixing discs and screws. The discs must be located at 300mm centres or closer, (minimum 15 fixings per 1200x600 board). If the boards are to be screwed directly to stud walling the supporting studwork must be fitted at 300mm centres, (6mm boards are for floor only and not suitable for walls due to their insufficient structural rigidity).





4: Fit the boards to the wall / floor making sure to butt the boards tightly together to achieve a full floor / wall coverage. It is good practice to stagger joints between boards and if necessary a flexible floor adhesive can be used to fill any small gaps between boards. It is important the boards are fixed securely to walls and consideration given to the weight of subsequent wall coverings. On floors the boards are not designed to bridge gaps and must be screwed back tight to the floor surface to avoid any bounce as this could adversely affect subsequent layers.

5: If boards need to be cut to size this is easily done with a sharp Stanley knife.

6: If the boards are to be used to tank a room then we recommend the use of our aqua seal tape to be applied to all joints (as per the aqua seal jointing tape instructions).

6: Once the boards are fitted care should be taken not to apply excessive point loads to the insulation until the subsequent surfaces have been installed. Small dents and damage caused to the surface of the boards are quite normal and of no concern. If however the boards are to be left exposed for long periods of time or other work is to be carried out over the boards they should be covered with sheets of ply or other hard sheet material to minimize the chance of damage.

7: It is advisable to fit the final floor covering as soon as possible once the insulation has been installed. When fitting the chosen final floor covering it is advisable to work on top of a hard board. This will help prevent damage to the insulation when the work is being carried out.

8A: Wood and laminate flooring.

Both underfloor heating and wood type tongue and groove flooring can now be fitted directly over the insulation in accordance with the manufactures fitting instructions. Care should be taken to avoid leaving any high spots caused by the screws/fixing discs. If these screws/discs are a problem they can be screwed down further to pull them flush with the board surface. Make sure not to over tighten these screws/discs.

8B: Tile & Stone Flooring

All tiles can now be fitted directly over the insulation. A suitable flexible tile adhesive should be used as directed by the adhesive manufacture. The tiling should be carried out in the normal way making sure to fit the tiles with a full bed of adhesive, (never dot and dab tiles). If Mosaic tiles are to be fitted a scrim tape should be fitted over all board joints to provide extra support.

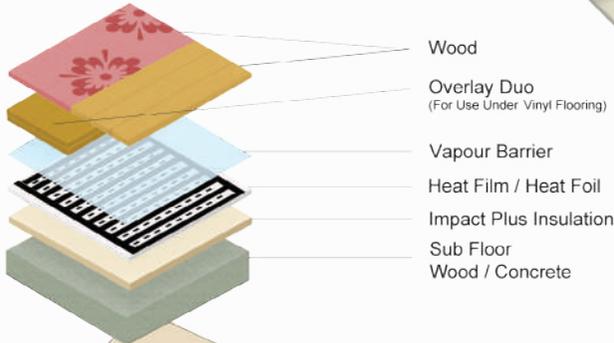
8C: Vinyl & carpet.

When fitting non rigid sheet material over the insulation boards, first a 8mm layer of flexible levelling compound should be fitted over the insulation. This will provide protection from high point loads as it will spread the weight over the insulation surface allowing the subsequent layers to be fitted. The levelling should be fitted in accordance with the manufactures instructions. (In high traffic or commercial areas, all board joints should have a scrim tape applied prior to the levelling being fitted).

8D: Wall tiles should be fitted in the normal way making sure to use a full bed of adhesive. The adhesive should be a flexible wall adhesive and applied / mixed in accordance with the manufactures instructions.

# Impact Plus Thermal Insulation.

Impact plus thermal insulation is designed for use directly under wood, laminate and carpet type floors. The insulation is 6mm in depth and comes as 1m wide sheets x the length you require. The next steps are listed to help guide you through the installation process. Please note that tiles and stone flooring is not suitable for this insulation. If tiles and stone are to be fitted then hard insulation or tile backer boards should be used.



Wood

Overlay Duo  
(For Use Under Vinyl Flooring)

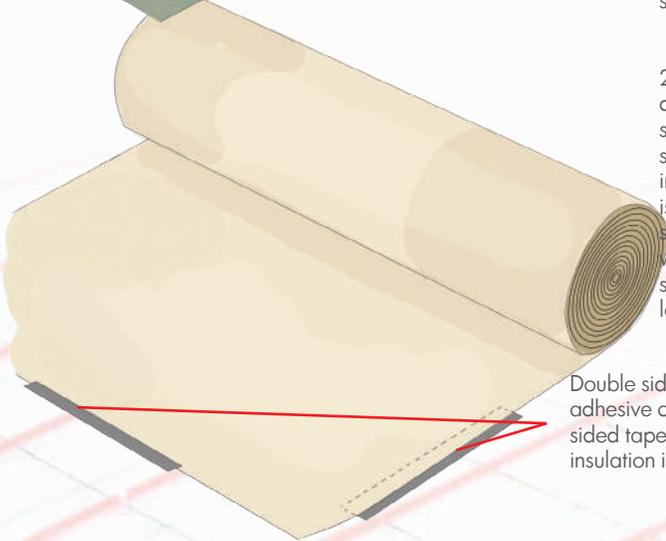
Vapour Barrier

Heat Film / Heat Foil

Impact Plus Insulation

Sub Floor  
Wood / Concrete

1: The sub floor whether concrete or wood should be made suitable for the chosen floor covering, prior to any insulation being fitted. The sheets are designed to provide increased insulation levels not structural rigidity or floor levelling.



2: Make sure the floor is clean, (dust and debris free). Start by using either a double sided tape or spray contact adhesive to sufficiently cover the floor area where insulation is to be laid. A full floor covering is not necessary as you only require sufficient to hold the insulation in place while the floor covering is being fitted. (In small areas the insulation can simply be laid loose over the floor).

Double sided tape or spray contact adhesive can be used under insulation or single sided tape used over insulation if needed to hold the insulation in place.

4: Working in manageable sized areas, lay the insulation over the floor area. Each run should be butted together and cut neatly in around the edge of the room making sure to achieve a full floor coverage.

5: If the insulation needs to be cut to size this is easily done with a sharp Stanley knife or scissors.

6: Once the insulation is fitted the floor should be kept clean and tidy. This is to make sure the insulation is not damaged or debris trodden into the surface which could affect or damage any subsequent layers fitted over the insulation.

7: Carpet Flooring. Depending upon what type of gripper rod is being used, it can be advantageous to install a 50mm strip of 6mm MDF or similar board around the perimeter of the room prior to fitting the insulation. The insulation can then be fitted into the well created to leave a level floor. This allows the gripper rod to be fitted onto the 6mm perimeter boarding, which will help the carpet fitter to easily hook the carpet over the gripper rods.

# Overlay Duo, For Use Under Carpet & Vinyl Flooring.

Duo overlay is designed for use under carpet and vinyl flooring. It is designed to provide a strong stable layer for carpet and vinyl to be fitted over while protecting the heating and insulation fitted under. When used with impact plus insulation, underlay is not needed if carpet is to be fitted. If underlay is fitted, it must be 0.8 tog or lower. If vinyl flooring is to be fitted over the heating then hard insulation boards should be fitted in place of the impact plus thermal insulation.

## Step 1

Make sure the floor is clean level and suitable for the chosen floor covering.



Heat Film Or Heat Foil Underfloor Heating System.

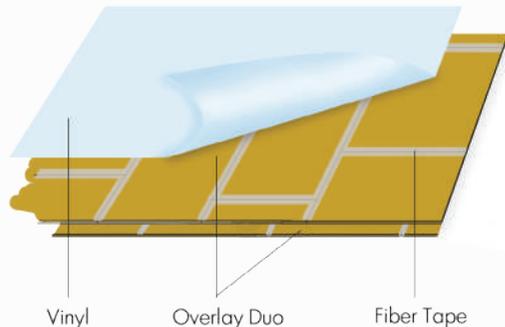
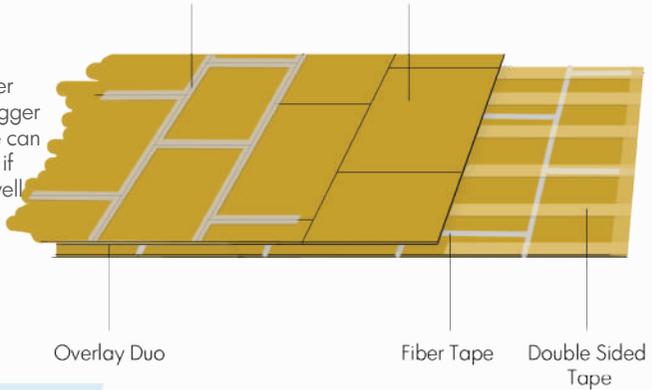
Vinyl = Hard insulation board

## Step 2

Once the insulation and heating is fitted, (make sure to follow the appropriate insulation and heating fitting instructions) the first layer of boards can be fitted. Make sure to stagger all joints and cut the board tightly over the floor area. If gripper rod is fitted then the boards can be cut within the gripper rod perimeter. All joints must be taped together using the fibre tape provided. Double sided tape is then fixed around the perimeter with additional lines fitted at 300mm spacing's. The duo overlay must extend over the heating mats by a minimum of 50mm on all sides.

## Step 3

The second layer can then be fitted over and fixed to the first making sure to stagger all joints. Additional double sided tape can be fitted to the surface of the first layer if required to make sure all boards are well stuck down and both layers are well bonded together.



## Step 4

A second layer of fibre tape should now be fixed over all joints on the second layer leaving the duo overlay ready to receive the final floor covering.

Duo overlay is not a waterproof layer and contact with water or other liquids must be avoided. If heating is fitted under the duo overlay it is good practice to label the floor to warn others about any electrical hazard and that drilling, cutting or puncturing the floor surface in any way may damage the underfloor heating.

# Warranty Card

## Terms and Conditions:

- # Roma Heating provides a limited 10 year warranty on all heat film mats.
- # In the case of a defective heating mat supplied by Roma Heating, Roma Heating will either repair or replace the defective heating mat.
- # Faults caused by incorrect installation or fitting procedure, misuse or damage caused by others, will not be covered under this warranty. This warranty does not cover installations completed by unqualified electricians.
- # Under no circumstances is Roma Heating liable for any consequential damages or losses (materials or monetary) associated with the under floor heating system.
- # To complete and activate the warranty your electrician must fill in all details on the form below during each stage when fitting the heating system. Once completed log onto [www.romaheating.co.uk](http://www.romaheating.co.uk) and click on warranty registration. Transfer the information recorded on this form below onto the online warranty and click submit.

Installation Address : \_\_\_\_\_

Customer Name : \_\_\_\_\_ Installation Date : \_\_\_\_\_

Electricians Name : \_\_\_\_\_ Contact Number : \_\_\_\_\_

NICEIC Registration Number : \_\_\_\_\_ Email : \_\_\_\_\_

Test					
Heating Mat Resistance	Before laying				
	After laying				
	After installing floor				
Floor Sensor Resistance	Before laying				
	After laying				
	After installing floor				

NOTE - Please use and attach separate sheets if multiple systems are being installed formatted as above.

	Yes	No
Roma Heating Floor Only Thermostat is Installed -	<input type="checkbox"/>	<input type="checkbox"/>
Thermostat is set to regulate floor temperature only -	<input type="checkbox"/>	<input type="checkbox"/>
The thermostat floor probe is positioned directly under the black heating strips of a heating mat -	<input type="checkbox"/>	<input type="checkbox"/>
No additional insulation has been fitted over the heating mats and no additional layers or insulated objects have been placed or left over the final floor covering -	<input type="checkbox"/>	<input type="checkbox"/>
Tog ratings of any carpet or underlay installed is below 0.8 tog for underlay and 2 tog for carpet -	<input type="checkbox"/>	<input type="checkbox"/>
The mats are not installed in an area prone to wetness or have been exposed to any liquid during installation -	<input type="checkbox"/>	<input type="checkbox"/>
The mats have not been laid over a foil surface or have any flat metal objects installed over mats or final floor covering -	<input type="checkbox"/>	<input type="checkbox"/>

Thermostat Model: \_\_\_\_\_

\* If you have answered NO to any of the questions asked to the left your underfloor heating has been installed incorrectly and your warranty will be invalid. Action should be taken to install the heating correctly before the heating system is commissioned and turned on.

Installer: Please sign to confirm you have installed this heating system in accordance with all fitting instructions.

User: Please sign to confirm you have read & understand the usage / running guidelines set out in the instructions.

Installer Signature : \_\_\_\_\_ User Signature : \_\_\_\_\_

PLEASE RETAIN THIS FORM WITH YOUR UNDERFLOOR HEATING SYSTEM

To activate your free warranty log onto [www.romaheating.co.uk/warranty.php](http://www.romaheating.co.uk/warranty.php) within 3 months of purchase and 30 days of installation date and complete the online form.