VB0820

LivingHeat

Bringing Heat To Life

For Use Under
Wood
Laminate
Carpet
Vinyl

ALU UNDERFLOOR HEATING MAT

www.livingheat.co.uk

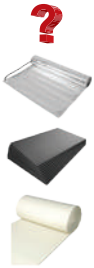
FITTING INSTRUCTIONS

Welcome To Living Heat
The Underfloor Heating Specialists

Our Aluminium Foil based Underfloor Heating systems are suitable for use under Engineered Wood, Laminate, Vinyl and Carpet floor coverings.

Living Heat 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 Living Heat underfloor heating systems and ancillary products please visit our website: **www.livingheat.co.uk**



Thermostat

All our thermostats are suitable for use with all Living Heat underfloor heating systems. All thermostat options are rated at 15/16amps which will allow the units to control 3400 - 3600 watts without the need of any additional switching. If over 15/16amps of heating is being installed, either additional thermostats or a relay switch, (sometimes known as a contactor) should be installed to carry the load.

M1 Thermostat

M5 Thermostat

T5 Thermostat

D600 Thermostat

T700 Thermostat

i5 Wi-Fi Thermostat

i8 Wi-Fi Thermostat

CT1000 Thermostat

Frequently Asked Questions

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

All Living Heat 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/m2 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?

When installing ALU heating foil a suitable insulation MUST always be used. The insulation is essential as it protects the heating from damage by stopping the heating cables and cold joint from being crushed between the sub floor and floor covering. It also helps to minimise heat loss and maintain efficiency. The speed at which the heating heats the floor will greatly depend upon the thickness and type of floor coving being installed. Typically it takes between 10 - 15 minutes to feel a noticeable difference between the same heated and unheated floor covering. It is important not to cover the heating with additional insulations once fitted as this will block the heat rising up through the floor and can cause overheating. The heating system is designed to be fitted directly under the floor covering. It is also important to only fit one layer of either Living Heat impact plus or Hard insulation. If multiple layers are installed it could make the floor unsuitable for the chosen floor covering.

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?

All our underfloor heating systems do 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 water 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. Living Heat offers 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.

Suitable Insulation must be fitted over sub-floor prior to laying this heating system.

Under Laminate, Wood, Vinyl & Carpet Aluminium Foil Heating (ALU)

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 page***).

Fig 1

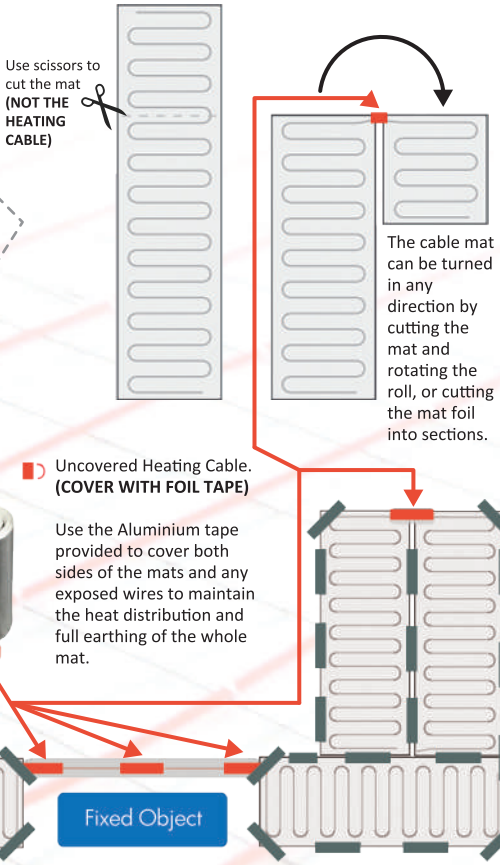
2: Measure the floor accurately allowing for a 100mm+ unheated border around the perimeter of the area. Once measured make sure the heating mat is a suitable size for the area. The mat size and wattage can be found on the outer box and heating mat. The mat should also be tested for continuity and resistance 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 for the area/room 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 2

Make sure **ALL READINGS** are within 5% of the stated values on box label.

Fig 3



Use the provided Gaffer Tape to fix edge of foil down. Cut tape into strips.

3: Start the heating as close to the thermostat location as possible. If this is impractical the heating mat cold tail can be easily extended with a suitable electrical cable. Slowly unroll the mat using the cloth / gaffa tape to hold the mat in place were necessary. All exposed heating cables, (***see fig 3***) 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 or small areas. The foil tape must then be used to cover any exposed wire and join all strips and mat runs together. Overlap the foil tap onto the heating mat by a minimum of 10mm to make sure all exposed cable is fully covered. Exposed wire can cause hot spots and 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 insulation board should be scored to create a grove to accept the floor probe (***See Fig 7***), and taped in place (**DO NOT TAPE OVER END OF PROBE**).The probe must be installed under the foil and between 2 heating wires no closer than 20mm but no further than 30mm away from any heating 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***). When heating wood, laminate or other floor coverings, the manufactures recommended maximum floor temperature should be programed into the thermostat. The thermostat must also be set to regulate floor temperature only, **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 6***)

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.

Fig 5

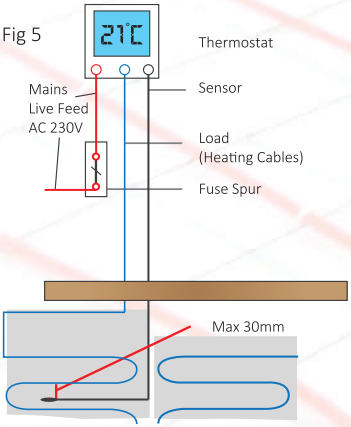
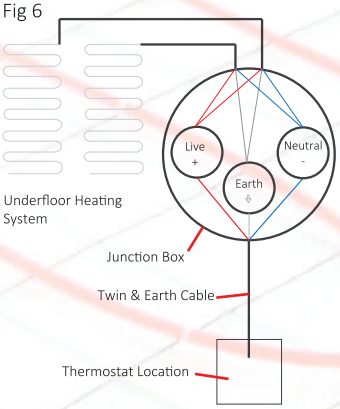


Fig 6



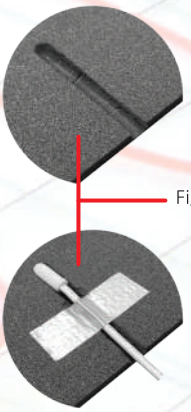
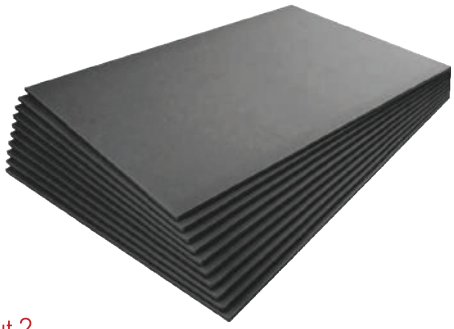


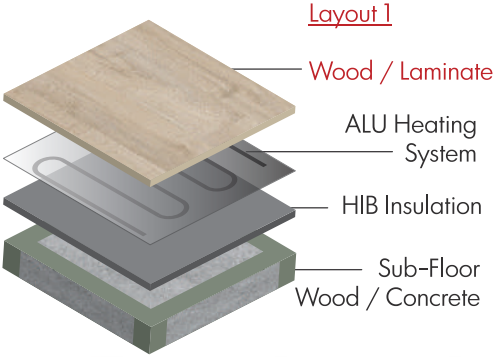
Fig 7

Hard Insulation Boards (HIB)

Living Heat underfloor heating 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 or duo overlay installed over prior to the vinyl or carpet being fitted. The insulation comes in 6, 10, 20 and 30mm depths. The steps below are to help guide you through the installation processes depending upon what floor covering is being installed under **ALL HEATING MATS**.

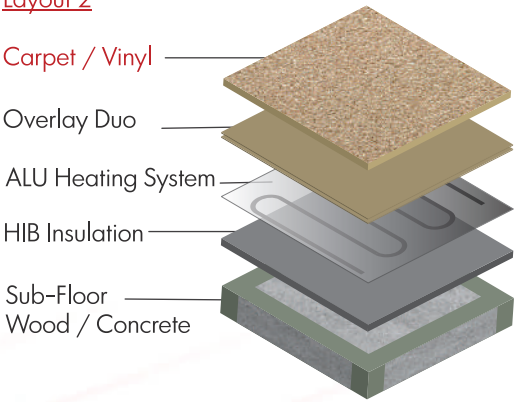


Layout 1

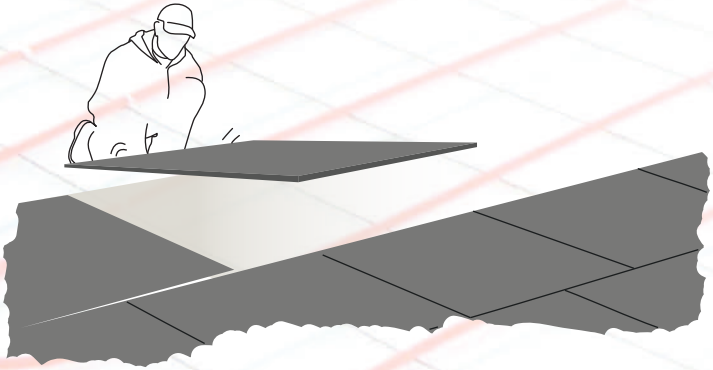


1: The sub-floor whether concrete or wood should be made suitable for the chosen floor covering, (ie wood / laminate / vinyl) prior to any HIB boards being fitted. The boards are designed to provide increased insulation levels not structural rigidity.

Layout 2



2A (***See Layout 1***): For Wood and Laminate Floors.



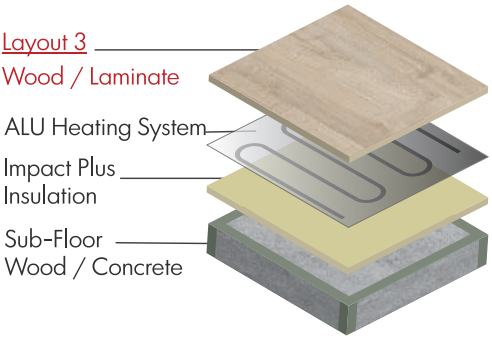
Once step one is completed and the sub-floor is level, clean, dust and debris free the boards are ready to be laid. The boards can be laid directly over the sub-floor making sure to butt the boards tightly together so not to leave gaps between boards and round the edge of the room. This will help prevent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

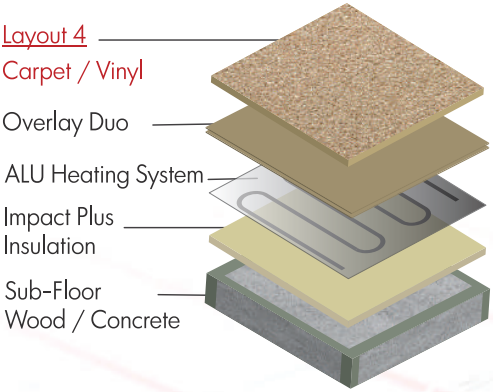
2B (***See Layout 2***): For Carpet and Sheet Vinyl Floors.
Make sure the sub-floor is level, clean, dust and debris free. Lay the HIB boards tightly together over the entire floor area. Lay the heating mats and probe. Lay the duo overlay over the entire floor area leaving a small gap around the perimeter of the room for expansion and contraction, (if gripper rod is required a solid timber/MDF border may need to be installed that is the same depth as the insulation and approx. 50mm wide to allow the gripper to be screwed or nailed in place). Lay the carpet or Vinyl over the duo overlay. Please note carpet should be a maximum of 2 tog and underlay if used must be a maximum of 0.8 tog.

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 in 1m wide rolls 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.





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 on the floor area where insulation is to be laid. You only require sufficient adhesive / tape 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 and held in place with small weights).

3: Working in manageable sized areas, lay the insulation over the floor area. Each run should be butted together and edges taped together if needed. The insulation can be cut using a sharp Stanley knife or scissors neatly in around the edge of the room making sure to achieve a full floor coverage.

4: Once the insulation is fitted the heating mats and floor probe can be fitted directly onto the insulation.

5: Wood & Laminate Flooring, (***See Layout 3 Above***).
Floating Wood and laminate floors can now be fitted directly over the heating mats and insulation.

6: Carpet & Sheet Vinyl Flooring, (***See Layout 4 Above***).
Before fitting carpet and vinyl flooring duo overlay should be fitted over the entire floor area. It is also advisable to remove a 50mm strip of insulation around the perimeter of the room / area and inlay a 50mm wide x 6mm deep MDF or PLY prior to fitting the duo overlay. This will provide a solid edge flush with the top of the insulation which will allow the floor l to easily finish the edge of the floor or nail / screw carpet gripper down if needed. Once the duo overlay is fitted the carper or vinyl can be fitted.

NOTE: When fitting underlay and carper the underlay should have a maximum tog rating of 0.8 and the carpet should have a maximum tog rating of 2.0.

Warranty Card

Terms and Conditions:

Living Heat provides a limited 15 year warranty on all ALU heating mats.
In the case of a defective heating mat supplied by Living Heat, Living Heat 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 Living Heat 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 this form during each stage when fitting the heating system. Once completed log onto **www.livingheat.co.uk/warranty-registration/** 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 heating mats are being installed formatted as above / below.

	Yes	No
Living Heat Thermostat is Installed and set to regulate floor temperature only -	☐	☐
Impact Plus or HIB insulation has been installed under heating mats -	☐	☐
The thermostat floor probe is correctly positioned between two heating cables -	☐	☐
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 -	☐	☐
Tog ratings of any carpet or underlay installed is below 0.8 tog for underlay and 2 tog for carpet -	☐	☐
The mats are not installed in an area prone to permanent wetness or have been exposed to any liquid during installation -	☐	☐
The heating mats have not been damaged or reduced in sizes at any point -	☐	☐

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 these instructions.

Installer Signature : _____ User Signature : _____

PLEASE RETAIN THIS FORM WITH YOUR UNDERFLOOR HEATING SYSTEM
To activate your free warranty log onto **www.livingheat.co.uk/warranty-registration/** within 3 months of purchase and 30 days of installation date and complete the online form.