



Underwood Heating System

INSTALLATION MANUAL



Suitable for most wooden/laminated floors

(Always check with floor manufacturer)

Thank you for selecting our industry-leading Megawarm® underwood floor heating system.

IMPORTANT

Prior to commencing any installation, it is essential to thoroughly review this complete instruction manual.

This manual provides crucial information about the secure installation and operation of your heating mat/s. Please be aware that these installation guidelines are intended to complement, not replace, the instructions provided by your floor coverings' manufacturers.

Always ensure that you adhere to both sets of installation instructions. If you have any uncertainties about the appropriateness of our heating mat/s, consult the floor manufacturer for clarification.

While our mats are remarkably durable, it is imperative to handle them with care during installation. To ensure a seamless installation experience, kindly follow the step-by-step installation guide provided.



- ✓ **Ideal for large areas**
- ✓ **Easy to install**
- ✓ **Fully compliant to latest regulations**
- ✓ **CE approved**

Contents

04	Product Specifications and details
05	Important Information
07	Controlling your system
07	Professional electrical installation
08	Contents of heating kit and items required for systems installation
08	Testing
09	Installation Instructions
15	Warranty



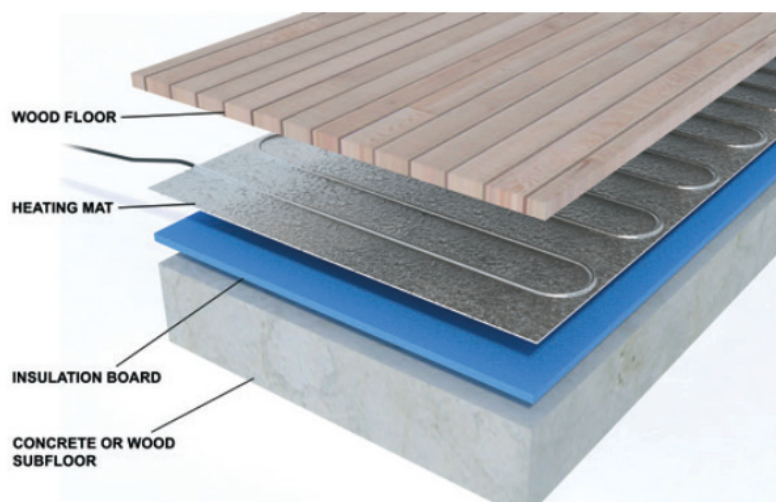
Product Specification

Megawarm® Floor Heating Mats for laminate/engineered and most floating wooden floors boast an ultra-thin design, measuring only 2mm. When combined with our 6mm insulation boards, they create an ultra-low profile heating system.

Construction

The Megawarm® system features fluoropolymer insulated heating cables, situated between two layers of specially reinforced aluminum foil. The uniform spacing of the heating elements, supported by the aluminum foil, guarantees even heat distribution. The heating element is connected to a power-supply cable, which exits the heating mat from one corner.

The power lead consists of a two-core flexible cord with two insulated conductors, a metal earth sheath/solid earth cable, and an outer sheath based on your heating requirements.



Do's and Dont's for Installation



Carefully read these instructions before initiating any work.



Follow the testing procedure before installing the floor.



Review the safety information on the back page and consult the separate installation and operating instructions for the thermostat.



Do not attempt to cut the heating cable at any point.



Avoid placing bean bags, fixed furniture, or carpets over heated floor areas.



Do not activate the heating mat/ cable while it remains rolled up.

Essential Information

1. Megawarm® aluminium heating mats are designed for direct installation under engineered wood or laminate floors. Ensure the use of appropriate Megawarm® insulation.
2. These aluminium heating mats are not suitable for installation under ceramic tile, natural stone, or similar hard floor coverings, nor under nailed hardwood flooring. Confirm suitability with us if unsure. For further information, contact your Megawarm® supplier.



Compatible Wood Laminates & Engineered Boards

- Most contemporary wood laminate floors are compatible with our system. However, floors with metallic strips in their locking systems or those with pre-attached insulation pads are NOT compatible.
- Consult your flooring supplier to ascertain suitability for underfloor heating use. The maximum floor temperature should typically not exceed 27°C. Avoid using wood floors thicker than 18mm to prevent potential issues, including reduced efficiency. For assistance with any challenging issues during installation, feel free to contact us at: 01268 567019.

○ **Electrical Connection:**

- Megawarm® aluminium heating mats **MUST** be connected to the electrical system via an RCD protected circuit and a suitably rated fuse/MCB. Ensure RCD protection for the circuits supplying power to your mats or use a dedicated RCD for each circuit.

○ **Do Not Install Under Cabinets or Furniture:**

- Installation under Cabinets or Furniture is Not Advisable: Avoid installing aluminium heating mats beneath permanently attached cabinets, fittings, or furniture with solid bases. Additionally, refrain from placing rugs or bean bags, or any item with a tog value exceeding 2.5, on the floor's surface, as this can lead to thermal obstruction. In extreme scenarios, cable overheating and potential fire hazards may result.

○ **Do Not Install Over Other In-Floor Radiant Heating Systems:**

- Megawarm® aluminium heating mats **MUST NOT** be installed atop other in-floor radiant heating systems (e.g., hydronic or in-screed systems) unless the other system is permanently disconnected to prevent concurrent operation.

○ **Do Not Install Above Radiant Ceiling Heating Mats:**

- Similarly, refrain from installing Megawarm® aluminium heating mats on floors where radiant ceiling heating mats are utilized in the room directly below.

○ **Do Not Install in Thinset Cement:**

- Megawarm® aluminium heating mats must not be installed in thinset cement or in direct contact with cement or concrete sub-floor or slab. Always use Megawarm® approved insulation beneath the aluminium heating mats.



Managing Your System

The Megawarm® heating systems can be controlled using any of our programmable thermostats equipped with a floor sensing probe. Each thermostat comes with a floor sensor that allows precise temperature setting for your heater. Our advanced units also offer scheduling options for when your heating activates. For instance, you can program the system to warm your bedroom floor in the morning and again during the evening while keeping it off during the day.

Please be aware that most wood laminate manufacturers advise against subjecting their floors to temperatures exceeding 28°C. To achieve this, it's essential to install a temperature sensor directly beneath the aluminium heating mats, beneath the wood or laminate. Check with your laminate/engineered wood manufacturer for their recommendations regarding installing electric radiant heating beneath their floors.

Professional Electrical Installation:

Caution: In compliance with Part P Regulations, only a qualified individual familiar with the equipment's construction, operation, and associated hazards should perform the final connections to the electricity supply and conduct the installation testing. Electrical system installation carries fire and electrical shock risks that can lead to personal injury. Exercise caution to mitigate these risks. Only a qualified electrician should connect and test (following the Commissioning Record Form) the Megawarm® aluminium heating mats to the thermostat and/or the electrical supply circuit.

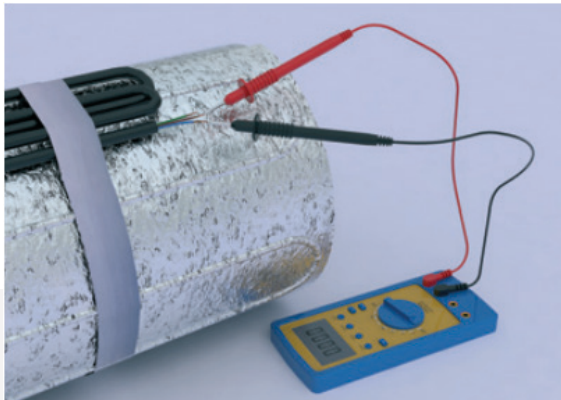
IMPORTANT

All such connections **MUST** adhere to BS7671 17th Edition Part P wiring regulations. Note that when installing thermostats in bathrooms, they should be placed outside the room, and the floor probe supplied should be used. Always consult with a qualified electrician to ensure all electrical components are positioned in safe and appropriate zones.

Contents of heating Kit and items required for installation

Heating Kit Contents:

1. Aluminium heating mat (or mats, depending on kit size)
2. Digital thermostat with floor probe
3. High adhesion fixing tape
4. Black flexible conduit (for floor probe)
5. Silver foil strips (for earth continuity)



Items Needed for Installation:

1. Digital multi-meter (A basic multi-meter can provide resistance readings before and after installation)
2. Insulation boards (Not Tile Backer Boards)
3. Appropriate insulation boards
4. Electrical Housing Boxes (minimum depth of 35mm)
5. Stanley knife or similar sharp blade
6. Tape measure

Testing

Each Megawarm[®] mat is thoroughly tested before leaving the factory and is well packaged to prevent damage during transit. However, damage may occur during storage, transit, or installation. We highly recommend testing your mats as outlined below:

1. After mat installation but before fitting the floor covering (while the mats are still exposed).
2. After engineered wood or laminate installation but before thermostat connection.

The tests to be performed at each stage are as follows:

1. Resistance test between Live and Neutral Conductor (Readings should be within +/- 10% of nominal Ohms values found in the tables on page 8 as temperature affects this value).
2. Insulation Resistance test at 500Volts DC, requiring specialized equipment and qualified electrician performance.

Please refer to the table on page 8 for the values you should observe while testing the mat. These tests should be conducted by your qualified electrician before energizing the heating system.

Product Range and Resistance Value

Lenght of MAT (mtr)	Width of MAT (cm)	Area (sqm)	Resistance (ohms)	Total Wattage (W)
2	500	1.0	378	140
3	500	1.5	252	210
4	500	2.0	189	280
5	500	2.5	151	350
6	500	3.0	126	420
7	500	3.5	108	490
8	500	4.0	95	560
9	500	4.5	84	630
10	500	5.0	76	700
12	500	6.0	63	840
14	500	7.0	54	980
16	500	8.0	47	1120
18	500	9.0	42	1260
20	500	10.0	38	1400
22	500	11.0	34	1540
24	500	12.0	31.5	1680

Installation Instructions

01

Electrical Installation and Area Cleaning:

Begin by carrying out all necessary electrical work for the installation. This includes chasing walls and installing back boxes for fused spurs and the thermostat's position. Ensure that all electrical works adhere to the current regulations.

For Megawarm® underfloor heating systems, it is essential to control them via an RCD (Residual Current Device) protected circuit. For systems not exceeding 13 amps, a fused spur with contact separation in all poles, providing full disconnection under cat 3 conditions, is suitable. For systems larger than 13 amps, a protective device that complies with regulations must be used. If you require technical assistance, please feel free to contact us or consult a fully qualified approved electrician.

If you have any uncertainties regarding the electrical installation, do not hesitate to reach out to our technical team for guidance. Ensure the sub-floor is structurally sound, clean, and dry before proceeding with the installation. To avoid damaging the mats, check for any protruding nails, screws, staples, or tacks on the sub-floor before installing the insulation. Be cautious with automatic staple guns while securing the underlay to the sub-floor, as a badly installed staple that protrudes from the floor can pierce and damage the Megawarm® mat.



Nails, screws, or staples should not be installed close to the mats or power cables. Additionally, never install permanent fixtures, including built-in furniture, on top of the mats to prevent potential damage.

To aid future renovation work or for reference purposes, keep an accurate record of the mat's installation locations. It is also a requirement of the 17th Edition Part P wiring regulations to place a diagram next to your fuseboard position, indicating where underfloor heating is installed. This information should be included in the supplied Commissioning Record Form, which must be completed. For further safety guidelines, please refer to the Safety Guide on the back page.

02

Install Underlay:

Use Megawarm® Foam insulation boards directly underneath the heating mats. Install the boards in a brick pattern as shown below and securely tape the edges to prevent any movement of the underlay during installation.

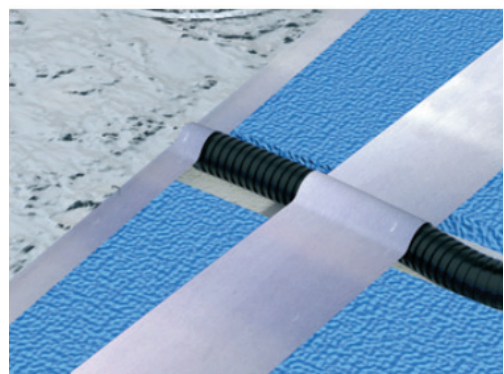
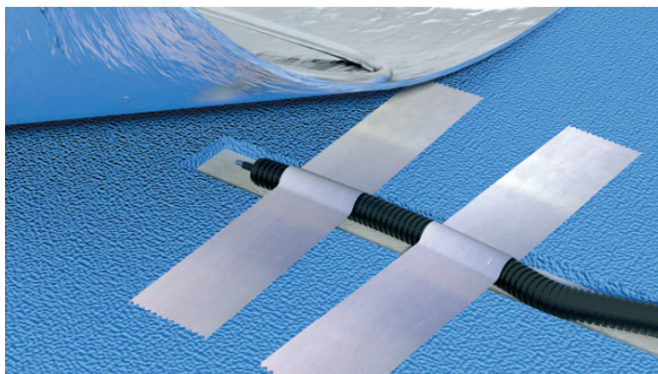


03

Install Floor Probe:

For installations using a thermostat with a floor sensor (most installations are recommended for wooden floors), follow these steps:

1. Install the black conduit in the wall chase, extending it at least 200mm into the heated area.
2. Run the probe wire down inside the conduit until it slightly emerges from the end of the conduit.
3. Tape the sensor into a channel cut into the insulation directly beneath the Megawarm® heating mat, ensuring it is centred between two heater wires. Please be cautious when channelling into the sub-floor to fit the conduit and be aware of any pipes and cables.
4. The sensor cable should run back up to the thermostat position. Connect the 2-core cable to the thermostat in the correct terminals.
5. Ensure that the sensor wire does NOT cross over the foil heater wires.

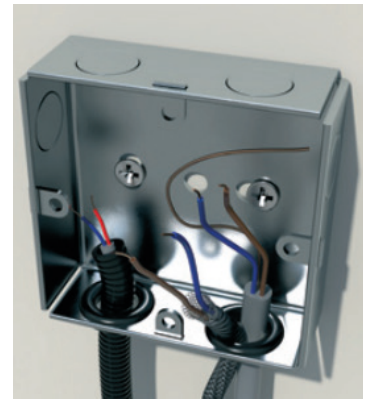


04

Lay Heating Mat:

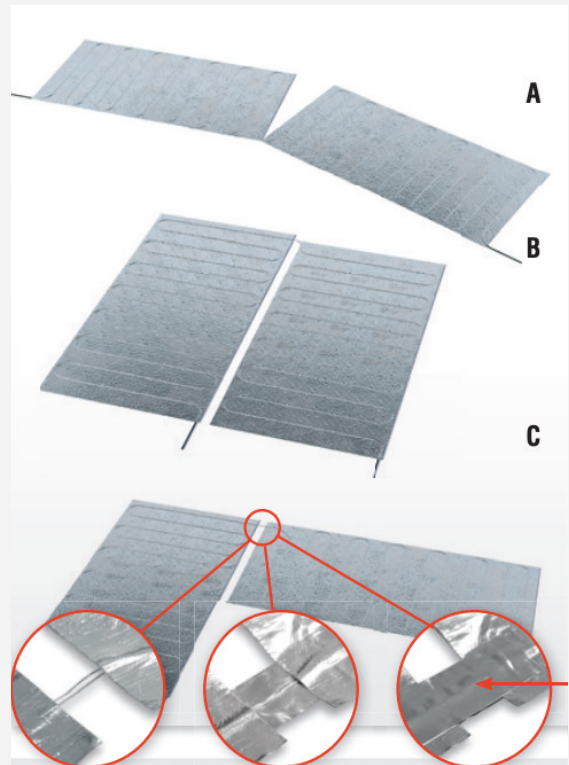
After installing the insulation, take your Megawarm® mat out of the packaging box and perform a resistance test (as shown on page 7). Bring the cold tail (black power lead) up the wall channel and into the back box for the thermostat. Use a minimum 35mm box to allow more space behind the thermostat. If you are using more

than 2 cables, consider installing a junction box. If you have 2 or more mats, position them accordingly to ensure all power leads reach the thermostat position. If this is not possible due to the room's layout, you may extend the cold tails using 2.5mm suitable cable and crimps, but this must be done by a Part P 17th Edition qualified/competent person



When positioning the mat on the insulation boards:

- A. Leave a minimum gap of 50mm from all walls/fixed units.
- B. Use scissors or a knife to cut the mat, **AVOIDING CABLE**. Guide the heating mat around fixed objects such as toilets, basins, cupboards, etc. Continue rolling out the mat, ensuring a 5mm gap between each section. **DO NOT** overlap the cables at any point. It is recommended to stagger the mats when installed parallel to offset the cables.
- C. To turn the foil mat at walls, cut the foil and flip the mat over. If the cable is showing upwards, cover all the cable with aluminium foil tape for extra protection. Use the metal strips provided on adjacent mats to maintain earth continuity on both sides of the mat (top & bottom, as shown).



04

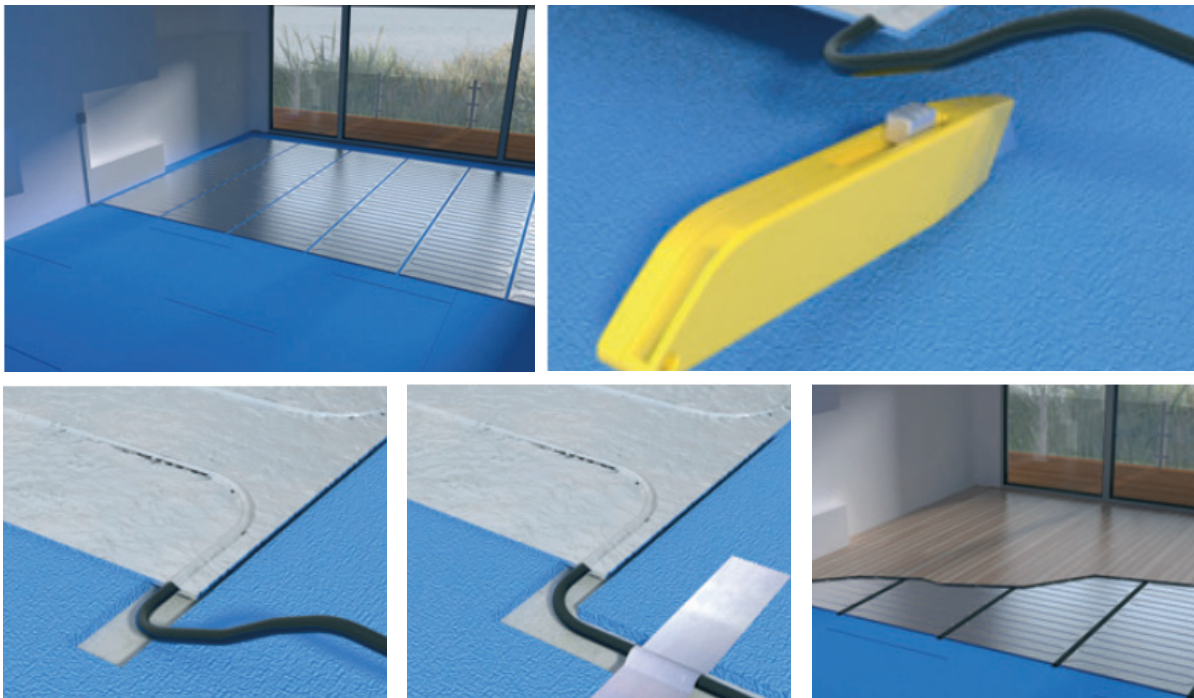
Lay Heating Mat (Continued):

It is crucial never to cut Megawarm® heating mats to fit into a space that is too small. If the mat is too large for the area, it should be returned for a more suitable size before any cutting is done.

Smooth out the mat and securely adhere it to the insulation material using adhesive tape. Decide on the route for your cold tails (black leads) from the mat to the thermostat position. Cut a channel in the insulation along this route and place the cold tails into the channel, then tape them securely in position (see diagram below). In some cases, you may need to remove a small section of insulation under the mat where the power supply cord enters to prevent an unsightly lump on the laminate surface and excessive wear on that part of the mat.

When installing two or more Megawarm® heating mats next to each other, ensure that the heating wires in adjacent mats **DO NOT** overlap. To prevent movement over time, we recommend using adhesive tape to secure them.

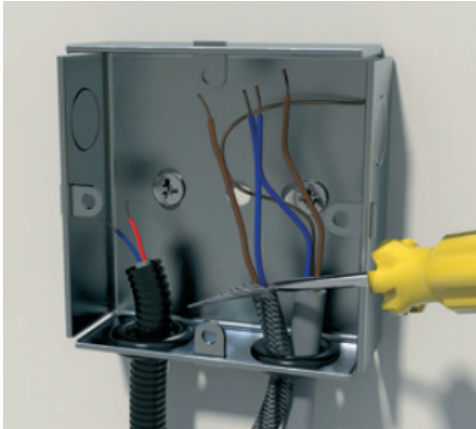
Megawarm® mats must be installed directly on top of the insulation and directly under the wood laminate flooring. They should never be folded or creased during installation, and they are not suitable for use on stairs. If you need to move the mat at a later stage, remember to roll it rather than folding it.



05

Wire Thermostat:

Once the floor probe, power supply lead, and cold tail from the Megawarm® heating mat are all in place in the metal back box, and the mat has been laid, you can complete the heating installation by wiring the thermostat



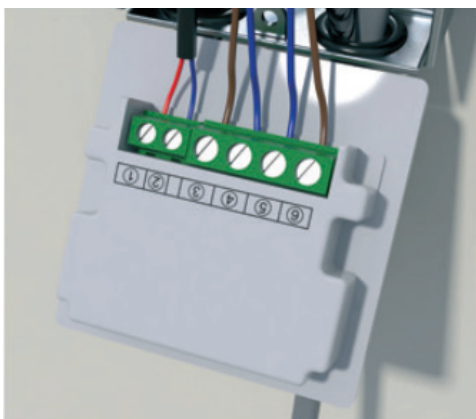
Depending on the type of mat supplied, the cold tail (black lead) may have either a solid earth cable or an earth braid wrapped around the internal cores. To prepare it for connection, unbraiding is required. Use a screwdriver to pull down the braid and separate the strands, then twist them into a single strand.



Connect the earth from the mat to the earth from the incoming supply using the earth terminal in the back box. If a plastic box with no terminal is used, a terminal block can be used instead

At this point, another insulation resistance test must be carried out by a qualified electrician.

Proceed with the rest of the thermostat connections according to the instructions provided with the thermostat, following the wiring diagram provided in the manual.



Now, you can lay your flooring according to your floor manufacturer's instructions, being careful not to glue the floor to the matting or nail through the floor. For click systems, simply click the flooring together and lay it over the heating. If using engineered wood flooring, glue it along the tongue and groove and float it over the heating mat. Ensure that no glue comes into contact with the heating mat

Safety Guidelines

This installation manual is designed with your safety in mind. To ensure a successful installation, it is crucial to thoroughly understand the guidelines and follow all instructions provided.

IMPORTANT

1. Flat-bottomed furniture **MUST NOT BE** placed over areas where the heating mat/cable is installed. Doing so can obstruct airflow to the floor, leading to thermal blocking. In extreme cases, this may cause the cable to overheat, posing a potential fire hazard.
2. Avoid placing rugs, bean bags, or any items with a tog value greater than 2.5 over the heated areas.
3. Make sure to complete the supplied Commissioning Record, which includes a floor plan sketch indicating heated areas. This record must be permanently fixed in or near the distribution/fuse board as required by the 17th Edition BS7671 amendment 3.



MATTRESSES



BIN BAGS



**ANIMAL
BEDS**



RUGS



**FLAT BASED
FURNITURE**

Megawarm Guarantee

Megawarm® floor heating mats come with a 25 years warranty.

The warranty does not cover installations made by unauthorized persons or faults caused by incorrect design by others / misuse / damage caused by others / damage in transit / incorrect installation and any other subsequent damage that may occur. Replacement will be fully chargeable if the damage is because of any of the above reasons.

Need Help Installing your underfloor Heating?

We can recommend approved electrical contractors who can install your heating from start to finish



Warm Antee®



Need Help?

Kindly send an email or call your friendly Megawarm® Supplier!

