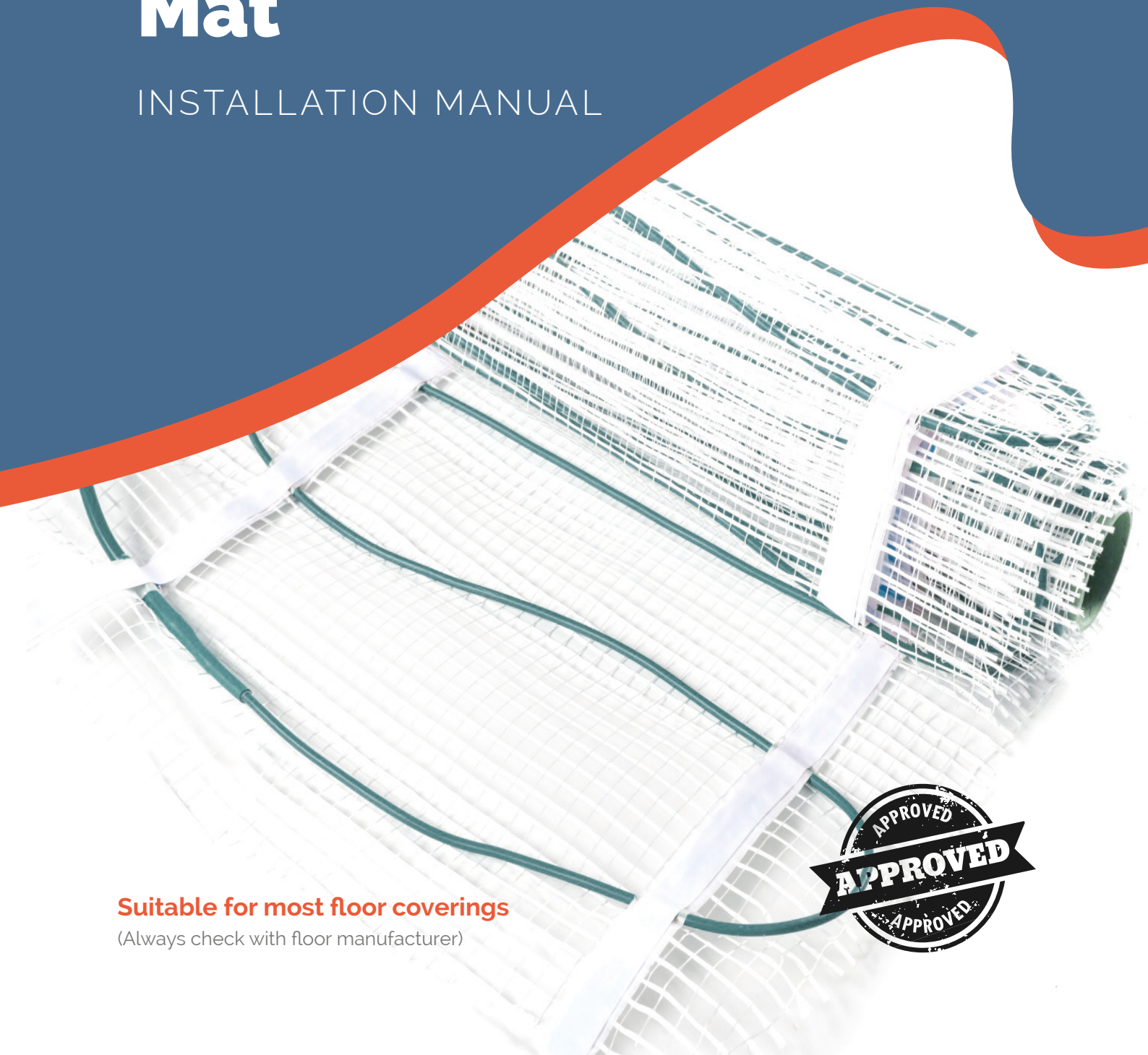




Megawarm[®]

Underfloor Heating Sticky Mat

INSTALLATION MANUAL



Suitable for most floor coverings
(Always check with floor manufacturer)



Thank you for selecting our advanced Megawarm® underfloor heating system.

CRITICAL

Before you initiate any installation, it is imperative to thoroughly read through this entire instruction manual.

This manual incorporates essential details regarding 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 the manufacturers of your flooring materials.

It is crucial to adhere to both sets of installation instructions. If you have any uncertainties regarding the suitability of our heating mat/s, consult the floor manufacturer for clarity.

While our mats boast robust durability, it is vital to handle them with care during installation. To ensure a hassle-free installation, please meticulously follow the step-by-step installation manual provided.



✓ **Ideal for large areas**

✓ **Easy to install**

✓ **Fully compliant to latest regulations**

✓ **CE approved**

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STICKY MAT - Simply Unroll

Our heating mats are engineered for versatile installation, offering flexibility in orientation. One side features a sticky mesh, while the other side is equipped with three strips of double-sided tape. This design ensures firm placement of the heating mat, irrespective of cable orientation, streamlining the installation process. Please note that in specific scenarios, especially when utilizing a levelling compound, it might still be necessary to use small segments of duct tape to secure the mat in certain areas and prevent uplift.



CE Certified Systems

We take pride in providing CE certified heating cables manufactured to the highest standards, employing cutting-edge Teflon coated cables. Our cables are designed to align with the 17th Edition Part P regulations. To ensure seamless installations in compliance with these standards, we provide comprehensive instructions. If you have any uncertainties or inquiries, please do not hesitate to reach out to us for assistance and clarification. Your satisfaction and safety are our primary concerns.



Before You Start Installing

Please review these instructions to confirm that you possess all the necessary components.

The Megawarm® heating system is purposefully designed for installation beneath most tile/stone floor coverings. Additionally, it can be installed under engineered/laminate wood floors, vinyl, and low tog thin carpets. However, in such cases, it is essential to overlay the heating mat/s with an 8-10mm thick appropriate latex-based leveling compound. Always verify with the floor covering manufacturer whether their product is compatible with electric underfloor heating systems.

Additionally, confirm the compatibility of adhesives or latex compounds with both the floor coverings and the heating system. A thorough evaluation of these factors is pivotal for a successful and safe installation.



Heating Mat Kit Contents

- 3mm twin-core heating mat
- Disposable roller for primer application
- Digital thermostat and separate floor sensor
- • Instructions
- Conduit for floor sensor
- Thermal primer/s bottle

Installation Notes

- ✓ The system requires a mains voltage of 230/240v and must be connected by a qualified professional in accordance with the IEE 17th Edition Part P regulations.
- ✓ The cold tail of the mat is black and consists of a twin-core and earth cable, occasionally featuring a silver earth braiding wrapped around the twin cores. The heating element encompasses a built-in return, allowing connection to the thermostat from one end only.
- ✓ For larger areas where two or more mats are used, it is necessary to employ a connection or junction box to link the heating mats' cold leads before attaching a single cable to the thermostat. The wire used for this connection must be of an appropriate size as determined by an electrician. The maximum load on one thermostat should not surpass 16 Amps.
- ✓ The system is suitable for installation on any sound and suitable sub-floor for tiling, typically concrete, plywood, or cement faced tile-backer boards. Some water-resistant composite boards may also be suitable. However, tiling directly onto hardboard, MDF, or standard grade chipboard is not recommended as these materials can absorb moisture and cause tile cracks or dislodgment.
- ✓ Note that when installing on a newly finished concrete screed, adhere to the necessary minimum drying out or 'curing' period, usually 1mm per day under favourable conditions, before proceeding with the installation.
- ✓ The electrical and electromagnetic fields generated by the system are negligible and well within all recommended European and International guidelines.
- ✓ To ensure proper installation, the heating mats must not overlap, and the heating cable **MUST NOT** be cut or crossed at any point. Furthermore, the joint between the heating cable, cold tail, and end joint **MUST** be positioned beneath the floor and encased in self-leveling or tile adhesive, without being taped over.

Professional Electrical Installation

The installation of electrical systems carries inherent risks of fire and electrical shock, which can lead to personal injury. Caution must always be exercised to safeguard against these risks. Only a qualified electrician should connect the heating mat/s to the thermostat and/or the electrical supply circuit.

All necessary electrical work for the installation, including tasks like wall chasing and installation of back boxes for fused spurs and thermostat placement, should be carried out with meticulous attention. It is vital to ensure that all electrical work adheres to current regulations and safety standards. Proper adherence to these regulations is essential for maintaining a safe and effective electrical system installation.

Megawarm[®] Underfloor Heating Systems

The heating system must be controlled through 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, can be employed. However, for systems surpassing 13 amps, a suitable protective device in compliance with regulations must be employed.

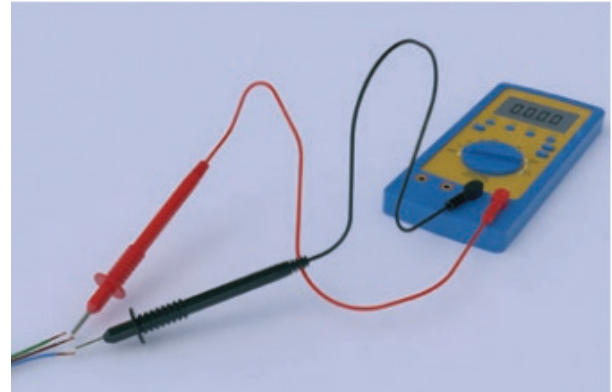
If you require technical guidance regarding the protective device selection or any other electrical installation queries, please feel free to contact us for assistance. When in doubt about the electrical installation, it is advisable to consult a fully qualified approved electrician.

For any uncertainties or inquiries related to the electrical installation, do not hesitate to reach out to our technical support center for further assistance and clarification. Your safety is of utmost importance, and we are here to aid you in achieving a secure and compliant installation.

Testing

Every Megawarm® mat undergoes rigorous testing at the factory and is appropriately packed to prevent damage during transit. However, despite these precautions, there is a possibility of damage occurring during storage, transportation, or installation. To ensure a smooth installation process, we highly recommend testing your mats at various stages:

- Test the mats after unpacking them but before proceeding with the installation.
- Test the mats again after they have been installed but before adding the floor covering (while the mats are still exposed).
- Perform a final test after the installation of the floor covering, but before connecting the thermostat.



A straightforward test involves visually inspecting the mat to ensure there is no visible damage to the heater, especially the cable component. Additionally, you can perform a simple electrical inspection using an ohm meter to verify that the ohm resistance matches the expected value (see page 9 for details). Keep in mind that the ohm resistance may vary depending on the ambient temperature, and an allowance of -10% to +10% from the nominal value is acceptable.

Furthermore, it is crucial to conduct an insulation resistance test at 500v DC, which should be carried out by a qualified electrician. Refer to the table on page 9 for the expected values when testing the mat.

By conducting these tests, you can ensure the integrity and safety of the heating system, enabling an effective and secure installation. If you have any uncertainties or questions during the testing process, do not hesitate to seek technical assistance from our team or a qualified electrician. Your safety and satisfaction are our top priorities.



Installation Instruction Steps

01

Ensure the sub-floor is sturdy and suitable for tiling, and free from dust and debris. For wooden sub-floors, reinforce them to prevent flexing and tile dislodging. Utilize appropriate materials like WBP or Marine plywood or insulated tile-backer boards for reinforcement. Bitumen bases must not have the heating mat directly installed on them. Instead, cover them with a suitable backerboard or a 3-5mm levelling compound before proceeding with the installation.



02

Apply the acrylic-based primer from the kit to prime the floor (note: not suitable for anhydrite screeds). Allow the primer to dry, typically for about 1-2 hours. During this time, avoid excessive foot traffic over the primed area. Priming is crucial to enhance the tape's adhesion and reduce moisture absorption into the sub-floor.

ALWAYS VERIFY with the tile adhesive/levelling compound manufacturer that the primer is compatible with their products. If you have any doubts or questions, feel free to contact our technical help center for assistance and guidance. Your satisfaction and successful installation are our top priorities.



Installation Instruction Steps

03

When using tile backer boards or XPS insulation boards, it is essential to meticulously follow the manufacturer's instructions. For tile backer boards, we recommend staggering them in a brick bond style during installation. Ensure the boards are affixed using appropriate flexible adhesives for solid floors. For wooden sub-floors, mechanically secure the boards at 300mm intervals using suitable screws and washers. Adhering to these guidelines ensures a proper and secure installation of the heating system with tile backer boards or XPS insulation boards, preventing potential issues and ensuring optimal performance.

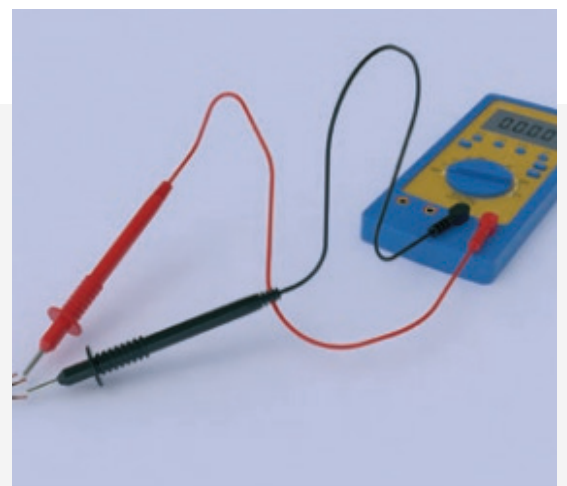


IMPORTANT:

- **DO NOT use XPS insulation boards on wooden sub-floors.**
- **DO NOT use ProFoam insulation boards with this heating system.**

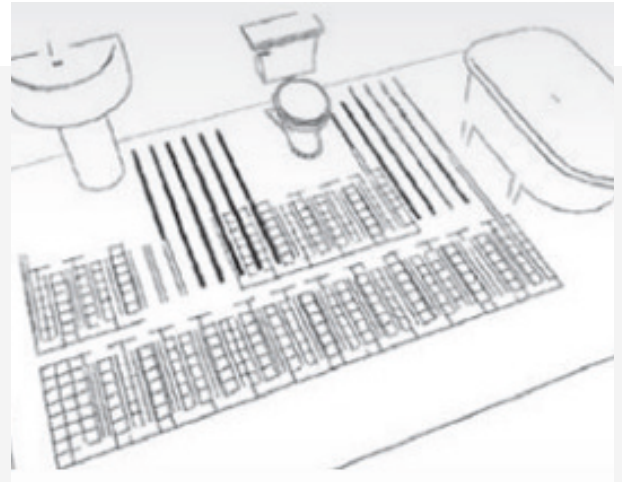
04

At this stage, we highly recommend referring to the testing procedure outlined on page 6. Taking the time to perform this testing is of the utmost importance. It ensures that the heating system functions safely and effectively, minimizing potential risks and ensuring your peace of mind. Please diligently follow the testing procedure to ensure a successful installation and optimal system performance.



05

Create a floor plan for the designated heated area and determine suitable positions for the fused spur and thermostat. Mark the underfloor heating mat layout on the plan. This step is crucial to ensure efficient mat utilization. Keep in mind that once the mat is unrolled, it cannot be returned. Execute this step accurately for a successful installation.



06

Commence the installation of the floor heating mat from the thermostat position. Unroll the mat and securely attach it to the floor. The mat's adhesive mesh facilitates easy attachment by pressing it onto the floor. If necessary, use the provided double-sided adhesive strips to hold the mat in place when turning it by 90 degrees. Additionally, you can use the provided cloth tape in areas with uneven flooring to ensure the mat lies flat.



IMPORTANT: Avoid using excessively long strips of tape along the mat's edges, as this can affect adhesive bonds. Prime any tape with suitable primer before applying adhesives.

Maintain a 50-100mm distance between the floor heating mat and the wall perimeter. When installing around complex shapes like toilets or sinks, you can detach the cable from the mesh matting and place it loosely on the floor to match the shape. Use minimal duct tape to secure it. However, never space the cable closer than 50mm between any two loops. Adhere to these guidelines for a successful and safe floor heating system installation.

Resistance Values

Twin Conductor 100W / m2/230 VOLTS

Width	Lenght	Area	Watts	Resistance	Width	Lenght	Area	Watts	Resistance
(M)	(M)	Sq.M	(W)	(Ohms)	(M)	(M)	Sq.M	(W)	(Ohms)
0.5	2	1	100	529.00	0.5	10	5	500	105.80
0.5	3	1.5	150	352.70	0.5	12	6	600	88.17
0.5	4	2	200	264.50	0.5	14	7	700	75.60
0.5	5	2.5	250	211.60	0.5	16	8	800	66.13
0.5	6	3	300	176.30	0.5	18	9	900	58.80
0.5	7	3.5	350	151.10	0.5	20	10	1000	52.90
0.5	8	4	400	132.30	0.5	22	11	1100	48.09
0.5	9	4.5	450	117.56	0.5	24	12	1200	44.08

Twin Conductor 150W / m2 / 230 VOLTS

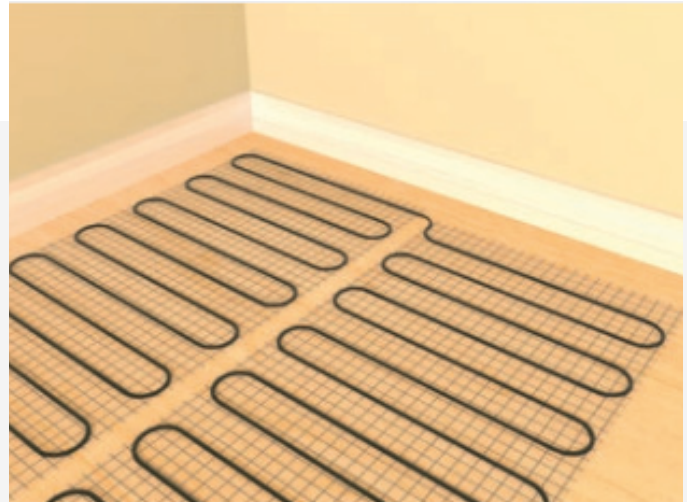
Width	Lenght	Area	Watts	Resistance	Width	Lenght	Area	Watts	Resistance
(M)	(M)	Sq.M	(W)	(Ohms)	(M)	(M)	Sq.M	(W)	(Ohms)
0.5	2	1	150	352.70	0.5	10	5	750	70.50
0.5	3	1.5	225	235.10	0.5	12	6	900	58.80
0.5	4	2	300	176.30	0.5	14	7	1050	50.40
0.5	5	2.5	375	141.10	0.5	16	8	1200	44.10
0.5	6	3	450	117.60	0.5	18	9	1350	39.20
0.5	7	3.5	525	100.80	0.5	20	10	1500	35.30
0.5	8	4	600	88.20	0.5	22	11	1650	32.06
0.5	9	4.5	675	78.37	0.5	24	12	1800	29.39

Twin Conductor 200W / m2 / 230 VOLTS

Width	Lenght	Area	Watts	Resistance	Width	Lenght	Area	Watts	Resistance
(M)	(M)	Sq.M	(W)	(Ohms)	(M)	(M)	Sq.M	(W)	(Ohms)
0.5	2	1	200	264.50	0.5	10	5	1000	52.90
0.5	3	1.5	300	176.30	0.5	12	6	1200	44.08
0.5	4	2	400	132.30	0.5	14	7	1400	37.79
0.5	5	2.5	500	105.80	0.5	16	8	1600	33.06
0.5	6	3	600	88.17	0.5	18	9	1800	29.39
0.5	7	3.5	700	75.57	0.5	20	10	2000	26.45
0.5	8	4	800	66.13	0.5	22	11	2200	24.05
0.5	9	4.5	900	58.79	0.5	24	12	2400	22.04

07

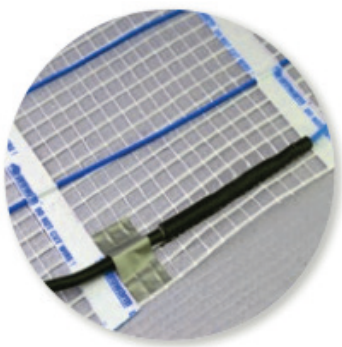
Upon reaching the room's end, you can cut the floor heating mat as illustrated. However, it is essential to emphasize that under no circumstances should the cables be cut.



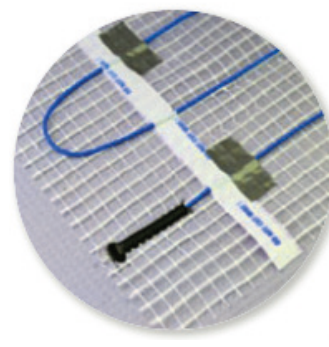
COLD TAIL AND END JOINT INSTALLATION

When installing the heating mat, pay special attention to the end joint and cold tail joint, referring to the connections between the supply lead and the heating mat. These joints have a larger diameter than the heating element, requiring you to create a small channel or groove in the subfloor or insulation board for accommodation. After installing them in the groove, avoid covering with tape, as this could create an air void hindering heat dispersion.

This can lead to overheating and system failure. Carefully follow these guidelines for a safe and dependable installation.



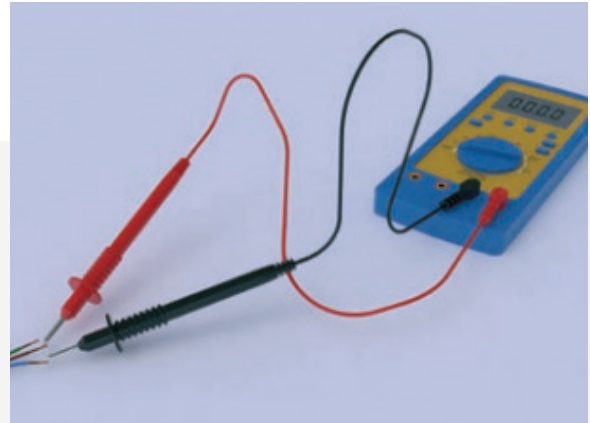
The cold tail joint can be secured in place by taping the cable either side of the joint, a small piece on the heating cable and a small piece on the cold tail. This will ensure the joint is NOT covered with tape.



The end joint can be secured in place by taping the red heating element just before the joint to help secure it in place. This will ensure the joint is NOT covered with tape. Both these heating joints MUST now be fully encapsulated within levelling compound and/or tile adhesive.

08

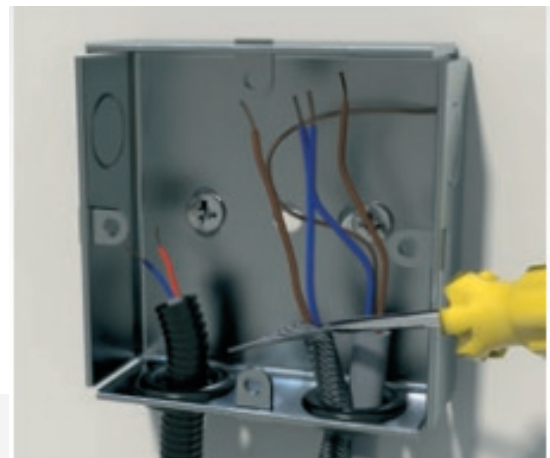
After installing the floor heating system, it's crucial to verify cable resistance and insulation resistance values. Ensure that these values align with pre-installation measurements. Document the measured values on the



guarantee certificate for future reference and warranty purposes. This step ensures correct installation and expected system functionality. By recording the values, you can track heating system performance and validate its efficiency over its lifespan.

09

Depending on the supplied mat type, the cold tail (black lead) may feature a solid earth cable or an earth braid wrapped around the internal cores. To separate the strands, use a screwdriver to unbraid the braid by pulling it down. Then, twist the strands into a single strand.



Next, connect the mat's earth to the incoming supply's earth using the earth terminal in the back box. If you're using a plastic box without a terminal, use a suitable terminal block. After completing these steps, a qualified electrician must conduct an insulation resistance test at 500v DC.



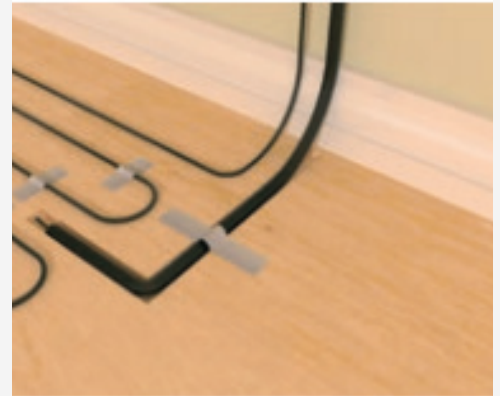
Finally, proceed to make the remaining thermostat connections as per the provided separate instructions.

10

Position the sensor within the provided black conduit, starting from the thermostat location and running it down between two cable pathways. Securely affix the sensor in place using tape. If you are employing insulation boards, cut them to accommodate the conduit. Alternatively, if you are directly installing onto plywood, create a groove using a sharp chisel (exercise caution around pipes).

For a cleaner installation, position the connection point between the heating cable and the cold tail inside a floor groove, as it can be cumbersome and challenging to tile over. You have the flexibility to adjust the sensor wire's length by either shortening or lengthening it. However, when trimming the sensor wire, only trim the end containing exposed wires.

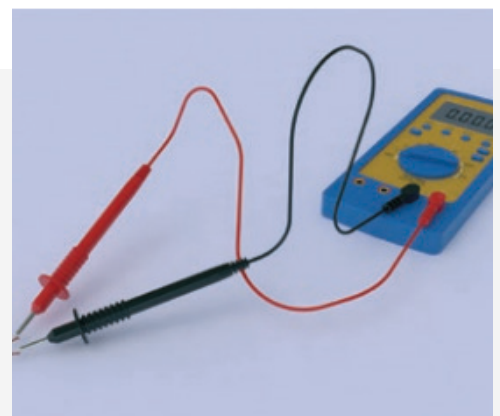
IMPORTANT: DO NOT cut the end housing the plastic sensor. With the sensor properly positioned and the wire adjusted to the desired length, proceed to establish the necessary connections to the thermostat.



11

After making the connections, it is crucial to reevaluate the cable's resistance using a multimeter. This step ensures that the cable's electrical characteristics fall within the expected range. Additionally, perform an insulation resistance test to confirm that the cable is devoid of damage or defects. This test examines

the cable's insulation integrity and identifies potential issues that may have arisen during installation or handling. By conducting both tests, you can confirm the overall health and safety of the cable before progressing further.

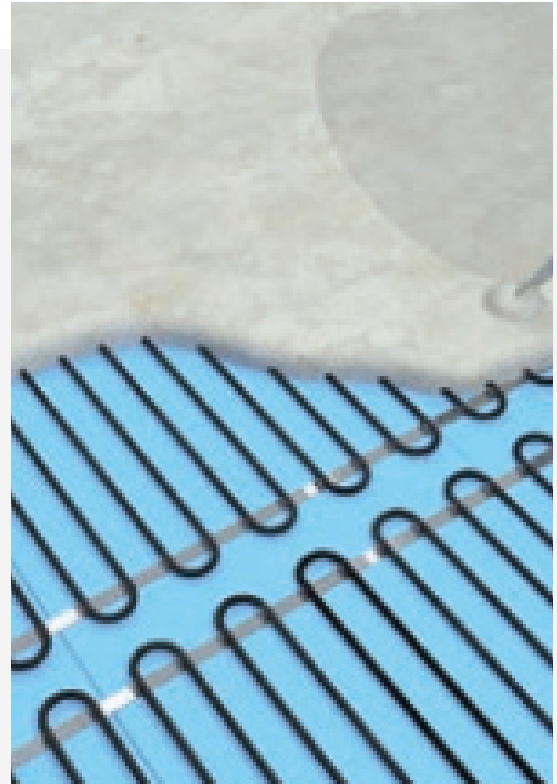


12

If feasible, apply a thin layer (5-6mm) of suitable latex-based levelling compound to encase the cables. This protective layer serves to shield the cables during the tiling process. Alternatively, you can tile directly over the cables, but exercise extra caution to prevent displacing or damaging them.

However, if your final floor covering will be appropriate vinyl, carpet, engineered wood, or laminate, we recommend applying a minimum of 8mm of suitable latex levelling compound to ensure uniform heat distribution over the heating mat and cables.

Now, proceed to lay your flooring following



the instructions provided by the floor manufacturer. Please consult the adhesive manufacturer's recommendations for drying times before activating your heating system. Typically, drying times range around 7 days. Upon initiating the heating system, gradually raise the floor temperature by 1-2 degrees per day over a 2-week period to mitigate the risk of rapid drying. If any doubts or queries arise, it's advisable to seek advice from adhesive and latex manufacturers.

13

For tiling the floor, utilize a flexible tile adhesive and grout in accordance with industry standards and the conditions outlined by the tile manufacturers. After tiling, wait for a minimum of 1 week before activating the heating system. This waiting period allows ample time for proper drying of the adhesive and grout. Keep in mind that initial heating response may be gradual, especially if installed on a new screed floor or in a new building. To avert any complications, initiate by setting the floor temperature to approximately 18°C and progressively increase it by 1°C per day until reaching the desired temperature.

For detailed instructions on connecting and operating the digital thermostat, please refer to the dedicated instructions provided for the thermostat.

Do's and Dont's for Installation

- ✔ **Do** read through these instructions carefully before beginning work.
- ✔ **Do** use flexible adhesives and grouts.
- ✔ **Do** test the cable before tiling.
- ✔ **Do** be careful not to damage or dislodge the cable during tiling.
- ✔ **Do** ensure the cable is spaced no closer than 50mm between loops.
- ✔ **Do** try to protect the cable with cardboard or carpet during tiling.
- ✔ **Do** wait at least 7 days before turning on the system.
- ✔ **Do** read the separate installation and operating instructions for the thermostat.
- ✔ **Do** ensure the joint between the cold tails and heating cable is beneath the tiles.

- ✘ **Don't** attempt to cut the heating cable at any point.
- ✘ **Don't** allow the wires to cross or touch.
- ✘ **Don't** allow excessive foot traffic over the wire before tiling.
- ✘ **Don't** cut tiles over the heating cable.
- ✘ **Don't** place tools or stacks of tiles on top of cable.
- ✘ **Don't** place any product over the floor covering that has a higher tog value than 2.5.
- ✘ **Don't** place any bean bags or fixed furniture over the floor covering.
- ✘ **Don't** place cable closer than 100mm near any pipes.
- ✘ **Don't** turn on the heating mat/cable while it is rolled up or still on the drum.
- ✘ **Don't** tape over the end joint or the cold tail joint

! IMPORTANT

Please ensure that the cold tail joint (the join between the heating cable and flexible supply lead) is fully encapsulated in adhesive or levelling compound underneath the floor covering. Please ensure that the end joint (the join at the end of the cable which is black) is also fully encapsulated in tile adhesive or levelling compound underneath the floor covering. Both the cold tail joint and end joint **MUST NOT** be covered with tape, this can cause the cable to overheat and eventually fail!

DO NOT BEND THE COLD TAIL JOINT AT ANY POINT

Safety Guidelines

This installation manual prioritizes your safety. To ensure a successful installation, it's imperative to fully comprehend the guidelines and adhere to all provided instructions.

IMPORTANT

1. **Do NOT** place flat-bottomed furniture over areas where the Megawarm[®] heating mat/cable is installed. Such placement can obstruct floor airflow, resulting in thermal obstruction. In extreme cases, this might cause the cable to overheat, posing a potential fire hazard.
2. Avoid placing rugs, bean bags, or items with a tog value exceeding 2.5 over heated areas.
3. Ensure completion of the supplied Commissioning Record, which incorporates a floor plan sketch indicating heated regions. This record must be permanently affixed 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!

