klima
underfloor heating systems

ELECTRIC UNDER WOOD HEATING MAT

INSTALLATION INSTRUCTIONS

KLIMA.CO.UK

Dear Customer,

Congratulations on the purchase of this KLIMA product. The KLIMA foil mat has been manufactured from high quality, durable materials. To guarantee the optimum function of your product, you must read and follow these Installation instructions and points of attention. We can only offer you the full guarantee if the Klima Foil Mat is correctly installed in accordance with the installation instructions. Carefully read these instructions prior to installation and make sure you use the correct tools and materials. You must have the electrical installation carried out by a qualified electrician in accordance with the IEE regulations who must also complete the rear page of this booklet including noting the unique serial number of the mat and the readings taken during installation as this will validate any warranty claim.

Technical data:
Cable type: Double-conductor heating cable with earthing shield.
Construction: Multi-stranded heating cable with double insulation, earthing shields

Nominal voltage	: 230 Volts
Nominal capacity	: 140W/m^2
Connecting wire	: 3 x 1.5 mm^2
Connecting wire	: 5 metres length
Cable diameter	: 3 mm
Wattage per m^1	: 10.5 Watt
Cable standard	: IEC800 class II
Guarantee	: 10 years

1. Check:

Before you start, check the contents of the package.
- Heating mat
- Control card
- Flexible sensor tube
- Installation instructions

Thermostat including floor sensor must be purchased separately. It must be set to a maximum temperature of 28 degrees Celsius.

Klima Underfloor Heating
Karelia House, Keltneyburn, Comrie Bridge
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2. Measurement data:

Type	Watt	Size	Amp	Ohm
1 m^2	140 W	0,5x2m	0,6	378
2 m^2	280 W	0,5x4m	1,2	189
3 m^2	420 W	0,5x6m	1,8	126
4 m^2	560 W	0,5x8m	2,4	94
5 m^2	700 W	0,5x10m	3,0	76
6 m^2	840 W	0,5x12m	3,7	63
7 m^2	980 W	0,5x14m	4,3	54
8 m^2	1120 W	0,5x16m	4,9	47
9 m^2	1260 W	0,5x18m	5,5	42
10 m^2	1400 W	0,5x20m	6,1	38

3. Points of attention:

This product is ONLY suitable for installation under so-called dry floor coverings - Click together laminate or Engineered Wooden flooring). The sub floor on which the PS insulation is to be laid on must be must be sufficiently solid and pressure-resistant and the heating system must be laid on top of a PS Insulation material min 5mm thickness.

Check beforehand whether the surface of the heating mat corresponds to the free floor area to be heated and whether sufficient current capacity (Amps) is available. **WE WILL NOT ACCEPT RETURNS IF THE OUTER SEALED PACKING OF THE MAT HAS BEEN OPENED.**

During Installation and other work, be careful of sharp objects that may damage the heating cable.

You should check the mat between and after each work step (See point 7) and fill in the measured values on the middle page. Keep this completed page in your meter cupboard, as this is required for any warranty claim.

The Heating cables must never be laid on top of each other and must not cross each other. If multiple mats are in a space, they must be wired in parallel and a suitably rated junction box may be incorporated so that only one power cable runs to the thermostat. Maximum capacity of the thermostat is 16 Amps, if the combine Amperage of the mats exceed 16 Amps then a suitably rated contactor must be used. The thermostat may only be installed by a qualified Electrician in accordance with IEE regulations. We recommend if wiring 3 or more mats in parallel via a contactor that at least 1 of the mats is wired directly into the thermostat.

The connection cable may be extended or shortened, always leaving a minimum of 0.5 metres of connection wire. The heating cable must **NOT BE CUT OR SHORTENED**. The mats must not be laid on top of each other and the heating cables must never cross each other! The warm/cold cable junction lies just inside the heating mat.

The sensor cable may be extended or shortened. The sensor must be installed in the middle of a heating loop for optimal temperature recording. The sensor (tube) may also not cross heating cables. Make sure that the sensor is mounted at distance (min. 50 cm) from (hidden) radiator and water pipes, drains and electricity cables. The sensor should always remain in the sensor tube. Cap the end of the tube to prevent the sensor from getting stuck during processing. If the sensor ever needs to be replaced, it can be easily removed.

The Foil Mat should never be placed under fixed objects such as wall units, kitchen units and must be able to give off its heat unhindered. In general, a wall clearance of 50 mm should be maintained.

IMPORTANT: Cover all exposed heating cables (which are visible when the Foil Mat is turned over) at the top and bottom with Aluminum tape. This will ensure that the mat's earth jacket remains intact.

The power supply must remain disconnected during installation.

Connection must be made via an RCD switch in accordance with the NEN 1010 installation standards. If several mats are installed in a room, a suitable rated junction box can be placed in front of the power point so that only one power cable runs to the thermostat. The maximum connection capacity of the thermostat is 16 Amps. It is recommended that the thermostat does not exceed a temperature of 28 degrees Celsius.

4. Required materials:

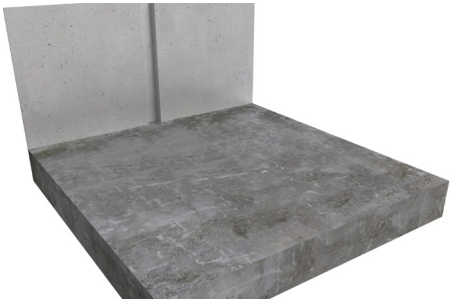
- An underfloor heating system
- Approx. 2m (flexible) electrical conduit (16 mm)
- Electricity box (min 50 mm deep)
- Power point with earthing
- A multimeter to test the mat between all work steps
- Scissors
- Aluminium tape

5. Preparations:

Determine the place where the thermostat is to be installed, using a standard flush-mounting box with a minimum depth of 50 mm. Preferably at a height of 1.40 m for ease of use. Cut the necessary slots and install the flush-mounting box, electrical conduit and floor sensor conduit. Then the floor sensor must be located within its own conduit pipe. We always recommend the mat is installed upon a PS type of insulation designed for under wood flooring with a minimum thickness of 5mm.

6. Substrate:

Make sure the surface on which the mat is to be installed is flat, clean, and free of dust and grease. Always pay attention to the points of attention mentioned in chapter 3 and a minimum of 5mm PS insulation type underlay is laid.

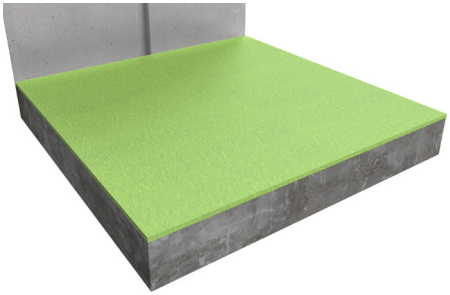


7. Check resistance values:

You must check the mat between and after each step using a multimeter and fill in the measured values on the back page. Measure between the resistance wires and use the table shown in point 2. The Ohms value may deviate max. 10%. Also measure between the resistance wire and the ground sleeve. The meter must not turn off during this measurement.
Keep the completed card and completed Instruction Manual in your meter cupboard. It is part of your guarantee.

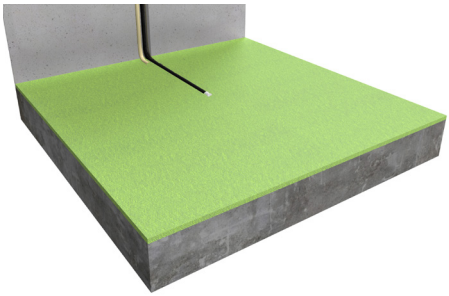
8. Apply PS insulation:

First place PS floor insulation of minimum thickness of 5mm. This must cover the entire floor area! Tape the sheets down to prevent the insulation from moving. Make sure the floor is clean and that no sharp objects can come into contact with or fall onto the heating mat during installation.



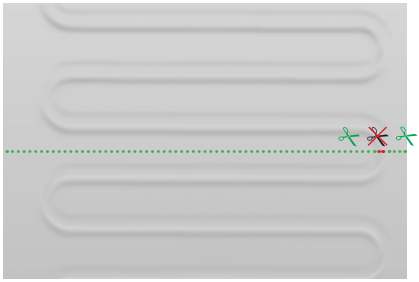
9. Sensor placement:

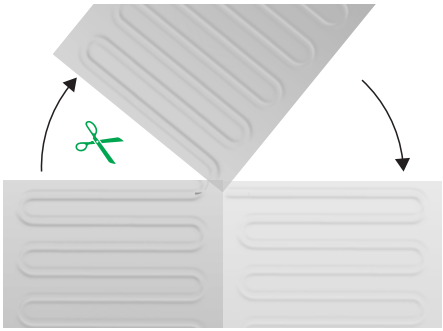
Cut a trench out of the PS insulation and subfloor for the floor sensor tube, place the sensor tube incl. floor sensor and tape it down. When placing the Foil Mat, make sure that the sensor is exactly between 2 cable loops. CAUTION: Never place the sensor near a (concealed) radiator pipe - min distance away 50cm, and never mount it crosswise under a heating cable!



10. Fitting the mat:

(Important details on page 6) when rolling out the mat, maintain a minimum gap of 50mm from wall's & fixed furniture. If the mat is not at the required length, it can be cut and rotated to run back along itself in parallel e.g. by cutting the mat without damaging the heating cable. This can be repeated several times. Once the mat has been laid, test it again using the multimeter. Please ensure that Aluminum tape is applied to the width of the mat where it has been cut and rotated.

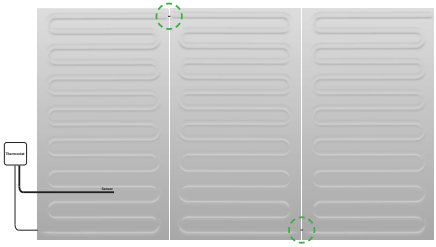


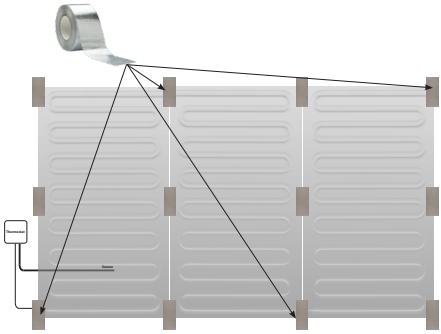


11. Finishing:

IMPORTANT: Cover all exposed heating cables (which are visible when the FoilMat is turned over) at the top and bottom with Aluminium tape. This leaves the mat's protective earth intact.

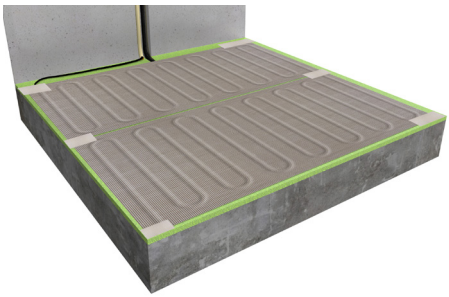
You can then use the same tape to fix the FoilMat to the subfloor. Then lay the laminate or wooden floorboards according to the manufacturer's instructions and finish.

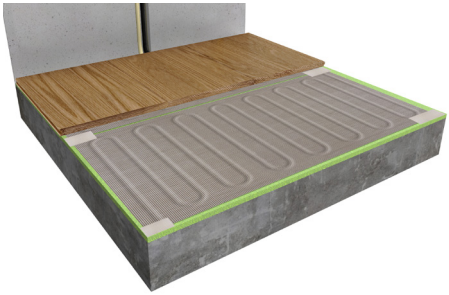




12. Connecting thermostat:

Any Connection must be carried out by a suitably qualified heating engineer in accordance with local regulations. Before installing the controller, always switch off the electricity in the meter cupboard. For installation, operation and programming of the thermostat, please refer to the instructions enclosed with the thermostat. We always recommend installing via a suitable rated dedicated RCD.





ATTENTION!

A 230 VOLT HEATING IS SYSTEM INSTALLED UNDERNEATH THE FLOORING! NEVER DRILL OR SCREW INTO THE FLOOR! SEE LAYOUT DIAGRAM ON NEXT PAGE FOR THE POSITION OF THE UNDERFLOOR HEATING SYSTEM

Under Wood Heating mat installed in: .....

Resistance readings:
A: Between centre core wires (within 10% margin!)
B: Between centre core wire #1 and the earth (This should read "indefinite/overload")
C: Between centre core wire #2 and the earth (This should read "indefinite/overload")

Initial Reading:	**Mat/Cable Laid:**	**After completion:**
A:.....Ohm	A:.....Ohm	A:.....Ohm
B:.....Ohm	B:.....Ohm	B:.....Ohm
C:.....Ohm	C:.....Ohm	C:.....Ohm

Installer	**Date**	**Signature**
.....	...../...../20.....	.....

KEEP THIS COMPLETED MANUAL AND YOUR COMPLETED CONTROL CHECK IN THE METER CUPBOARD AS WE WILL NEED THESE FOR ANY WARRANTY CLAIMS

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