

HEATING MAT LAYOUT SCHEME

MATEC – ELECTRIC HEATING SYSTEMS

INSTALLATION INSTRUCTION

HEATING MAT: SINGLE-SIDE POWER SUPPLY MOJ / TWO-SIDE POWER SUPPLY MOD 150 W/m²
FLOOR HEATING SET: STANDARD ZOD / STANDARD ZOJ PLUS WITH HEATING MAT 150 W/m²

zamel

ZAMEL Sp. z o.o.
ul. Zielona 27, 43-200 Pszczyna, Poland
tel. +48 32 449 15 00, +48 32 210 46 65, fax +48 (32) 210 80 04
www.zamel.com, e-mail: marketing@zamel.pl

DESCRIPTION

Heating Mats: single-side power supply (MOJ 150W/m²) and two-side power supply (MOD 150W/m²) are used to heat floors made of thin concrete floor topping. They are used to warm floors, to assure the „warm floor” effect. In buildings with a very good insulation parameters the mats can provide primary heating system.

They are sold either separately or in sets. Available mat sizes: width - 0,5 m, length - 2 ÷ 30 m. Heating cables are laid on a mesh made of plastic and secured to it by means of an adhesive tapes. There is a possibility to mount two or more mats in the same room. In such case the mats must be joined in a parallel way.

Heating Mat set includes:

- heating mat single-side power supply MOJ / two-side power supply MOD 150W/m²,
- protective corrugated pipe of power supply cable,
- electrical junction box,
- mounting instruction with Warranty Card.

Standard ZOD set includes:

- heating mat two-side powered MOD 150W/m²,
- temperature controller RTS-01A,
- protective corrugated pipe of temperature controller with a hole plug,
- protective corrugated pipe of power supply cable,
- electrical junction box
- mounting instruction with Warranty Card.

Standard Plus ZOJ set includes:

- heating mat single-side powered MOJ 150w/m²
- temperature controller RTP-01,
- protective corrugated pipe of temperature controller with a hole plug,
- protective corrugated pipe of power supply cable,
- electrical junction box
- mounting instruction with Warranty Card.



The device is designed for single-phase installation and must be installed in accordance with standards valid in a particular country. The device should be connected according to the details included in this operating manual. Installation, connection and control should be carried out by a qualified electrician staff, who act in accordance with the service manual and the device functions. In case of casing dismantling an electric shock may occur, and the guarantee is lost then. Before installation make sure the connection cables are not under voltage. The cruciform head screwdriver 3.5 mm should be used to install the device. Improper transport, storage, and use of the device influence its wrong functioning. It is not advisable to instal the device in the following cases: if any device part is missing or the device is damaged or deformed. In case of improper functioning of the device contact the producer.



The symbol means selective collecting of electrical and electronic equipment. It is forbidden to put the used equipment together with other waste.

TEMPERATURE CONTROLLER CHOICE

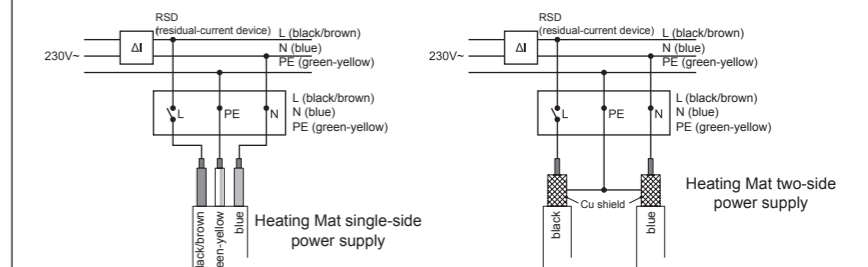
Temperature controller is an essential element used to control floor or air temperature. It is used to connect the Heating Mat with electric installation. It is important to choose correct controller to a chosen Heating Mat application:

1. If the Heating Mat is used to warm floors and the controller should control floor temperature it is important to use a temperature controller with floor sensor.
2. If the Heating Mat is the primary heating source it is important to use a temperature controller which controls air by means of „air sensor” with floor sensor, which secures floor against overheating. Choose a temperature controller in accordance with connected mat/mats' power. To control temperature use a temperature controller which keeps constant temperature or a regulator with a programmer which allows for adjustment, e.g. weekly heating schedule.

Cautions:

- During installation it is required to follow instructions included in Heating Mat Installation Manual.
- Temperature controller installation must be done according to Thermoregulator Installation Manual.
- It is forbidden to drill holes in the subfloor or to place plugs, screws in it or other fastening elements.
- Heating unit cannot be mounted on non-uniform base.
- Ensure the sub-floor is dust and sharp elements free.
- Don't install the mat if the ambient temperature is below 5 °C.
- Don't cut, shorten the heating cable or its connection with power supply cable. The mesh can be cut. Only the power supply cable can be shortened.
- The mat should not undergo excessive strain and should be protected against sharp device damage.
- Mats should not be placed on bases with fixed arrangements (e.g. under a shower or bath).
- Do ensure the Heating Mat is more than 50 cm away from other heating sources.
- Mat's resistance should be measured twice: after laying on a sub-floor and after putting glue/concrete on it.
- Make a schema or take photos of mat layout, power supply cable and connection place of the heating cable with the „cold joint”. The schema or photos are an integral part of the as-built documentation.
- Heating unit must be supplied by means of a device from TN-S electric circuit with RCD (residual-current device) of nominal power supply lower than 30 mA. The installation should have surge protection.

Heating Mat connection schema to electric installation by means of a temperature controller:



Connection of Heating Mat with a temperature controller i junction box should be done according to the schema described in the instruction of the temperature controller.

Remarks:

- The heating cable not detachable must not be exchanged. If this conductor is damaged the equipment is useless. The power supply conductor can be shortened to the demanded length essential to temperature controller mounting.
- The device is not intended to be used by people (children) with limited physical, feeling or psychic ability or people without experience or without the device knowledge unless it is under supervision of a person responsible for safety or according to installation manual.
- Pay attention to children - they must not play with the device.

TECHNICAL DATA

MAT	MOJ 150 W/m ²	MOD 150 W/m ²
Rated voltage:	230V~ / 50Hz	
Unit power:	150 W/m ²	
Operating temperature:	80 °C	
Power supply:	single-side	two-side
Heating cable:	two-wire with a shield heating cable ended with power supply conductor at one end	single wire with a shield heating cable ended with power supply conductors at both ends

Caution: Heating Mat resistance value can differ -5% / +10% from nominal resistance value

INSTALLATION

1. Before purchase measure the surface you want to heat.

2. Choose a mat which is appropriate to the surface and to its application.

3. Unpack particular elements and inspect visually of what you have received.

4. Make a schema or take photos on the basis of the

planned layout of the mat in the room. Mark the place for the flash box for the temperature controller, power supply and the floor sensor with cable in the flexible protection conduit. (Fig. 1)

5. Check the mat resistance based on the value given on the label.

6. According to the schema mount the junction box (the temperature controller will be mounted there later).

7. Lead a three-wire power supply cable to the junction box.

8. Prepare the bottom of the junction box to connect two protection corrugated pipes (protection of mat supplying cable and of floor temperature sensor). Make grooves in the wall and in the sub-floor for the protection corrugated pipes. The pipes can not be bended at the angle of 90 °C. The advised minimum radius of pipe bending should be equal with 5 times the outer diameter of the protection corrugated pipe (Fig. 2). The temperature controller protection corrugated pipe should be mounted in such a way to be just beneath the Heating Mat. The sensor led out from the protection corrugated pipe must be secured with a hole plug and placed in the middle part between two sections of a heating wire, it must be minimum 0,5 m away from the heating zone edge (Fig. 3).

9. Lead the temperature controller with the cable through the protection corrugated pipe. Place a hole plug.

10. Make sure the sub-floor is levelled before placing the Mat. The sub-floor should be dust and sharp elements free.

11. Place the Heating Mat on the concrete sub-floor according to the previously prepared scheme of how you intend to fit the mat. The mat should be placed under „cold joints” and a power supply cable which are thicker than the Mat. In order to keep the surface level of the sub-floor it may be necessary to chisel the sub-floor in some places. Next, lead cables and power supply cables in the protection corrugated pipe to the junction box. To lead the cables into the pipe „PILOT..” can be used. Do not pull or stretch the wires in order to avoid damage of the cold „joint” connection with the heating cable. After the mat is laid the resistance measurement of the heating and power supply cables should be tested. The result should be written in a Warranty Card.

12. On such a floor you can spread adhesive/concrete, put tiles or another form of floor covering. The heating cable, power supply cable and protection corrugated pipes should be completely covered with adhesive/concrete layer at least 5 mm thick.

13. After the floor is laid and before the mat is connected to the electric installation, the Mat resistance measurement must be repeated by means of a temperature controller. In case of two-side power supply mats screen continuity should also be checked. The results should be written in the Warranty Card. Heating Mat connection to the electric installation should be done by a qualified electrician.

Heating Mat connection to the electric installation should be done by a qualified electrician. Installation must be strictly compliant with current IEE wiring regulations and installations.

OPERATION:

Heating system operation is limited to switching on the temperature controller and temperature adjustment.

Fig. 1 Examples of possible shapes of the mat.

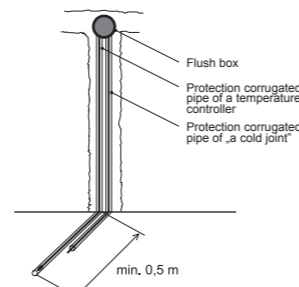
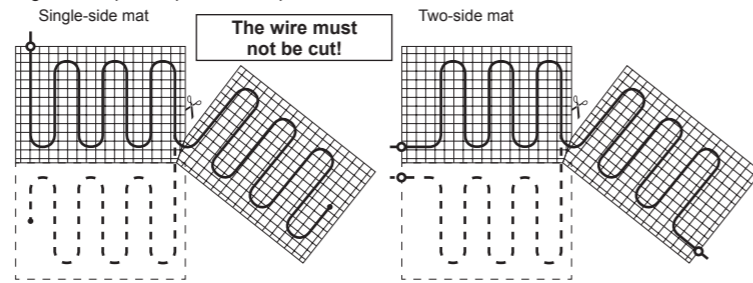


Fig. 2

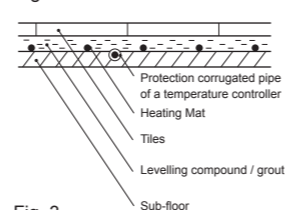


Fig. 3

WARRANTY

Electric heating systems MATEC (heating mats, temperature controllers) manufactured and supplied by ZAMEL Sp. z o.o. are compliant with current standards in the Company and binding norms in Poland. The warranty includes all MATEC products under the condition of proper storage, transport, installation and operation according to binding norms.

There is 10 years warranty for MATEC products and 2 years warranty for temperature controllers, and the warranty concerns defects made by the manufacturer itself.

GENERAL WARRANTY CONDITIONS AND CLAIM CONSIDERATION BY ZAMEL Sp. z o.o.

- ZAMEL Sp. z o.o. assures warranty for MATEC products. There is 10 years warranty for the Heating Mats products and 2 years warranty for temperature controllers. Warranty time starts at the moment of product sell by ZAMEL Sp. z o.o. to the Purchaser. Be able to provide as a proof of purchase of the Heating Mat an invoice by ZAMEL Sp. z o.o.
- ZAMEL Sp. z o.o. shall process the claim at its own discretion.
- The purchaser must inform about the claim which will be considered within 14 workdays only after proper claim notification. The PURCHASER shall lay any claims in writing to the Authorised Point or ZAMEL Sp. z o.o. only on presentation of an invoice (or its number and date of issue) and Warranty Card properly filled.
- The properly filled Warranty Card should include the installation scheme or photo of the Heating Mat layout. The scheme must include:
 - Heating Mat layout with distances from walls and permanent units,
 - The position of the temperature controller and power supply cables (with distances).
- The claim consideration of a Purchaser is at the moment of a completely installed product. Then ZAMEL Sp. z o.o. makes inspection and necessary measurements in the product installation place. In case ZAMEL Sp. z o.o. is not the manufacturer of the claimed product or in case the claim is deemed void by ZAMEL Sp. z o.o., the Purchaser will bear all the costs connected with claim consideration.
- When your Warranty is invoked, your damaged product will either be repaired or replaced free of charge to yourself by ZAMEL Sp. z o.o.
- The manufacturer warranty is not valid in below cases:
 - damage caused by unauthorised modifications made by the PURCHASER or any third parties to the product
 - mechanical damage of the device
 - wrong power supply
 - electric installation which is not compliant with current IEE wiring regulations and installations
 - damage caused by incorrect product mounting - not according with MATEC Installation Manual.
- In case of product claim by an indirect Purchaser of ZAMEL products, the Purchaser is obliged to present the claim to the Supplier (where the product was purchased).

CAUTION: The electrician is obliged to present and supply the user with as-built documents and a completely filled Warranty Card.

WARRANTY CARD

ZAMEL sp. z o.o.

INSTALLATION PLACE

Post code, city/town

Street, Home/Flat No

Telephone

DETAILS OF INSTALLATION (FILLED BY THE ELECTRICIAN)

Electrician Name/Surname

Telephone

No. of a Certified Electrician / Expire date of a Certified Electrician

Installation date

Resistance measurement results of the Heating Mat:

After the mat was laid (before floor covering) [Ω]:

Before temperature controller installation (after floor covering) [Ω]:

Screen continuity (refers to MOD mats)

Signature / stamp

Place for the Heating Mat label

No. of a Certified Electrician