

A DRAFT OR A PHOTO OF THE HEATING MAT WITH A SUPPLY CABLE AND ACCESSORIES



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REMARKS

- During installation it is required to follow instructions included in the Heating Mat Manual Instruction.
- The temperature controller installation must be done according to its Installation Manual.
- It is forbidden to mount the cable on pins, bolts, screws or other fixing elements that can damage the outer coating of cables.
- The cable installation base must be smooth with no sharp edges or sharp fixing elements.
- Heating unit cannot be mounted on non-uniform bases.
- The backfill of sand and stones must not be sharp.
- The GMPD heating cables should be installed between the expansion joints, it means one heating cable module per one plate.
- The resistance heating cable should not be installed in places with permanent building.
- The heating cable resistance must be measured at least 3 times: before starting the installation works, after arranging the heating mat on a heating surface and before laying the top surface and after arranging the top, outdoor layer e.g. cobblestone.
- Don't install the heating mat GMPD if the ambient temperature is below + 5°C.
- Don't cut the heating cable or its connection with power supply cable. Only the supply cable can be shortened. The mat's tape can be notched.
- The heating cable, cable box and the supply cable should not undergo excessive strain and should be protected against sharp device damage.
- 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.
- The heating cables must not come into contact, cross with each other or other cables. The minimum distance between the heating cables must not be less than 6 cm.
- 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.
- The heating cable cannot be permanently immersed in any liquid.
- The heating cable must be used in accordance with manufacturer's specifications.
- The cable is not designed to be placed under asphalt surface.

DESCRIPTION

Heating mats type GMPD are used against icing for ramps and other passageways. They are laid under the outdoor surfaces preserving the middle layer of sand base or lean concrete. These mats are not applied under asphalt. The heating cables must be installed with a temperature controller equipped with a temperature sensor, temperature and humidity sensors, or ice and snow sensors. The GMPD heating mats are designed to operate outdoor and to operate at 230 V AC nominal voltage and 300 W/m². The heating cable with power supply cable is connected to 230 V AC by means of a temperature regulator.

- GMPD heating mat – the set includes:**
- one-sided power supply heating cable on a 300 W/m² mat, connected with power supply cable („cold”),
 - installation instruction with the Warranty Card.

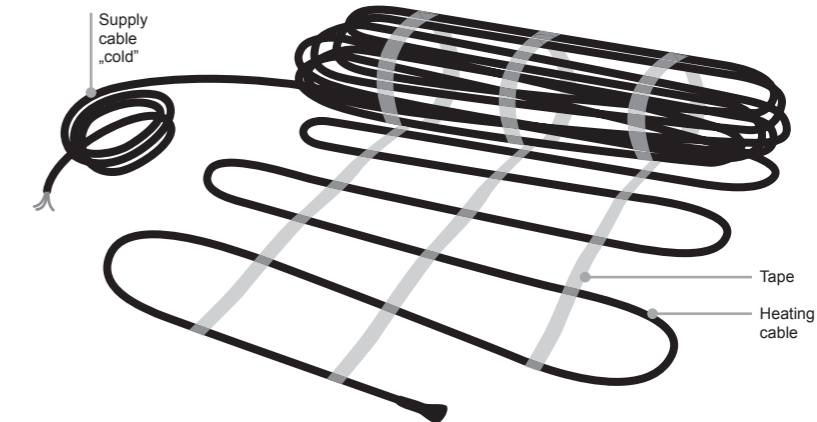


Fig. GMPD heating mat

A temperature controller is an essential element used to control the temperature of the heating mat GMPD. It is used to connect the heating cable with the electric installation. It is important to choose a temperature controller with regard to the heating cable power, its location place and with regard to the place of the measuring sensors. Depending on the function the heating system with a temperature controller shall realise, the following sensors are applied: temperature sensors, ice and snow sensors, temperature and humidity sensors.

The connection of a temperature controller should be carried out in accordance with a diagram described in the Temperature Regulator Manual Instruction.

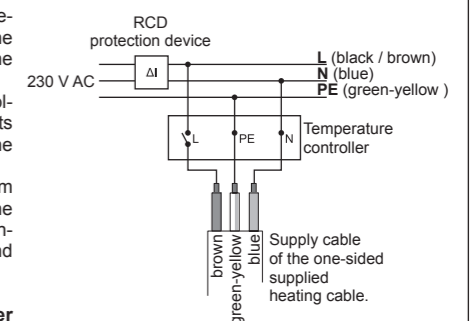


Fig. A connection diagram of the GMPD heating cable by means of a temperature regulator to the electrical installation

TECHNICAL DATA

Heating mat type:	GMPD
Mat width:	50 cm
Mat surface:	2 ÷ 6 m ²
Power supply voltage:	230 V AC / 50 Hz
Unit power:	300 W/m
Operating temperature:	80 °C
Supply type:	one-sided
Heating cable:	two-wire, shielded

The heating cable is ended with H05VV-F 3G1,5mm² power supply cable at one side.

INSTALLATION

1. Before purchase, measure the surface the heating mat will be applied to.
2. Choose a mat of a required heating surface.
3. Make a draft of the heating mat arrangement. Specify and mark the installation place of the temperature regulator, electric supply and sensors.
4. Unpack particular elements and inspect visually of what you have received.
5. Check the heating cable resistance with the supply cable based on the value given on the label. Write it down in the Warranty Card.
6. Prepare the connection place of the heating cable and a temperature regulator to the electrical installation.
7. Prepare the protection corrugated pipes for the separate insertion of: a supply cable of the heating cable and a sensor's signalling cable.
8. Prepare the driveway or passageway foundation, e.g., of lean concrete.
9. Clean the foundation of sharp and dangerous items.
10. Arrange the heating mat on this surface. During laying the heating mat the TMS-01 mounting tape can be applied. A distance between successive runs of the heating cable must not be less than 6 cm. It is possible to shape the heating mat by cutting its tape. However the heating cable and the cable joint box must not be cut. The supply cable („cold”) can be shortened.
 - The radius of the heating cable bending shall not be less than 10 times of its diameter.
 - The heating cables must not come into contact or cross with each other.
 - Do not pull or stretch the wires in order to avoid damage of the cold „joint” connection of the supply cable with the heating cable.
 - In case the heating cable is mounted in the concrete, then the cable must not be deeper than 10cm under the heated surface. The recommended concrete depth is about 5 ÷ 6 cm.

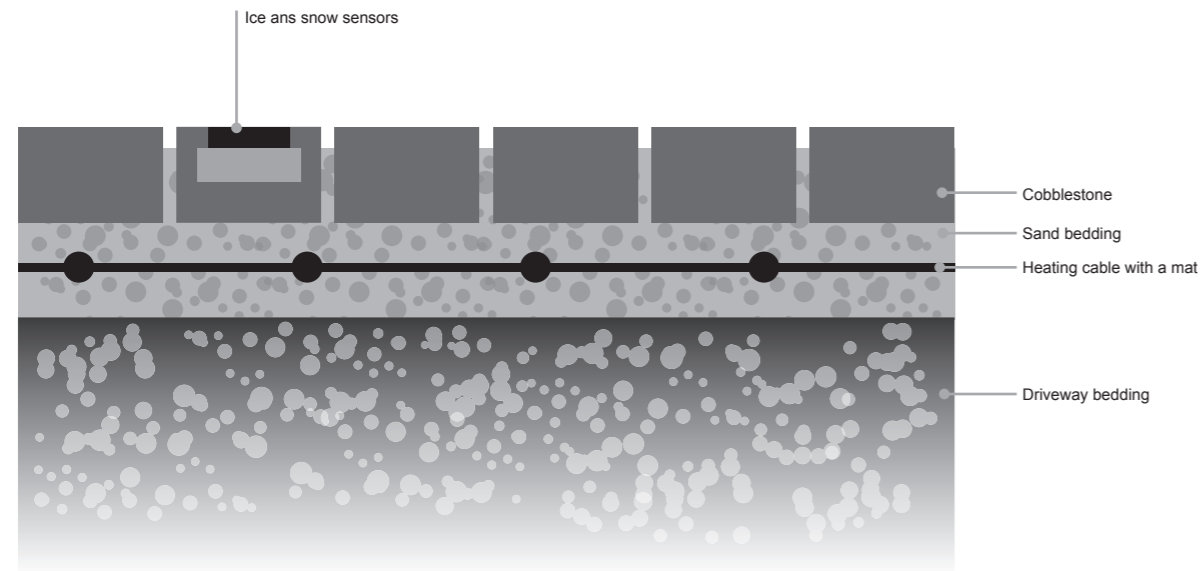


Fig. An exemplary cross section of the driveway made of cobblestone

11. Put the power supply cable through the protection corrugated pipe to the installation place. Pay attention the protection corrugated pipe does not get damaged.
12. In a chosen place (according to a temperature regulator manual instruction) mount appropriate sensors to the temperature controller.
13. On the basis of the mat arrangement carry out a draft of the heating mat, muffs and the „neutral” supply cable. Specify and mark the installation place with a temperature controller, power supply and sensors. A draft or pictures are an integral part of the as-built documentation.
14. Measure the resistance of the heating cable. Write it down in the Warranty Card.
15. Cover the heating cable with sand bed or cement-sand. The minimum thickness of bedding is 3cm. While performing the bedding for the top layer, e.g., puzzle, cobblestone, the above mentioned bedding thickness is required so that the elements do not have contact with the heating cable. The heating cable must be completely covered with bedding. It must not contain sharp stones and other materials that can damage the outer layer of the cable.
16. In the area of the heating cable it is forbidden to have a permanent building, to fix bolts, screws or other mounting elements that can damage the cable.
17. Carry out the heating cable resistance. Write it down in the Warranty Card.

Connection of the heating mat to the electrical installation should be carried out by a qualified electrician staff with suitable authorisations. The installation should be in accordance with standards valid in a particular country.

The electrical installation, the mat heating cable is connected to with a supply cable, should be made in accordance with applicable national regulations.

OPERATION

Operation of the heating system is limited to switching on the temperature regulator and parameter adjustment of the temperature controller.



UWAGA

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. Before installation make sure the connection cables are not under voltage. Improper transport, storage, and use of the device influence its wrong functioning. It is not advisable to install 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.

WARRANTY

ZAMEL Sp. z o.o. declares and assures that the electric heating systems MATEC (heating cables) 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 2 year warranty for MATEC products and the warranty refers to defects made by the manufacturer itself.

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

1. ZAMEL Sp. z o.o. assures warranty for MATEC products. There is 2 year warranty for the heating cables. 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 product an invoice by ZAMEL Sp. z o.o.
2. ZAMEL Sp. z o.o. shall process the claim at its own discretion.
3. 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)
4. 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 regulator and power supply cables (with distances).
5. 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.
6. 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.
7. 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.
8. 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

Filled by the electrician

Electrician Name/Surname

Telephone

Nr of a Certified Electrician /
Expire date of a Certified Electrician

Installation date

Resistance measurement results of the complete Heating Mat:

After the package
with a mat
was opened [Ω]:

After laying the heating mat
on the heating surface
and before laying the outdoor layer [Ω]:

After laying
the top outdoor layer
e.g. cobblestone [Ω]:

Signature / stamp

Place for the Heating Mat label