

A DRAFT OR A PICTURE OF THE HEATING TABLE, SUPPLY TABLE AND ACCESSORIES

MATEC – ELECTRIC ANTIFREEZING SYSTEMS
ANTIFREEZING HEATING CABLE TYPE GPRU FOR PIPE PROTECTION

MANUAL INSTRUCTION



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REMARKS

- During installation it is required to follow instructions included in the Heating Cable Manual Instruction
- It is forbidden to mount the cable on pins, bolts, screws or other fixing elements that can damage the outer coating of cables.
- The installation of a temperature regulator, which is a part of a complete heating cable, should be carried out with a particular attention so that the measuring surface of a temperature regulator is closely attached to the pipe.
- 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 heating cable should not be installed in places with permanent building.
- The heating cable, the supply cable and the plug resistance must be measured at least twice: after opening the packaging and before starting the installation works and after arranging the heating cable in its final place.
- It is not advisable to install the heating mats if the ambient temperature is below + 5°C.
- Don't cut the heating cable or its connection with power supply cable and the plug.
- The heating cable should not undergo excessive strain and should be protected against sharp device damage.
- It is required to make a draft or add pictures of the arrangement of the heating cable, power supply cable and the connection place of the heating cable with power cable ("cold wire"). The draft or pictures 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.
- The heating cables must not come into contact, cross with each other or other cables - this could damage the insulation. The minimum distance between the heating cables must not be less than 5 times its diameter.
- The heating cable must be evenly wrapped on the protected surface.
- The non-detachable supply cable cannot be replaced. If the cord is damaged, the equipment is useless.
- 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.
- Do not instal on pipes with the temperature higher than $niz\ 80^{\circ}C$.
- The radius of heating cable bending shall not be less than 8 times of its diameter.
- The heating cable cannot be immersed in any liquid.
- The GPRU heating cable is not designed to be used on roofs, in gutters, in drain pipes, on pavements, stairs and driveways.

DESCRIPTION

GPRU type heating cables are used to protect against freezing. They are laid on the outer surface of pipes and valves, the same, the emitted heat allows to protect the inner liquid against freezing. The cable is equipped with a temperature regulator which automatically switches on the heating circuit at +3°C (*+5°C) and switches off at a temperature of +11°C (*+13°C). The device measures the temperature on the pipe's surface. In order to give a proper temperature measurement and an appropriate response of the heating cable, it is very important to mount properly the temperature regulator on a pipe. The measuring surface of a temperature regulator should be maximally equal with the protected surface of a pipe. Too little contact of both surfaces can cause a heat damage to the heating cable. The way of applying a temperature regulator to the surface of a pipe is shown in the drawing.

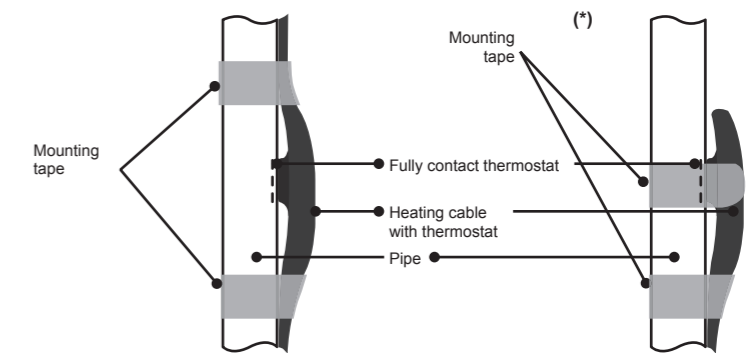


Fig. A way of placing a temperature regulator to the pipe's surface

The heating cable should be mounted on the pipe by means of cable ties or mounting tapes. In addition, it is recommended to apply insulations, e.g. heat insulations. Insulation should be made of flame retardant or noncombustible material.

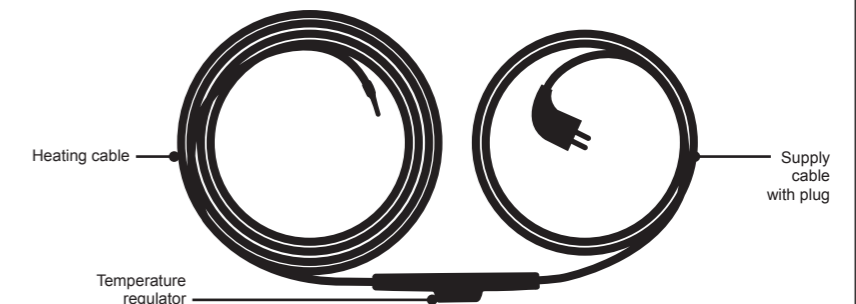
The GPRU heating cables are designed for outdoor and indoor use. They are made for 230 V nominal voltage 230 V and 18 W/m (*15 W/m).

The temperature regulator is placed on the connection of heating and power cables, acting as a mechanical connection of the heating and power part of a device.

The supply cable is ended with a plug that is inserted into a 230 V AC socket.

Heating cable GPRU - the set included:

- one-sided 18 W/m (*15 W/m) power supply heating cable connected by means of a temperature regulator with w supply cable ended with a plug,
- installation instruction with the Warranty Card.



For GPRU-2/15 the thermostat is on the end of the heating cable

Fig. Heating cable with supply cable and a temperature regulator

TECHNICAL DATA

Heating cable TYPE:	GPRU 2 + 20,5 m long
Power supply voltage:	230 V AC / 50 Hz
Unit power:	18 W/m (* 15 W/m)
Operating temperature:	Automatic thermostat with an operating range of +3++11 °C (*+5++13°C) (tolerance +/-3 °C)
Supply type:	one-sided
Heating cable:	two-wire, shielded

The heating cable is ended with power supply cable at one side with a plug.

* - for heating cable GPRU-2/15 (15W/m)

INSTALLATION

1. Before purchase, measure the pipe's surface that should be protected against freezing.
2. Choose a heating cable depending on the surface, its arrangement and its function.
3. Unpack particular elements and inspect visually of what you have received.
4. Check the heating cable resistance with the supply cable and the plug based on the value given on the label. (The measurement equipment must be certified).
5. Make a draft based on the cable arrangement. A draft or pictures are an integral part of the as-built documentation.
6. Place the heating cable on the pipe and attach it by means of a reinforced tape at intervals of 25 cm. The advisable arrangement of a cable on the pipe is longitudinal (along the pipe's axis).

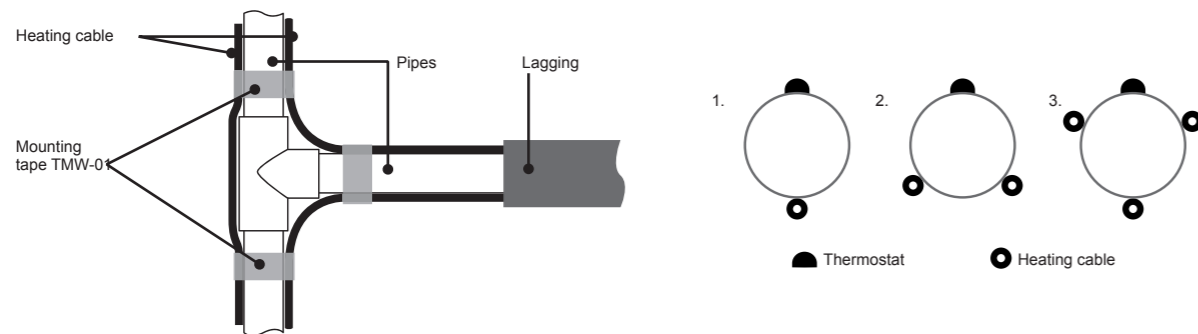


Fig. Longitudinal mounting of a temperature controller and a heating cable

Different ways of heating cable arrangement are shown below:

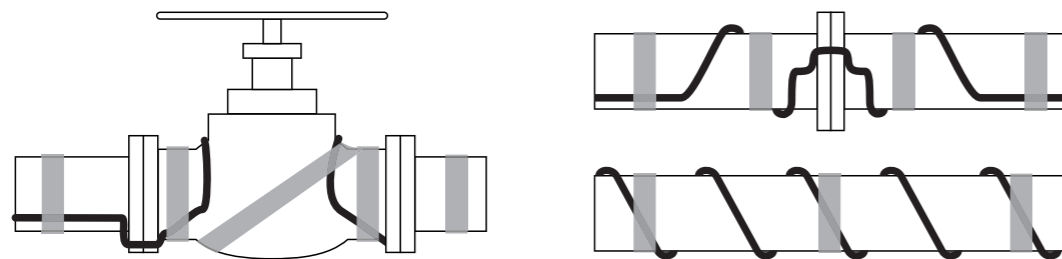


Fig. Ways of placing a cable on a pipe

7. While mounting a thermostat, it is very important to mount it properly so that its flat, protruding surface is accurately attached to the surface of a pipe.

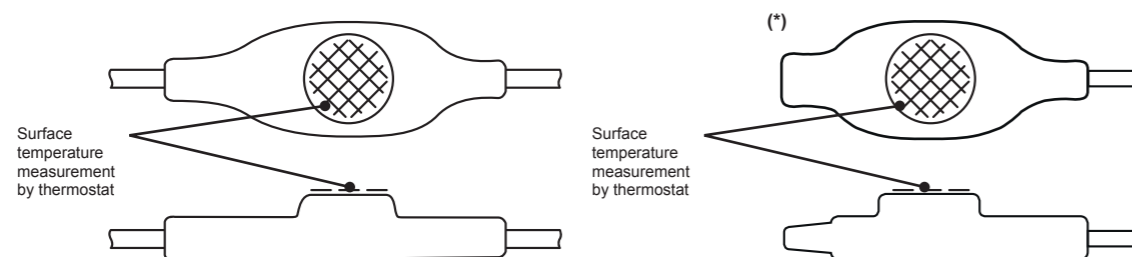


Fig. Measurement surface of a thermostat (a temperature regulator)

8. After laying and fixing the heating cable, it is necessary to check the outer layer of cables and device efficiency by means of a resistance measurement.
9. Complete the WARRANTY CARD with a description of resistance measures.
10. Plugging the device into an 230 V AC electrical outlet with ground prong.
11. After checking the operation of the cable, put an insulation with earthing around a pipe and the cable placed on it.

The electrical installation, the GPRU heating cable and the supply cable plug is connected to, should be carried out in accordance with standards valid in the country.

OPERATION

- The GPRU cable is permanently connected with a thermostat which switches on and switches off the heating in the temperature range of +3++11°C (*+5++13°C) (thermostat tolerance +/-3°C) which causes the thermostat operates in the automatic mode.
- During summer time it is advisable to switch off the heating cable by disconnecting the plug from the electrical socket.
- Before the heating season starts (winter season) it is advisable to check the heating and supply cable surface, possible insulation damages and the resistance. The aim of the above is to eliminate a danger of damaged cable exploitation.



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.

* - for heating cable GPRU-2/15 (15W/m)

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 a draft or a photo of installed heating and supply cable and a plug (with distances between heating cable runs and neuralgic points e.g. close to a valve).
5. In case it appears that 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 be 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).

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 was opened
(before installation) [Ω]:

After laying the heating cable
(before connecting plug to
electrical installation) [Ω]:

Signature / stamp

Place for the Heating cable label