

HEATING FOIL FGP80/0.5 with power of 80W/m²


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DESCRIPTION

FGP-80 / 0.5 heating foil is an electric heating system and is designed to heat floors made of panel floor. Their task is to heat or reheat floors to provide the effect of a „warm floor“. They are available in rolls: 0.5 m wide and 1-10 m long. They are available on request in different lengths with a 0.25 m stroke. It is possible to install two or more foils in one room. In the above case, the heating foils must be connected in a parallel way towards power supply. Temperature controllers control the heating foils.

Heating foil – the kit includes:
80W/m² heating foil connected with two single-wire power supply cables, ground conductor (yellow-green) with clamp, instruction manual with the Warranty Card and a label.



The device is designed for single-phase installation and must be installed in accordance with standards valid in a particular country. **CAUTION!** The device should be connected according to the details included in this manual instruction. 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, the guarantee is lost and an electric shock may occur. 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.

TECHNICAL DATA

Power supply voltage: 230V~ / 50Hz
Unit power: 80 W/m²
Nominal operating temperature: 30°C
Operating temperature: max 80°C
Load-current capacity: max 10A

Heating foil is supplied by two single wire cables

Note: The resistance of the heating foil includes a tolerance of + 5% / -10% of the nominal resistance.

HEATING FOIL INSTALLATION AND TEMPERATURE CONTROLLER

The temperature controller is an indispensable temperature control element of the panel floor. The heating foil is connected to electrical installation by means of the regulator.

Usually, manufacturers of panels reduce their temperature to 27°C. The regulator should be selected depending on the desired functionality control of the floor or ambient temperature:

1. If the heating foil is to reheat the floor and we expect that the regulator will control floor temperature, then you should choose a temperature regulator with a floor sensor.
2. If the heating foil is the primary heating source, it is recommended to use a temperature controller, which measures the air temperature by means of an „air“ sensor along with floor sensor protecting against overheating.

The temperature controller should be selected depending on the total power consumption of the heating foil connected to it.

To control temperature, you can use a controller which maintains only constant temperature, or a controller with a programmer which allows to adjust e.g. the weekly heating schedule.

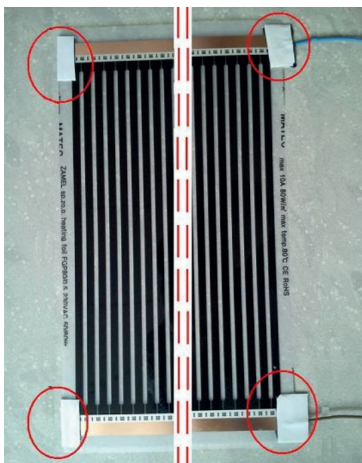
CAUTIONS

- When installing proceed exactly according to the instructions for mounting the heating foil.
- Installation of the temperature controller must be carried out according to the attached controller instructions.
- It is forbidden to drill holes in the floor with heating foil and placing dowels, screws, bolts or other fasteners.
- The heating unit can not be installed on irregular surfaces and at the joints.
- Base for the heating foil should be cleaned from sharp elements and others that could damage the protective layer of the heating foil.
- Heating foils are not intended for use in areas with high humidity, e.g. laundry, bathroom.
- The base for the heating foil must be dry. If there is a risk of moisture or water occurrence, waterproof damp insulation using damp insulation foil should be performed. The layer above and below the heating foil must be waterproof and protect the foil from contact with water or other substances causing moisture.
- It is not recommended to lay the heating foil at the ambient temperature below 5°C.
- Heating foil can be cut only in designated places. If you cut off the length of the foil edge of conductive surface, then the foil must be protected with a tape to protect against electric shock. You can shorten the power supply cable.
- Heating foil should not be tensioned. Protect against damage by sharp tools.
- Do not walk on the foil without proper protection.
- Heating foil should not be laid on surfaces intended for fixed joinery (e.g. wardrobes), or if the distance from the floor to the construction component will be less than 50mm. Constant heat dissipation must be ensured.
- Heating foil should be installed away from other heat sources at least 50 cm.
- The resistance of the heating foil must be measured three times: after it is taken out of the carton and before installation, after it is spread with power supply wires, and before laying floor layers, and finally after laying floor panels.
- Make a draft or attach photos including the date of heating foil distribution, power supply cables and the place of joining the heating foil with the power supply cable („cold“). The draft or photos are an integral part of the as-built documentation.
- The heating unit must be supplied by a device from a circuit TN-S with a residual current circuit breaker having a rated operating current not exceeding 30 mA. Installation should have overvoltage protections.
- Protection class II of the heating foil is provided by the application insulation of heating foil and a complete cover of the heating foil with damp insulation foil with a minimum thickness of 0.25mm and a floor panel.
- Foam pad with a layer of aluminium foil (or any other metallised foil) should be applied on the concrete. Place the at least 0,015 mm thick aluminium foil upward, so that its whole surface connects with the lower insulating layer of the FTP-80/0,5 heating foil. The aluminium foil must have a continuous electric conduction to ensure the effectiveness of the heating foil grounding after ground connection (the yellow-green cable of the mains) with applied residual current circuit breaker. The heating foil will additionally cause thermal efficiency increase of the heating foil.
- This equipment is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or in accordance with operational instruction of the equipment provided by a person responsible for their safety.
- Make sure that children do not play with the equipment.

HEATING FOIL INSTALLATION

- Before purchasing it is necessary to measure the areas where we want to use heating foils. When planning the distribution of heating foil, you should pay attention to elements of the room, stationary equipment or furniture placed in it, which will constitute an obstacle to the flow of heat from the ground. Placing the foil should bypass the abovementioned elements and provide good dissipation of heat.
- The foil should be selected depending on the required surface.
- Prior to the distribution of heating foil, the floor must be aligned. Clean it, especially of the sharp and dangerous elements.
- Unpack the components and perform visual assessment. Measure the resistance, verify it with the value on the rating plate and enter to the Warranty Card.
- Before installation, lay out the foil on a dry and clean surface at a distance of 5 cm from the wall to mark the floor power supply points of each heating module. It is important to mark places to perform grooves for power supply cables, electrical connections and corrugated flexible nylon conduit of floor probe to the temperature controller. On the wall, mark place for the junction box and the temperature controller box. In the selected places grooves with sufficient depth for installed elements should be performed (so that the elements do not protrude and do not bulge the panels).
- After preparation of the grooves in the floor and wall, spread foam pads with aluminium foil layer on the concrete. Place the aluminium foil with its shield upward, so that its whole surface connects with the lower insulating layer of the FTP-80/0,5 heating foil. The aluminium foil must have a continuous electric conduction. It must be connected to the ground (the yellow-green cable of the mains). Cut holes in foam pads with aluminium foil, so that they cover the grooves in the floor. Foam pads are placed always directly from the wall.
- Then we put the corrugated flexible nylon conduit with a temperature controller sensor in the groove on the floor. The area where the conduit is placed, a groove is also cut in the foam pad with an aluminium foil layer. The distance of the controller's sensor in the corrugated flexible nylon conduit from the wall should be at least 0.5m. Lead the cable in the corrugated flexible nylon conduit into the junction box along the groove in the wall.
- Heating foils with previously prepared sufficient lengths must be spread at evenly distributed foam pads with aluminium foils and the controller's sensor laid in the floor. At this stage measure the resistance of the heating foil and verify them with the ones given on the rating plate. Spread cables from the heating foil and insert them into the junction box. If several strips of the heating foil are connected to one temperature controller, then they must be connected and fastened with each other in parallel in one of the middle junction boxes, and the two single wires L, N should be connected to the controller. For the junction boxes lead cable to the grounding aluminium foil blacking foam (conductor green-yellow).
- All adjacent modules of the heating foil should be connected by reinforced tape. Connection by tape protects against overlapping of the heating foil (unacceptable) and simultaneously prevents the formation of gaps between foils while spreading the insulation foil and panels. Connection of heating foils by tape should be done before connection the power cables to mains.
- Remove the white tape from the tape insulating all the ends of the heating foil before connecting to power supply (Figure 2).
- Perform a draft or take photos of distributed heating foils in the room. Mark the installation place of flush-mounted junction box for the temperature controller, power supply, protective grounding and floor sensor with a cable in the corrugated flexible nylon conduit. The draft or photos are an integral part of the as-built documentation.
- After verifying the correct operation of the modules, the damp insulation foil must be dismantled on them (with a minimum thickness of 0.25mm) and put the floor panels (Figure 3).
- After work completion, it is necessary to verify finally the correct operation of the heating modules and make an entry of resistance measurements in the Warranty Card.

Heating foil can be cut in designated places (every 0.25m). **Along the cut, the edge of conductive surface must be protected with protective tape to protect against electric shock.** Both ends of the heating foil must be tightly secured with an insulation tape of an appropriate thickness (Figure 2). Before connecting to the installation remove the white tape media from the insulating tape. To protect the ends of the heating foil, the tape of mounting kit ZM-02 can be used.

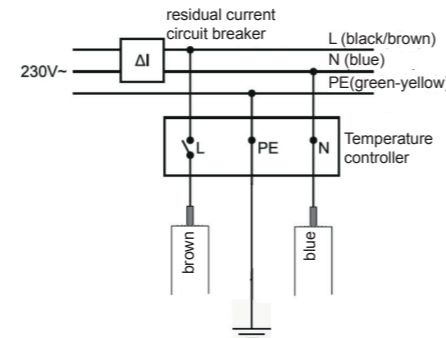


Points that must be secured with an appropriate insulation tape for breakdown voltage minimum 1.2 kV – it is a protection against electric shock.
Fig. 2

OPERATION:

Operation of the heating system is limited to switching on the temperature regulator and adjusting the desired temperature, and periodic electrical measurements in compliance with regulations in force in the country of use.

Fig. 1 Connection diagram of the heating foil and grounding by means of a temperature controller: (at junction box)



Grounded foam pad with an aluminium foil layer or any other metallised foil. Foam pad is placed with its aluminium foil upward and it connects with the whole surface of the graphite heating foil.

The length of the heating foil FGP80/05 [m]	Nominal resistance [Ω]
1,0	1256
2,0	626
3,0	416
4,0	312
5,0	249
6,0	207
7,0	177
8,0	155
9,0	139
10,0	125

The resistance value of the heating foil has a tolerance of +5% / -10% of the nominal resistance value
Table 1

Connection of the heating foil to the electrical installation should be done by an installer with valid electric permissions. Installation should be done in accordance with applicable national regulations.

In case of shortening the foil, it is necessary to write down the following information in the Warranty Card: the length of the shortened section of the heating foil and the value of the measured resistance of the foil. After cutting the heating foil pay attention that the foil resistance contains the value included in the resistance rang (Table 1).

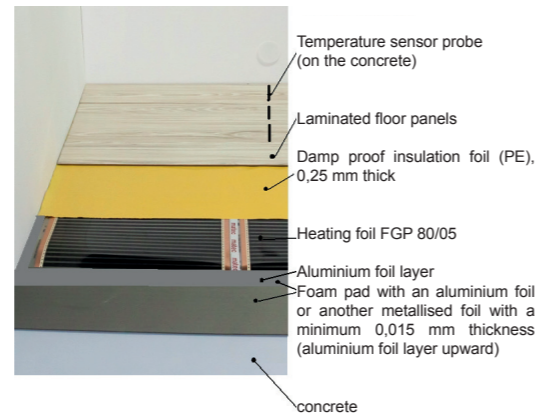


Fig. 3. Floor layers using heating foil.

WARRANTY

ZAMEL Sp. z o.o. declares and warrants that the electric heating systems (controller, heating foils) manufactured and supplied by ZAMEL Sp. z o.o. are products made in accordance with regulations of the company and reference standards currently in force in Poland. The warranty covers all products by ZAMEL Sp. z o.o., provided proper storage, transportation, laying and maintenance in accordance with applicable standards.

The ZAMEL Sp. z o.o. product warranty (heating foils and controllers) is 2 years and applies to defects caused only and exclusively on the fault of the manufacturer.

RESULT OF PROVIDING THE WARRANTY AND HANDLING OF CLAIMS by ZAMEL Sp. z o.o.

- ZAMEL Sp. z o.o. provides the warranty for all manufactured products by ZAMEL Sp. z o.o. The warranty on the FGP heating foils and regulators is 2 years. It applies to defects caused only and exclusively on the fault of the manufacturer. The warranty period is valid from the date of sale to the Final recipients or from Distributor to the Recipient. VAT invoice issued by the ZAMEL Sp. z o.o. for a Distributor or a receipt for a Recipient issued by the Distributor are proofs of the sale of the product.
- Method of settling the complaint shall be governed by law and ZAMEL Sp. z o.o.
- The complaint submitted by the Recipient is considered within 14 days from the date of its proper application. The registry of a complaint occurs only after notification in writing by a direct Recipient upon presentation of VAT invoice (or its number and date of issue) and a properly completed Warranty Card.
- Correctly and completely filled Warranty Card should contain a draft or a photo of the installed heating foil and grounding.
The draft should show:
 - spreading of heating foil with distances from walls and fixed joinery
 - mounting place of the temperature sensor and power supply cables (with distances)
- Consideration of the complaint takes place on-site when the product is already installed on a permanent basis. Then ZAMEL Sp. z o.o. shall carry out visual inspection and necessary measurements of the installed product on-site. In case ZAMEL Sp. z o.o. will determine that it is not the manufacturer of the claimed product or will state illegitimacy of the complaint, then ZAMEL Sp. z o.o. will charge the CLAIMANT for all costs related to the consideration of the complaint.
- When accepting the complaint ZAMEL Sp. z o.o. will replace the faulty device and will cover the costs directly associated with the installation and assembly.
- The warranty is void in following cases:
 - carrying out any service intervention by anyone who is unauthorized by the manufacturer
 - mechanical damage of the device
 - improper power supply
 - carrying out electrical installation not in accordance with the applicable regulations
 - failure to follow the instruction manual of MATEC.
- In case of a complaint submitted by an indirect Recipient of the ZAMEL product, the Recipient should carry out the complaint by his direct Supplier he bought the product from.

NOTE: The installer is obliged to provide the user with as-built documentation and a completed 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 and surname

No. of Certified Electrician

Telephone

No. of Certified Electrician/Expire data of Certified Electrician

Installation date

Resistance measurement result of the heating foil

1-st measurement:

2-nd measurement:

3-rd measurement:

_____ Ω

_____ Ω

_____ Ω

PLEASE FILL in the case of shortening the heating foil

(On the label foil heater located on the power cable and a label affixed to the guarantee should be deleted length film producer and the resistance and enter the actual values):

LENGTH FOIL after shortening : m

RESISTANCE heating foil after shortening

1-st measurement:

2-nd measurement:

3-rd measurement:

_____ Ω

_____ Ω

_____ Ω

Installer signature / Stamp / Date

A place to stick a label foil heating

No electrical current powers