

Al-mat

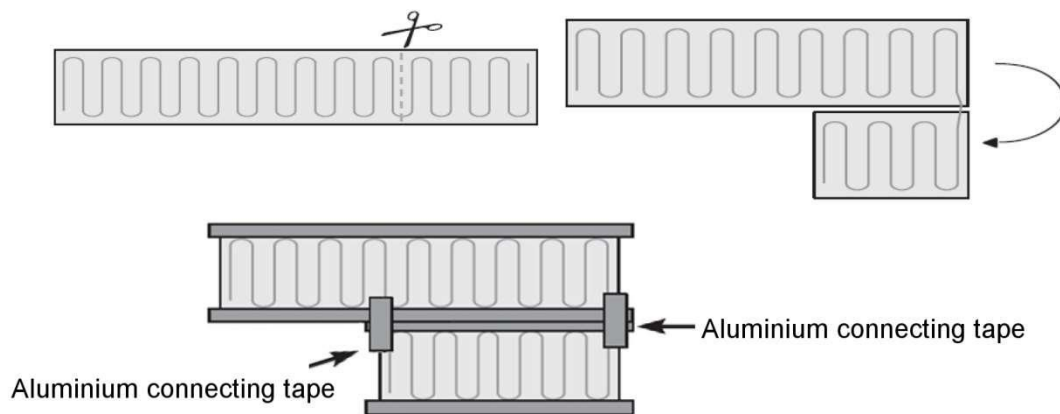
ALUMINIUM HEATING MATS FOR USE UNDER FLOATING FLOORS

GENERAL CONDITIONS

- Heating mats may be operated only as a part of the structure of a building, and indoors. The construction of the mat enables its use also in damp environments. In the case of installation in a damp environment, always connect the connector on the mat to a protective conductor.
- The mats are intended only for installation under floating laminated floors which are intended for use with floor heating by the manufacturer.
- It is prohibited to install the mats under floor tiling, marble, natural stone,... The mats must not be installed into construction adhesives or screed materials, and any possibility of the mat coming into contact with such materials must be avoided – there is a danger that the materials will react with the Al layer of the mat.
- Install the side marked “This side up” facing the floor covering.
- In places where the mat is not installed in the ground plan, it is necessary to even out the surface using a levelling layer.
- It is necessary to use **extruded polystyrene insulation** layer under the mats, make sure that **thickness** of the insulation is **not lower than 3 mm**. Do not use cellulose insulation.
- Do not install insulation material between the heating mat and the floor covering; do not use coverings which contain an impact noise insulation layer.
- Make sure that no sharp edges of the floor covering system come into contact with the heating foil.
- The mat can be adapted only as shown in pictures 1-3 - it must not be shortened under any circumstances. Only cold connection ends can be shortened as needed. The minimum distance of the mat from the walls and fixed furniture or equipment is 50mm. If the heating cable or the supply lead is damaged, it has to be replaced or repaired by the manufacturer, a service technician from the manufacturer or a similarly qualified person in order to prevent the occurrence of a dangerous situation. Do not install the cables using nails or screws! The individual strips of the heating foil mustn't be in contact with, cross or overlap one another. Safeguard the individual strips of the mat against sliding by gluing them to the base; we recommend an aluminium adhesive tape (not part of the product).
- After adaptation of the mat, the heating conductor must always be taped over with a connecting tape which simultaneously creates a conductive connection with the aluminium foil.
- It is prohibited to install floor anchoring elements, screws, wall plugs, etc. in places where the heating mat is installed.
- During installation, please adhere to the requirement that the diameter of any bend in the cable must be at least eight times the size of the cable's diameter.
- The heating mat must be powered via a residual current device with a nominal residual current of $I_{\Delta n} \leq 30\text{mA}$. We recommend that each heating complex/circuit is fitted with an independent residual current device.
- For safety reasons, it is prohibited to install heating mats in walls.

- Heating mats can be stored at a temperature of +10°C to 35°C and installed at a temperature of +5°C to 30°C. They must not be exposed to temperatures of over 70°C during operation.
- During the unwrapping of, manipulation with and installation of the mat, please take extra care not to cause mechanical damage to the mat.
- The heating mat must not be installed on uneven surfaces.
- Non-heating connecting cables must be laid so they are free to move in a protective tube in places with dilatation joints. The passing of all installed equipment – cold lead, thermostat probe – from the wall into the floor must be carried out via installation tubes and must enable the movement of the floor and the wall in relation to one another.
- The mat must not be put under furniture or other equipment such as bath tubs, shower enclosures, WCs, etc., as well as under furniture which doesn't enable free circulation of air. The maximum heat resistance between the heating unit and the room can be $R=0.15\text{m}^2\text{ KW}$.
- The installed equipment must be fitted with a device which enables the disconnection of the mat or mats at both poles, with the distance between disconnected contacts being at least 3.5mm (FENIX-Therm 100 meets this condition). Disconnection can be enabled via an accessible plug or a switch built into the fixed wiring according to installation regulations.
- The production number and date of manufacture is written on a label located on the mat's cold lead. The label which is placed on the packaging of the mat contains the type, dimensions and surface area of the mat, and also the total wattage, wattage per 1m², supply voltage and electric resistance of the mat.
- Before and after laying the heating mat, it is necessary to carry out the measurement of the resistance of the heating circuit. The measured values must correspond with the data on the label. Write down the values in the Certificate of Warranty.
- Before and after laying the heating mat, measurement of the insulation resistance between the heating conductor and the protective braiding must be carried out – the measured value mustn't be lower than 0.5MΩ. Write down the measured value in the Certificate of Warranty.
- Before unpacking the heating mat, the information on the label must be checked to make sure that it is in accordance with the required product.
- Immediately report any discrepancies to the manufacturer or supplier and stop all work.
- The placement of the heating mat must be drawn in the Certificate of Warranty, with the marking of all connections between the supply cable and the heating part, stating exact distances from the walls of the building. The production number of the mat and the date of manufacture must be copied from the label which is placed on the cold lead of the mat into the Certificate of Warranty. Subsequently, place/glue this label into the wiring box.
- The supplier must inform all other suppliers of the construction work about the placement of the heating unit in the floor, and the risks arising from it.
- A sheet with information about the heating system must be placed in the switchboard of the heating system and passed on to a new owner or tenant in the case of a change in user.
- By not using a sufficient layer of thermal insulation under the heating system, you run the risk of incurring significant heat losses in the downward direction.
- This appliance is not intended for use by people (including children) whose physical, sensory or mental inability or lack of experience or knowledge prevents them from using the appliance safely, unless they are supervised or have received instructions regarding the use of the appliance from a person who is responsible for their safety. Children should be supervised in order to ensure that they do not play with the appliance.
- The heating mat, including joints and supply cables, must be protected against damage during installation (e.g. against falling objects or damage to the insulation by the sharp edge of an object, or walking, etc.) The mat can be walked on if shoes with soft soles are used and the mat is laid on a straight and smooth surface.
- Other uses of the heating mat or other placements of the heating mat than are listed in this instruction manual can cause a life or health endangering hazard or can lead to material damage. Warranty conditions do not apply in the case of such forms of use.
- The heating mats are intended for glued laminate floors which are secured by fillets against unauthorized disassembly of the covering.
- The user must be instructed by the supplier regarding the installation of floor heating. This fact is stated on a label which comes with the product and must be glued into the switchboard: this label also informs readers that the making of openings is prohibited, as is covering the floor with furnishings or fittings without leaving at least a 4 cm gap between the floor and the bottom surface.



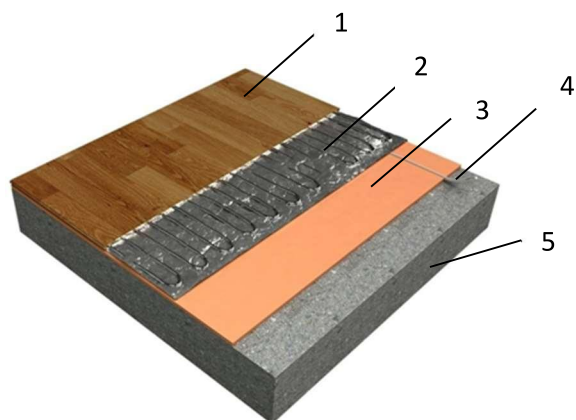


Description and connection

- The heating mat consists of a heating cable attached to supporting aluminium foil.
- Heating cables are connected to the 230V, 50Hz network. Rating IP 67. The connection may only be carried out by persons with relevant electrician's qualifications (according to ordinance 50/78 Coll. in the Czech Republic)
- Insulated conductors (milky colour) are active – connect them to the phase and neutral conductor. Connect the free shielding wires to the green-yellow protective conductor.

Installation

- Before carrying out the installation, make a drawing of the placement of the heating mat according to the floor plan of the room.
- Clean dirt from the floor.
- Lay impact insulation according to the instructions of the manufacturer.
- Carry out the laying of the heating mat according to the placement plan. After adapting the mat, the heating conductor must always be attached with connecting tape, which simultaneously creates a conductive connection to the aluminium foil. Minimum distance from the walls is 50mm.
- Make a groove in the base for the supply lead (cold lead) of the mat. The supply conductor must not touch or cross the heating cable.
- Create a groove in the base for the installation of the floor sensor. The groove must run between the loops of the heating mat.
- Install the floor sensor of the thermostat. The sensor is to be placed into an installation tube ("gooseneck"); it mustn't cross or touch the heating cable.



- 1) Laminate floating floor
- 2) Al-mat heating mat
- 3) Impact insulation of the floating floor
- 4) Installation tube with the floor probe
- 5) Concrete layer

Regulation

- Always use a thermostat with a floor probe for the limitation of the floor temperature for regulation.
- The limit temperature of the floor must be set according to the requirements of the producer of the given floor covering, with a maximum of 27°C – hygienic limit.
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According to Commission Regulation (EU) 2015/1188 - Ecodesign requirements for local space heaters, this product is defined as space heater which must be regulated by a suitable external control device. The control device which is not part of the heating product must be equipped with electronic room temperature control plus week timer and at least one of the following control options:

- Room temperature control with open window detection
- Distance control
- Adaptive start control

Start-up of heated floors

Concrete, anhydrite and similar bases:

- On the first day, set the floor temperature so that it is the same as the room temperature (maximum 18°C).
- Increase the floor temperature gradually during the following days, by 2°C/day up to 27°C.
- Maintain the floor temperature at 27°C for a period of three days.
- Subsequently, lower the floor temperature by 5°C a day until it reaches the initial temperature.
- Afterwards, the floor temperature can be set to the required value and the floor brought into standard operation.

In other cases, the heating system can be switched on without any start-up procedure.

Warranty, claims

The supplier of ECOFLOOR cable circuits provides a 10-year warranty for the product's functionality starting on the day of installation as confirmed on the certificate of warranty (the installation must be carried out 6 months from the date of sale, at the latest), providing:

- the Certificate of Warranty and documentary evidence of purchase is presented,
- the procedure described in this instruction manual is adhered to,
- data regarding the composition of the cable in the floor, the connection and the results of measuring the insulation resistance of the heating cable are provided,
- the instruction manual of the manufacturer for the application of sealants is adhered to.

Claims are to be raised in writing with the company which carried out the installation or directly with the manufacturer.

Claims procedure: <http://www.fenixgroup.cz>



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