

Installation instructions for AluMat

General information

AluMat is an electric heating mat developed for floor heating under wooden and laminate flooring.

Building the floor

Place a vapour barrier, reflector plates, AluMat and finally the wooden floor on an existing subfloor, typically from below. It is crucial that the wooden floor is able to distribute the load of people walking on it, once it has been established. So, generally, the system only functions with floorings that are hard and at least 10 – 12 mm thick. Obviously, in order to achieve a good and long-lasting installation, the instructions and recommendations of the floor manufacturer as well as the best building practices must be observed.

Choice of thermostat

We recommend that you use a thermostat with floor sensor and temperature limiter - e.g. Heatcom HC10B or HC30-15 and that that you set the thermostat at max. 27°C. You need to decide whether the thermostat should be manually operated or include the option of night-time reduction.

Fig. 1). A digital thermostat with day-time and night-time reduction, floor sensor and room sensor with temperature limitation monitoring the surface temperature of the floor at max. 27°C.



Fig. 1.
Left: Digital thermostat HC10TP
Right: Manually operated thermostat HC30-15

Both thermostats have temperature limitation at max. 27°C and can be used with parquet and laminate flooring.

Installation instructions

Step 1) Preparation

As a rule of thumb, you should use an AluMat that covers approx. 90% of the area to be heated.

However, a hassle-free installation is best achieved by making a drawing of the room showing the location of each individual 0.5 m wide length of AluMat and the thermostats.

Be sure to have all the necessary components and tools at hand before starting the installation.

- Do not shorten AluMat. A drawing is a good way of ensuring that you choose the right size of AluMat.
- Do not let AluMat overlap as this will lead to overheating.
- Do not place AluMat under objects that will prevent the heat from escaping such as kitchen cabinets, wardrobes, furniture without legs, etc.

Step 2) Checking AluMat and other components

Make a visual check of AluMat and the other components. Everything must be undamaged and in good condition. Measure the resistance of AluMat. Compare the resistance value with the value stated on the AluMat label. Also, measure the insulation resistance between the conductors and the ground conductor.

Write down the values measured. Measure again when AluMat has been installed and before the wooden floor is laid. Finally, measure when the wooden floor has been laid. Save the results.

Step 3) Installing the reflector plates

Do not walk on the reflector plates. Use a footboard instead. Small marks on the reflector plates are not a problem, but the deformation of larger areas will destroy the bearing capacity of the reflector plates.

Place AluMat on the Heatcom reflector plates or on another product with similar properties.

Before you start the installation, make sure that the subfloor is vacuum-cleaned and that no staples or other unevennesses are protruding.

Reflector plates are not approved as vapour barriers. Therefore, be aware of whether a vapour barrier is required.

Follow the general requirements for floor construction and the instructions of the wooden flooring supplier.

Lay out reflector plates in the entire room. The distance between AluMat and a wall or fixed object should be approx. 5 – 15 cm.

To ensure that the reflector plates are stable during the installation, fasten them with double-sided adhesive tape (not included) or with glue.

A piece of good advice: If necessary, lay cardboard in places where no floor heating will be installed, to even out the height differences of approx. 1.5 mm.

It may be a good idea to place a timber fillet of approx. 2 – 3 cm in width at door steps and the like in the room where floor heating is installed so that the wooden floor here gets a solid surface. This makes the floor seem more stable when you walk on it.

Step 4) Installing AluMat.

Measure the resistance of AluMat.

Adjust AluMat to the room by cutting and turning it.

If possible, you should start by laying the heating cable in such a way that the black connection cable is located at the place where the thermostat is to be fitted. Look at the drawing, if any.

Roll out AluMat to the other side of the room/wall (Important: Never cut the cables).

AluMat's heating wires must not touch or overlap.

When the AluMat lengths lie next to each other, they should overlap as shown below. The distance between the heating wires should be at least 1 cm. See Fig. 2 and 3.

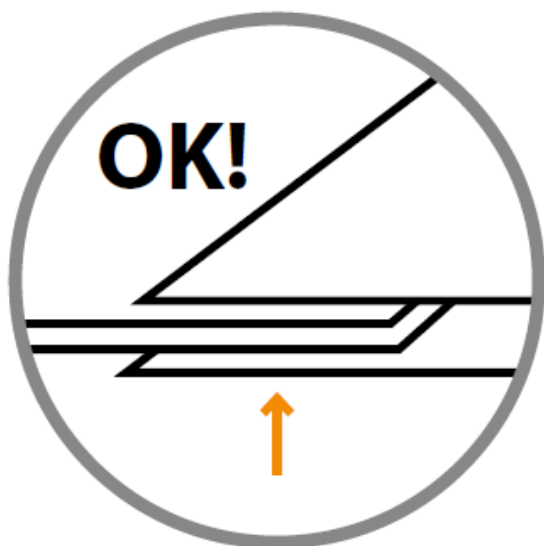


Fig. 2) This is how the edges between the AluMat lengths should overlap. The overlap must not exceed 0.5 cm.

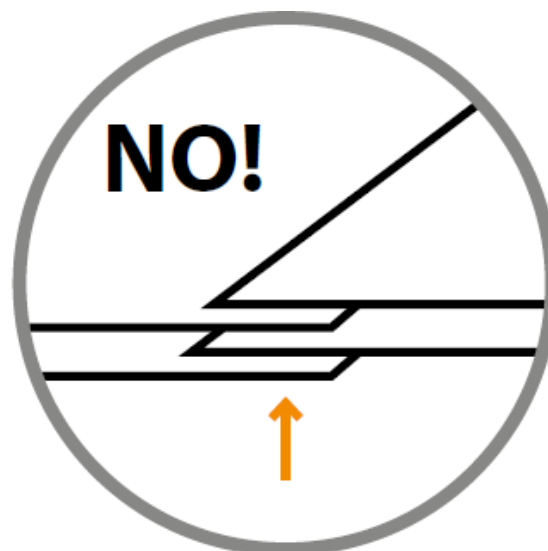


Fig. 3) Wrong overlap

Then turn the heating mat 180° and roll it back, side by side with the previous length of AluMat. If the room has columns or other obstacles, you can adjust AluMat to such obstacles by cutting between the heating wires and arranging small pieces of AluMat around the obstacle. After that, the rollout can continue.

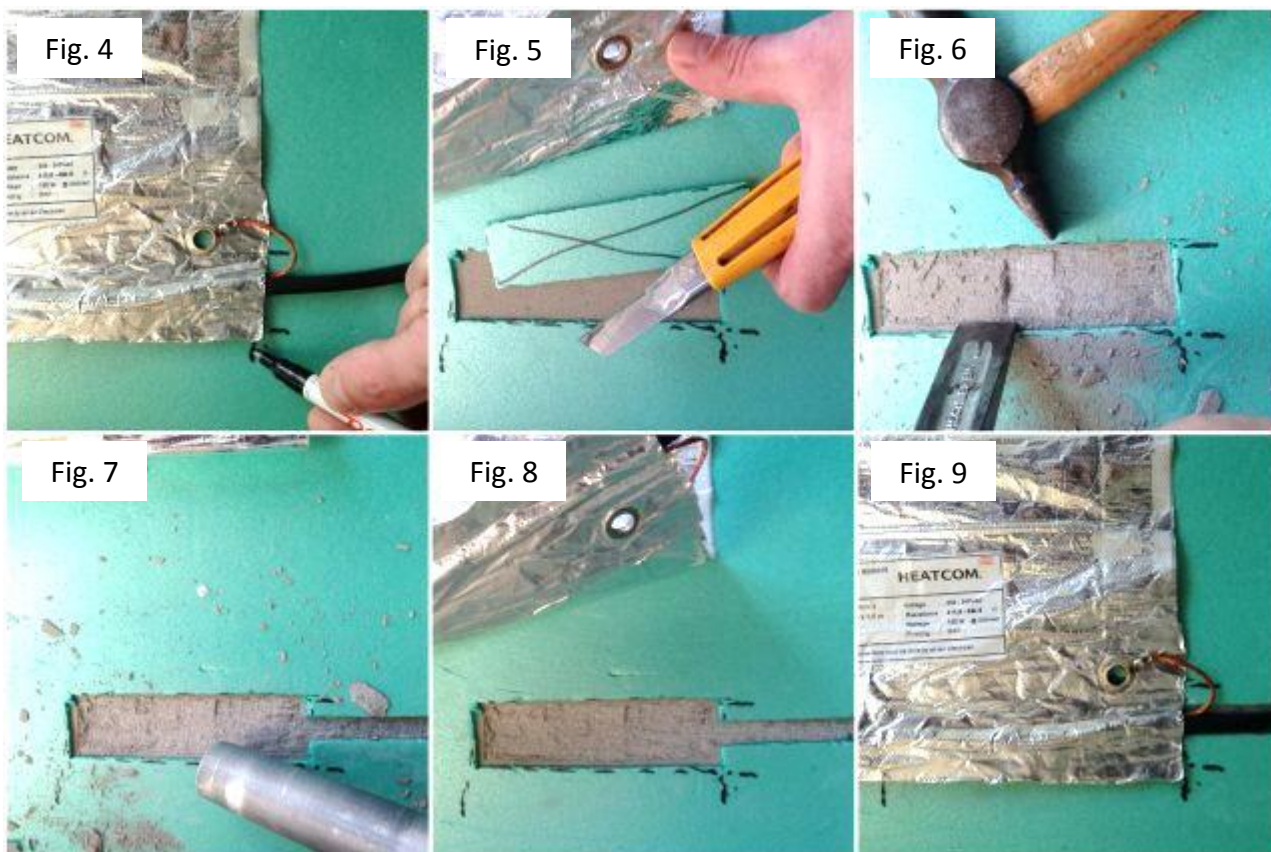
When the installation is finished, the heating cable must always be covered with aluminum on both sides. Make sure that this is the case and pay special attention if adjustments have been made to AluMat during the installation.

Important: The black cable is thicker than the heating mat and needs to be embedded in the reflector plate and the subfloor. The same applies to the connector between the black cable and the heating wires and where the heating wires are connected. These connections are located at each end of AluMat. They are not tagged on the mat but can be seen and felt.

The connectors (two for each AluMat product) must never get stuck between the floor and the wooden floor. As the wooden floor will later be carrying the weight of furniture, people, etc., the AluMat connectors will eventually be squeezed into pieces. Fig. 4 – 9 show how you make room for the connector between the black cable and the heating wires. This procedure is repeated at the opposite end where the connector between the heating wires is located. So, two places for each AluMat.

It may often be necessary to make room for the black connection cable as well.

Fig. 4 to 9) It is not enough to cut into the reflector plate. You must remove material from the subfloor to make room for the joints. Under no circumstances must the joints get stuck between the subfloor and the wooden floor. Important: Adjustments must be made at the beginning (shown below) and at the end (not shown) of the heating mat.



Step 5) Re-establishing ground connection

When AluMat has been adapted to the room, the individual pieces of AluMat must be connected to each other. This is to ensure that there is ground connection everywhere on the floor. To connect the AluMat pieces, use the aluminum tape provided. The aluminum tape has an electrically conductive glue side which is necessary to re-establish ground connection. If there is not enough aluminum tape with conductive glue, a similar kind tape must be obtained.

No heating wires must be left unprotected. All wires must be covered with aluminium tape with conductive glue. You can use ordinary aluminium tape to fasten/fix AluMat and/or distribute the heat (see Fig. 10).

Finish by measuring AluMat's resistance and insulation.



Step 6) Installing the floor sensor.

Remember to install the floor sensor before laying the wooden floor.

You find the sensor in the thermostat box with the thermostat.

Locate the sensor between two windings of heating wire at a distance of at least 0.5 m from the wall.

Do not locate the sensor directly on top of a heating wire; if you do, the floor heating control will not work as intended.

Step 7) Laying the wooden floor.

Follow the instructions that come with the wooden floor.

Do not walk on the reflector plates. Use a footboard or walk on the part of the wooden floor that has already been laid (see Fig. 11)

Small marks in the reflector plates are not a problem, but deformation of large areas will destroy the bearing capacity of the plates.

Step 8) Electrical connection

The installation must be connected by an authorised electrician. This is a legal requirement and decisive if you want to launch a complaint. Remember to fill in the label provided and place the label in the control cabinet, for instance.

Using the new floor

Follow the instructions for the thermostat and find the mode of operation that suits the desired conditions the best.

Be aware that thick carpets and the like can result in damaging high temperatures in the wooden floor.

Therefore, you should consider carefully what you place on the heated floor.

Feel underneath the object to check whether the temperature is too high.



Fig. 10) Completed AluMat installation



Fig. 11) Laying the wooden floor