

ekomat

floor heating system

Installation manual

EN

Instrukcja montażu

PL

Инструкция по установке

RU



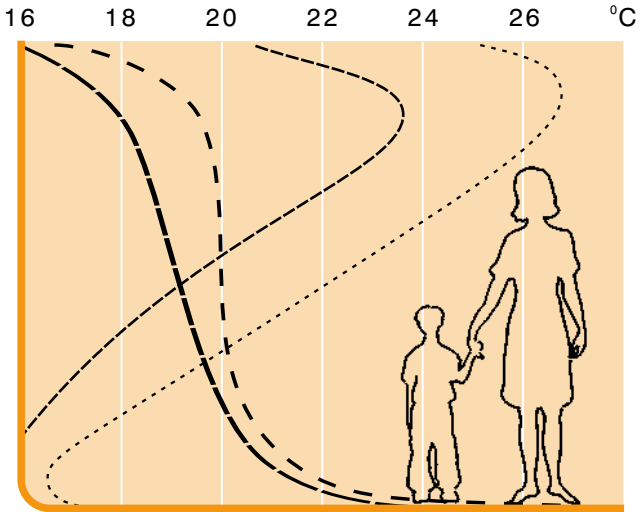
The package contains:

- Thin self-adhesive heating mat
- Thermostat and temperature sensor (option)
- Installation pipe for the temperature sensor
- Instruction manual

You can do it yourself

By following the simple instructions, you will be able to install ekomat yourself without any problems. Only its connection with the mains should be carried out by a qualified electrician.

The *ekomat* will provide you with heat comfort resulting from favourable temperature distribution - the, so-called, “warm feet - cool head”.



Vertical temperature distribution within the room for various types of heating.

- — — *electric floor heating*
- *ideal profile*
- · - · - *convection heaters, located near indoor walls*
- *air heating*

Why will the *ekomat* warm up your life?

- reliable performance
- it is simple to install
- only desired areas are heated or warmed up
- uniform temperature is in the whole room
- can be installed on existing tiles - without removal
- because it is thin, the floor level is only slightly raised
- no maintenance
- safe: with the power supply protected by an RCD (Residual Current Device), risks are eliminated, the cable is screened and earthed
- all you have to do is set the thermostat to your desired temperature and - your floor will soon be warm and dry

Where can *ekomat* be used?

- everywhere - in new building projects or renovations
- it is especially useful in renovated kitchens, bathrooms, anterooms, halls... as raising the floor level is kept to a minimum
- on any base: on concrete floors, on existing (old) ceramic tiles, terrazzo, moisture - proof chipboards

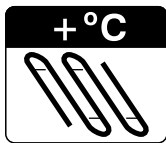
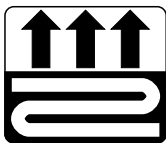
What kind of floor finishes are compatible with *ekomat* ?

– in general, ceramic, porcelain and natural stone floor tiles, which provide optimal heat transmission;

also compatible are :

- wooden mosaic, oak parquet or laminated floor panels
- carpet (check compatibility)
- vinyl (check compatibility)

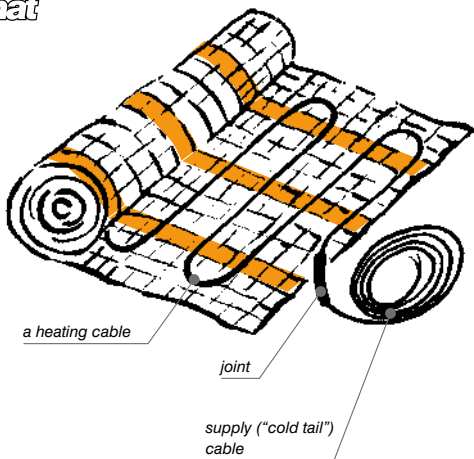
Look for quality marks that indicate compatibility with Electric Underfloor Heating:



How is *ekomat* manufactured?

It is produced in ready-made kits. The heating cable is attached to a plastic mesh, connected to a 'cold tail' supply cable 4m long.

The plastic mesh is coated with adhesive to enable the mat to stick to the base floor. The mat thickness is approx. 3.5mm.



Types of ekomat

mat type	dimensions	area	power
100 W/m ²	[m x m]	[m ²]	[W]
100/1.0	0.5 x 2.0	1.0	100
100/1.5	0.5 x 3.0	1.5	150
100/2.0	0.5 x 4.0	2.0	200
100/3.0	0.5 x 6.0	3.0	300
100/4.0	0.5 x 8.0	4.0	400
100/5.0	0.5 x 10.0	5.0	500
100/6.0	0.5 x 12.0	6.0	600
100/8.0	0.5 x 16.0	8.0	800
100/10.0	0.5 x 20.0	10.0	1000

Note: the nominal power output may differ by +5, -10%

mat type	dimensions	area	power
160 W/m ²	[m x m]	[m ²]	[W]
160/1.0	0.5 x 2.0	1.0	160
160/1.5	0.5 x 3.0	1.5	240
160/2.0	0.5 x 4.0	2.0	320
160/2.5	0.5 x 5.0	2.5	400
160/3.0	0.5 x 6.0	3.0	480
160/3.5	0.5 x 7.0	3.5	560
160/4.0	0.5 x 8.0	4.0	640
160/5.0	0.5 x 10.0	5.0	800
160/6.0	0.5 x 12.0	6.0	960
160/7.0	0.5 x 14.0	7.0	1120
160/8.0	0.5 x 16.0	8.0	1280
160/10.0	0.5 x 20.0	10.0	1600

Note: the nominal power output may differ by +5, -10%

The mats of 160W/m² can be installed only under floor tiles.

The mats of 100W/m² power can be installed under any floor type.

What is the *ekocontrol* thermostat used for?

It controls the mat performance by means of a temperature sensor, located between the heating cables, i.e., directly in the floor. With the temperature sensor, you can maintain desired floor temperature. **The connection of the heating mat to the electric mains is possible only via the thermostat!** The connection can only be done by a qualified electrician.

Where to start?

- 1) Measure the part of the floor on which the heating mat is to be installed.

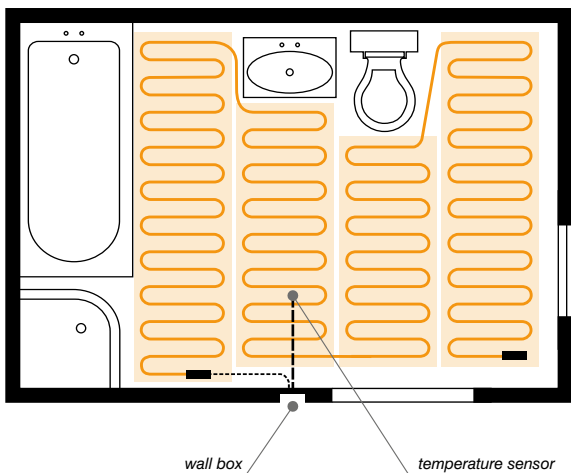
Note: If you start the installation works in a new build with no fixed furniture - draw (mark) the fixed elements (cabinets, a bathtub, a toilet, a shower, etc.) on the floor and calculate the area to be heated.

Calculate the area of the "free" floor and choose an appropriate mat.

- 2) Install an installation box for the thermostat, ready for the power supply to be installed.

Remember!

At a later stage of installation works, you are going to install the thermostat in that installation box. The thermostat should be placed (for aesthetic and practical reasons) close to light switches - perhaps within the same frame.



Very important! The thermostat should be mounted on the outside bathroom or sauna wall for protection against moisture and to comply with regulations.

3) Install two (2) conduits from the installation box (the inside dia. minimum 11mm) to the floor. For aesthetic reasons, lay them in previously made chases in the wall.

a) Later on (at the stage of the mat installation), you are going to insert a cable with the temperature sensor into one of the conduits.

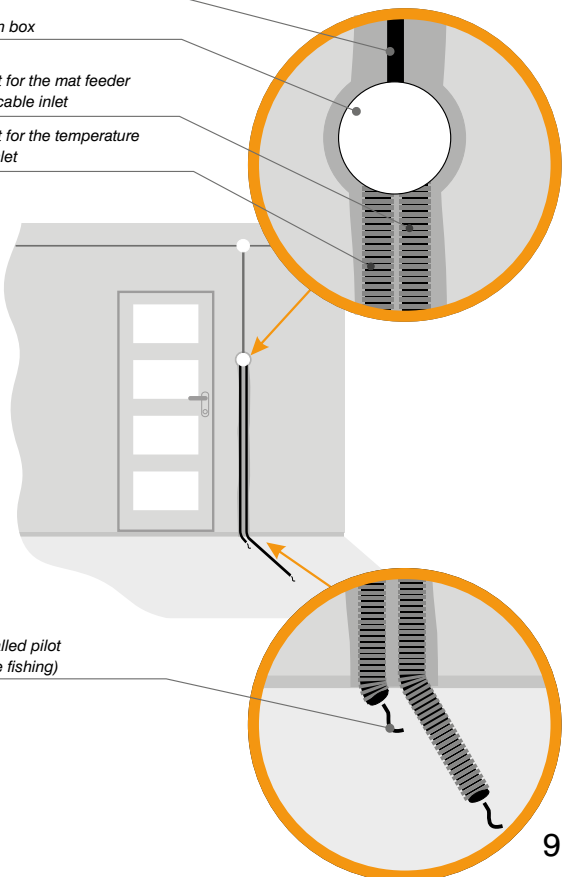
a 230V conduit cable

a junction box

a conduit for the mat feeder ("cold") cable inlet

a conduit for the temperature sensor inlet

the so-called pilot (for cable fishing)



Remember!

The temperature sensor should be placed possibly at the centre of the heated surface - therefore, the conduit (laid in the groove, cut in the floor) should "enter" the heating zone.

- b) the cold tail cables will be inserted into the other conduit. Cut out a groove in the floor (but much shorter) and lay a conduit in it, leading it to the installation box.

Very important! The conduits cannot be bent at a right angle (at the contact of the wall with the floor); a smooth bend should be maintained.

Before fixing the mat

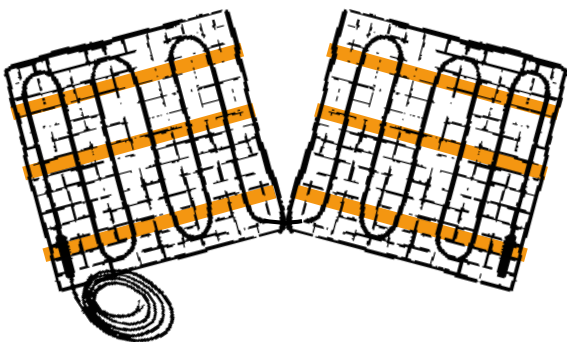
- 1) Clean the base on which the mat is to be laid
 - a) level the surface
 - b) carefully scrub any old tiles
- 2) Install the cable with the temperature sensor (in the conduit under the wall plaster) up to the installation box.
- 3) Lay the conduit in the groove, previously cut in the floor.

Important! Seal the end of the conduit with, for example, insulating tape to protect against tile adhesive oozing inside the pipe and damaging the temperature sensor.

Now start fixing the mat

- 1) Spread the mat out on the floor in such a way as to avoid fixed furniture, such as a bathtub, a shower, a toilet, standing cabinets without legs...

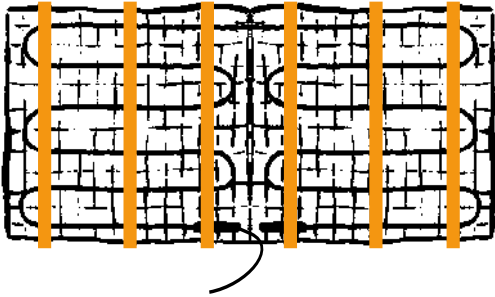
Note: In order to adjust the mat to size and shape of the “free” floor surface, you can cut the mesh, to which the heating cable is fixed.



Remember!

**You must not damage the heating cable.
You must not cut it!**

Where the mesh is cut, you must carefully straighten the loose cable and place the cut mat sections close to each other. Keep equal distances between heating cables.



Important: You have to lay the mat in such a way as to allow supply ("cold") cable to reach the thermostat.

Note: The temperature sensor has to be placed at an equal distance between heating cables.

Important: After gluing the mat to the base, check the resistance of the core with an ohmmeter, and the insulation resistance of the core with a megaohmmeter. Note the result. After covering the mat with flexible tile adhesive or with self-levelling compound, you must measure the resistance again. It is necessary to make sure that the mat is not damaged during installation works.

- 2) Prepare a plan indicating the mat layout and position of the floor sensor. Keep the drawing in order to facilitate, if necessary, locating the heating mat and the temperature sensor in the future.
- 3) Once the mat is fixed to the base, coat it with a layer of flexible tile adhesive or self-levelling compound.

Very important: The heating cable of the mat should be covered with a 3 mm layer of tile adhesive or self-levelling compound.

Important: The joint between heating cable and cold tail should be embedded in the flexible tile adhesive or self-levelling compound.

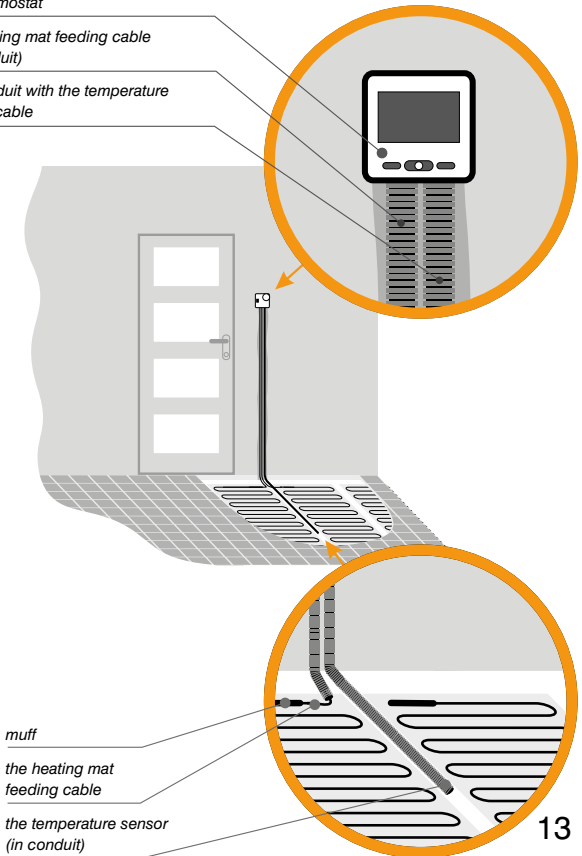
When the mat is already installed

- 1) Wait until the adhesive is dry.
- 2) Insert the cold tail cable into the installation box (through the conduit of course) - you may shorten the cold tail cable length, if necessary.
- 3) Measure again the resistance of the core and the insulation of the heating cable - compare with the initial value - note the result.

the thermostat

*the heating mat feeding cable
(in conduit)*

*the conduit with the temperature
sensor cable*



Remember!

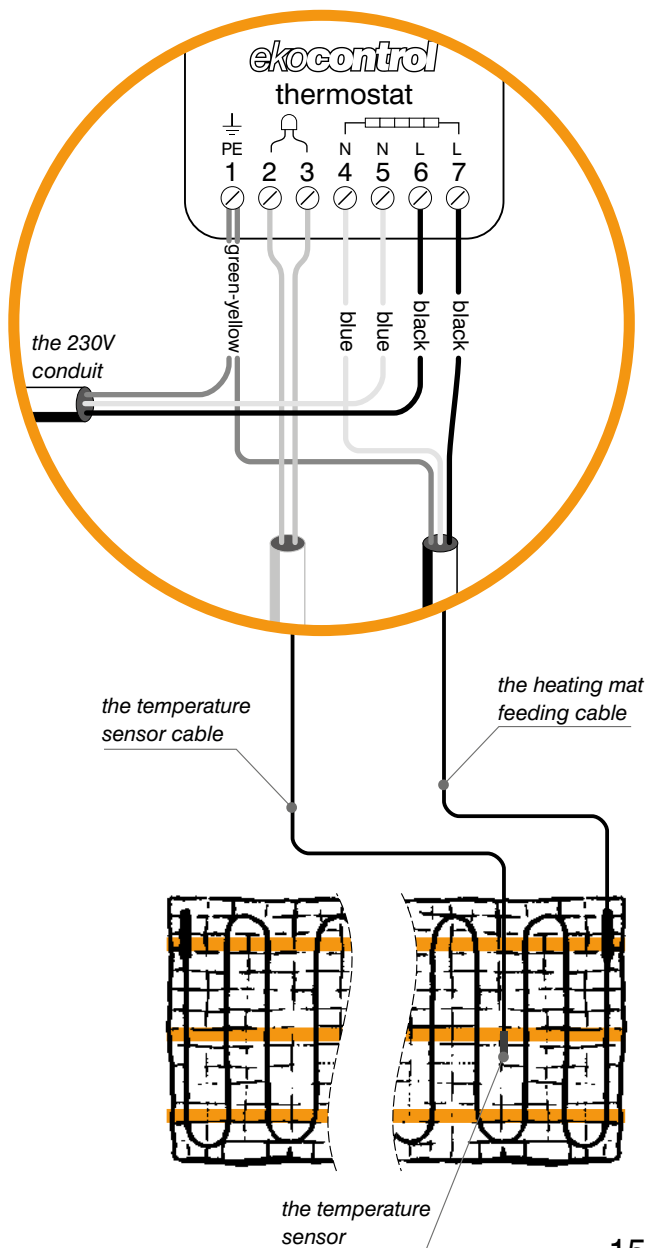
If you put more than one heating mat in one room, all the cold tails must be led to the installation box / thermostat.

Connecting the heating mat to the mains

Important: Leave this task to a qualified electrician.

Remember!

The connection of the heating mat should be done through the thermostat - follow the circuit diagram. The protective cable (green-yellow) must be connected to the protective cable of the electric installation (green-yellow) by means of a clamp terminal on the thermostat.



Earth leakage protection

The power supply should be equipped with an RCD (Residual Current Device) with $\Delta \leq 30\text{mA}$ sensitivity.

Switching on the heating system

Important: Only after complete drying of the tile adhesive and the grout, as specified by the manufacturer.

Your task:

Set the desired temperature on the thermostat.

The last advice

Remember to avoid making changes in furniture layout that will affect heat radiation by the floor: do not put objects with large surfaces on the floor, e.g.: mattresses, cabinets without legs...

If you have to drill holes, check it with the cable layout plan first in order to avoid damaging the heating cables.

The guarantee card

The manufacturer provides a 10-year guarantee for *ekomat* and a 2-year guarantee for the *ekocontrol* thermostat from the date of purchase.

The guarantee conditions

1. In order to have the submitted claim acknowledged:
 - the installation of the heating mat should comply with the installation instructions
 - the connection of heating mat and the thermostat to the electric mains, as well as measurements of the heating cable core and insulation resistance should be done by a qualified electrician
 - the electric installation, supplying the heating circuit, should be equipped with an RCD
 - a plan of the *ekomat* layout should be submitted
 - the properly filled guarantee card (with product label) should be submitted
2. The guarantee does not cover defects, caused by:
 - mechanical damage
 - improper power supply
3. Regarding the guarantee, the manufacturer is obliged to incur costs, connected exclusively with the repair or replacement of a defective heating cable.

Guarantee Card

Your 10 year guarantee commences on the date of purchase.
This card must be retained for the duration of the guarantee.



INSTALLATION ADDRESS

Address	
Post Code	Town

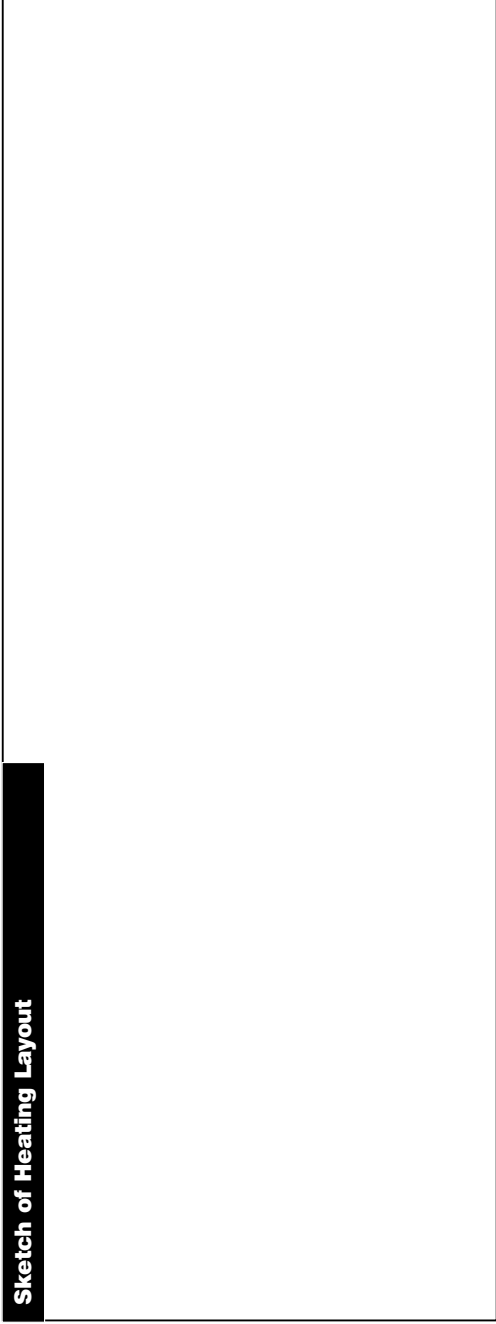
Any claim must be accompanied by this guarantee card & proof of purchase.

DETAILS OF INST ALLER / ELECTRICIAN

Name	Professional body enrolment number
Address	E-mail
Post Code	Town
	Tel.
	Fax

The electrician carrying out the electrical connections / installation must provide a test certificate.

Sketch of Heating Layout



Heating core and insulation resistance	
After heating mat installation, before floor installation	Ω
	$M\Omega$
After floor installation	Ω
	$M\Omega$

Date	
Installer's signature	
Company stamp	

Caution: The measurement results of the heating core's resistance should not vary from the one given on the nameplate with more than -5% and +10%. Resistance of the heating wire insulation should be at least 10 $M\Omega$ when measured with a megohmmeter (Insulation Resistance Tester) with a rated voltage of 1000V.