

EN // HEATING MAT

Installation instructions for the heating mat

Electric heating mat for installation under tiles and porcelain stoneware.
Requires a thermostat with a floor sensor; the final connection is made
by a qualified electrician.

NET160W · 160 W/m²0.5 – 20 m²

30 years warranty



DEAR CUSTOMER THANK YOU FOR YOUR PURCHASE

Scan the QR code to access video materials and the complete
product documentation at www.ergowave.eu

Note: Read the instructions before starting the installation!

Comfort. Efficiency. Innovation



Preparation for the installation of heating mats

Familiarisation with the documentation

Before starting installation, read the operating instructions and the technical documentation of the product carefully.

Preparing the room

- Make sure that the surface on which the mat will be installed is clean, dry and level.
- Remove any dirt that could affect the adhesion of the adhesive or the correctness of the installation.
- Ensure suitable temperature conditions – the ambient temperature must not be lower than +5 °C.

Checking the electrical installation

- Check the technical condition of the electrical installation in the room.
- Check whether the installation has appropriate protection in accordance with the applicable standards.
- In case of doubt, consultation with a qualified electrician is recommended.

Design of the heating installation

Before starting installation, the investor or installer must prepare a design of the heating installation. The design must take into account:

- the arrangement of equipment and fixed furniture,
- the areas where the mat will not be installed,
- the routing of the supply cables.

Unheated areas

- An unheated strip 5 to 10 cm wide must be maintained along the walls.
- Heating mats must not be installed under furniture without legs or under elements of fixed furniture.

Checking the heating mat before installation

- Before starting installation, a control test of the heating mat must be carried out.
- The measured resistance must correspond to the values given in the technical documentation of the product.



Installation guidelines

During the installation of the heating mat, the following rules must be strictly observed:

1. Do not join sections of heating cables and do not allow them to overlap.
2. Do not shorten the heating cables – this may damage the installation.
3. Do not use metal elements to fasten the mat.
4. Do not walk on the unrolled heating mat, so as not to damage the cables.
5. Regularly check the resistance of the cables with a meter – this way you will detect any damage before completing the installation.

Before starting work, prepare the following:

- insulation board or foam under the mat,
- drill or hammer drill, hole saw,
- hammer, chisel, ruler, tape measure,
- screwdriver, voltage tester,
- multimeter and resistance meter,
- pencil or chalk for marking,
- combination pliers, knife, wire strippers,
- brush, dustpan, trowel,
- installation box, protective conduit (flexible conduit).

⚠ Before you start — conditions and warnings

- **Installation temperature:** not lower than +5 °C.
- **Unheated strip along walls:** leave a 5–10 cm free strip from the walls.
- **Prohibited:** overlapping sections of heating cables, shortening heating cables, using metal fastening elements, walking on the unrolled mat.
- **Electrical safety:** the final installation (connection to the distribution board) is carried out exclusively by a qualified electrician. The heating circuit must be protected by a 30 mA residual current device (RCD) and a suitable circuit breaker/RCBO in accordance with local regulations.
- **Keep** the technical documentation of the mat and the certificates.

1 Preparing the substrate

- Remove old unstable coatings, dust, grease stains and residues.
- The substrate must be level, load-bearing and dry (humidity in accordance with the requirements of the floor covering manufacturer).
- Level out unevenness with self-levelling compound if the deviations exceed the permissible values of the mat/floor covering manufacturer.
- Install thermal insulation (board or foam) in accordance with the product instructions — it ensures better efficiency and faster heating.

Note: make sure the surface is clean and degreased; vacuum it, then wipe with a damp cloth and allow to dry.

2 Preparing the mat layout plan

- Prepare a drawing of the mat layout in accordance with the room equipment and fixed furniture (cabinets, fixed furniture).
- Mark the excluded areas (e.g. along walls, under fixed furniture, under appliances without legs).
- Plan the routing of the supply cables to the installation box and the route of the temperature sensor.
- Keep a cable reserve at the connection to the thermostat in accordance with the manufacturer's instructions (do not shorten the heating cables!).

3 Unrolling the mat (dry installation, without gluing)

- Unroll the mat on the dry substrate in accordance with the plan — make sure the cables do not overlap or cross.
- Make sure that the supply cable and the temperature sensor cable have a planned route to the box/thermostat.
- Do not lay the mat in the places marked as excluded.
- Check that the edges of the mat maintain a distance of 5–10 cm from the walls.

Warning: if the mesh of the mat has to be cut (not the cable), cut exclusively the mesh with a knife — do not cut the heating cables.

4 Fastening the mat (permanent)

- Use exclusively non-magnetic/non-metallic installation materials (mounting tape, mat adhesive).
- If the instructions provide for gluing: apply contact adhesive or flexible adhesive mortar in accordance with the recommendations of the floor covering and mat manufacturers.
- Press the mat down evenly (using e.g. a roller) so that no air bubbles or deformations occur.
- After gluing, check the arrangement of the cables and the distances from the walls again.

Warning: do not use nails, steel staples or other metal elements for fastening.

5 Installing the temperature sensor

- Install the temperature sensor in a dedicated conduit/channel under the mat — in a place representative of the room (most often in the centre of the heating field, away from the wall and heat sources).
- The sensor must not touch the heating cable directly — insert it into a protective conduit and place it alongside the heating cable.
- Route the sensor cable to the thermostat box.

CAUTION! THE HEATING CABLE MUST NOT BE SHORTENED!

6 Installing the box and preparing the cables for connection

- Install the installation box in the intended place. Ensure an appropriate depth (space for connections).
- Route the supply cable and the sensor cable to the box through a protective conduit.
- Leave a sufficient cable reserve for convenient connection.
- Temporarily close and secure the connections — do not connect them to the mains at this stage.

7 Electrical tests before screeding/final covering

Carry out all tests before laying the levelling layer and the tiles.

Test A — Insulation resistance

- Set the meter to the highest range (e.g. 2000 kΩ).
- With the terminals open, the meter must show ∞.
- Connect one terminal to the heating cables (blue + brown twisted together), the other to the protective conductor (green-yellow).
- The result must be ∞ — if not, the mat has damaged insulation → stop the installation and notify the service centre.

Test B — Cable resistance (nominal resistance)

- Select the meter range in accordance with the product resistance table.
- Take the measurement between the blue and brown cable.
- The result must correspond to the nominal value $\pm 10\%$. If not, contact the manufacturer/supplier.
- Record the test results in the report.

8 Screed / tile adhesive / installation of the final covering

- After successful tests, prepare the levelling layer/tile adhesive in accordance with the recommendations of the mat and floor covering manufacturers.

9 Start-up and thermostat calibration

- Switch on the system in accordance with the thermostat instructions.
- Set the initial parameters (test mode/limited power, if available).
- For the first 24–48 hours, monitor the temperature and the stability of operation.
- Record the settings and hand the instructions over to the user.

Maintenance and use

- Do not place fixed furniture or heavy furniture without legs on the heating surfaces.
- Regularly (once before the heating season) check the operation of the thermostat and the temperature reading.
- In case of damage to the floor covering/electrical system, switch off the circuit and call the service centre.

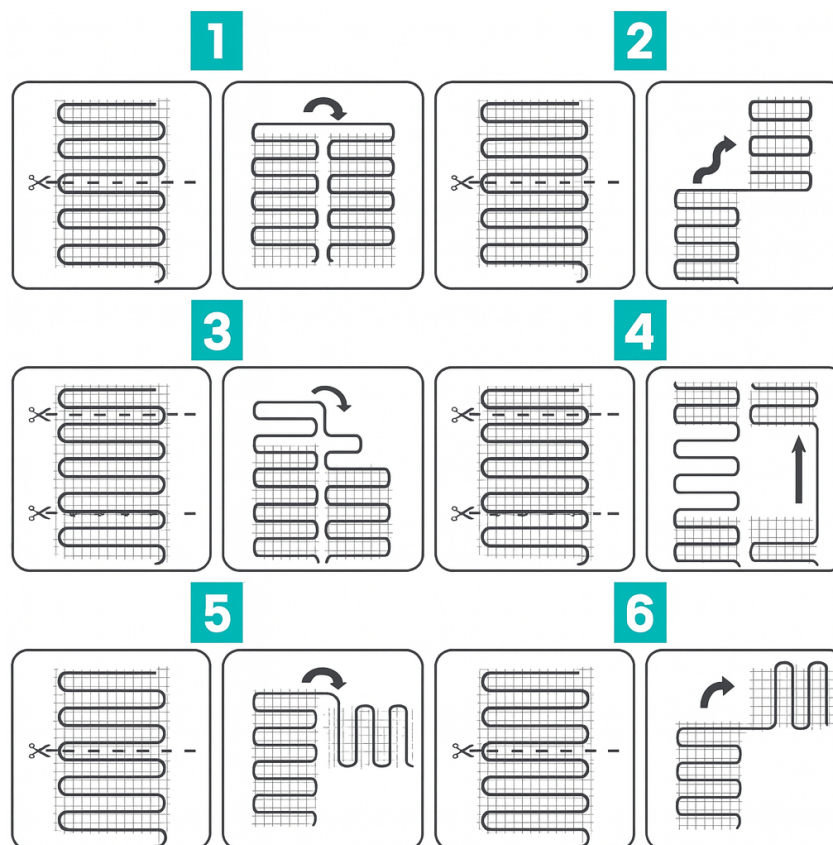
✓ Acceptance protocol — checklist

- | | |
|--|--|
| • Substrate prepared and insulation installed | • Cable resistance test — result: OK ($\pm 10\%$) |
| • Mat layout plan prepared and approved | • Connections in the box prepared (temporarily) |
| • Mat laid without overlapping cables | • Final floor covering completed and cured |
| • Temperature sensor installed in a protective conduit | • Final connection to the mains made by an electrician |
| • Insulation resistance test — result: OK | • Measurement report and photographic documentation enclosed |

✿ Most common problems — quick solutions

- **Insulation measurement $\neq \infty$** → Possible insulation damage. Do not start up, contact the service centre.
- **Resistance outside $\pm 10\%$** → Check the connections, repeat the measurement; if still outside the range → submit a complaint.
- **Heating too slow** → Check the floor insulation, the mat power and the thermostat settings.
- **Hot spots / overheating** → Check that the mat is not covered by furniture without legs; check the temperature sensor.

Laying and turning the ergowave heating mat



1. Parallel turn

Cut the backing mesh at the selected point and change the direction of laying the mat by turning it parallel through 180°.

3. Offset turn

Cut the backing mesh at two selected points to change the direction of the mat run. Unroll the heating cable and lay the remaining part of the mat according to the needs of the room.

5. Right-angle turn

Cut the backing mesh at the selected point to change the direction of laying the heating mat. Rotate the remaining part of the mat through 180° about its axis, then through a further 90° to obtain a right angle.

2. Parallel turn

Cut the backing mesh at the selected point and rotate the remaining part of the mat through 180° about its axis to continue laying in the opposite direction.

4. Offset turn

Cut the backing mesh at two selected points and thus change the direction of laying the mat. Extend the heating cable to the required length, then adapt the remaining part of the mat to the planned layout.

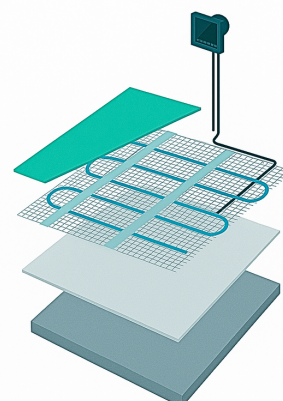
6. Right-angle turn

Cut the backing mesh at the selected point and turn the mat at a right angle by rotating the remaining part through 90°.

Resistance results for individual mat sizes (+/-10 %)

Model	Power (W)	Size (m×m)	Area (m²)	Resistance (Ω)
NET160-0.5	80	0,5×1	0,5	661,3
NET 160-1.0	160	0,5×2	1,0	330,6
NET 160-1.5	240	0,5×3	1,5	220,4
NET 160-2.0	320	0,5×4	2,0	165,3
NET 160-2.5	400	0,5×5	2,5	132,3
NET 160-3.0	480	0,5×6	3,0	110,2
NET 160-3.5	560	0,5×7	3,5	94,5
NET 160-4.0	640	0,5×8	4,0	82,7
NET 160-4.5	720	0,5×9	4,5	73,5
NET 160-5.0	800	0,5×10	5,0	66,1
NET 160-6.0	960	0,5×12	6,0	55,1
NET 160-7.0	1120	0,5×14	7,0	47,2
NET 160-8.0	1280	0,5×16	8,0	41,3
NET 160-9.0	1440	0,5×18	9,0	36,7
NET 160-10.0	1600	0,5×20	10,0	33,1
NET 160-12.0	1920	0,5×24	12,0	27,6
NET 160-15.0	2400	0,5×30	15,0	22,0
NET 160-16.0	2560	0,5×32	16,0	20,7
NET 160-18.0	2880	0,5×36	18,0	18,4
NET 160-20.0	3200	0,5×40	20,0	16,5

Heating mat layer diagram



- 1. Floor covering (tiles, porcelain stoneware)
- 2. ergowave heating mat, embedded in adhesive
- 3. Layer of flexible adhesive
- 4. Concrete floor

DECLARATION OF PERFORMANCE

The declaration of performance is issued by:

ergowave sp. z o.o., ul. Malinowa 14h, 43-100 Tychy, Poland, VAT ID (NIP):6463025040 | REGON:543175153

As importer of the product: Heating mat, type: NET160W, country of origin: China

The importer declares that the above products:

- are safe when used in the specified manner,
- meet the requirements set out in the technical documentation,
- that measures have been taken to ensure the conformity of all products placed on the market with EU regulations and the technical requirements of the manufacturer.

1. Performance characteristics

The performance characteristics of the product meet all relevant technical requirements set out in the applicable EU regulations and, where necessary, in other legal provisions.

2. Conformity test

The conformity test was carried out in accordance with:

- the Low Voltage Directive (LVD) 2014/35/EU,
- Directive 2014/30/EU on electromagnetic compatibility (EMC).

The following harmonised technical standards were applied when testing the electrical equipment:

IEC 60800:2021, EN IEC 55014-1:2021, EN IEC 55014-2:2021,

EN IEC 61000-3-2:2019+A1:2021+A2:2024,

EN 61000-3-3:2013+A2:2021+AC:2022-01

Test report: TLAH25031067803, TEAH25031067804

WARRANTY CARD

Warranty granted to:

Date of granting the warranty:

Invoice number / acceptance protocol:

Warranty conditions

The guarantor of the product quality is Ergowave Sp. z o.o. A fault must be reported to the installer who carried out the installation.

Scope of warranty liability

The guarantor is liable for defects arising through the fault of the manufacturer which appear on the product within the period of:

- 30 years – heating mats, provided that the installation is carried out in accordance with the instructions supplied with the product by an authorised person,
- 2 years – the remaining elements of the heating system, including the thermostat,
- The warranty for the installation is provided by the installer.

Warranty start date

The warranty for the product is valid from the date of start-up of the system, confirmed by the relevant installation acceptance protocol. To claim under the warranty, the acceptance protocol prepared by the installer must be presented.

Complaint processing time

The warranty claim will be processed within 31 working days from the date the complaint is submitted.

Place and conditions of complaint processing

The complaint will be processed at the customer's premises, after permanent installation of the product, unless the parties agree otherwise. If it is found that Ergowave Sp. z o.o. is not the distributor of the product complained about, the complaint is manifestly unfounded and all costs associated with its processing are borne by the claimant.

Enforcement of warranty claims

If the complaint is accepted, Ergowave Sp. z o.o. will repair or replace the damaged product. The costs of repair or replacement are the sole compensation under the complaint. The warranty does not cover other costs incurred by the customer.

Expiry of the warranty

The warranty becomes void in the following cases:

- servicing carried out by persons not authorised by the distributor,
- mechanical damage,
- improper power supply,
- damage caused by flooding, lightning strike, fire or force majeure,
- electrical installation carried out contrary to the applicable regulations.

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