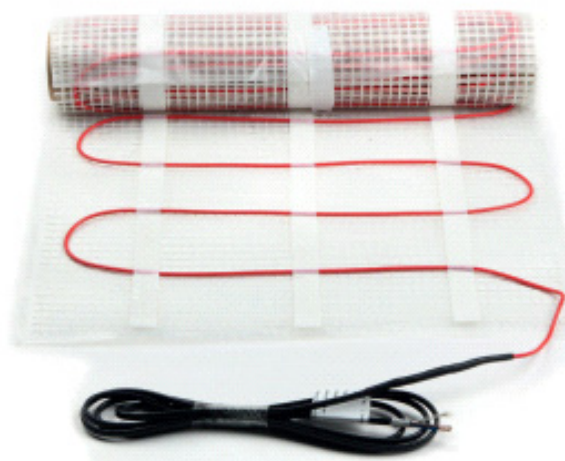


ecostrad

INSTRUCTION MANUAL

Ecostrad Thermamesh Underfloor Heating Mat



PLEASE READ AND SAVE THESE INSTRUCTIONS



MAG-000546

Contents

1 	About the Manual	6
2 	Technical Information	6
3 	Warnings & Precautions	7
4 	Installation	12
	4-1 Typical Installation	12
	4-2 Preparation	13
	4-3 Installing the Mats	14
	4-4 Mains Connection	15
	4-5 Commissioning	16
5 	Warranty	18
	5-1 Warranty Terms	18
	5-2 Warranty Card	20
	5-3 How to register this warranty	21
	5-4 Notice Card	22
6 	ErP Ecodesign Information	24
7 	Disposal	25

Symbols

Warning



This symbol indicates a hazard with an average risk level which, if not avoided, could result in serious injury or death.

Warning of electrical voltage



This symbol indicates danger to the life and health of persons due to electrical voltage.

Observe instructions in manual



This symbol located on the device indicates that instructions in the operating manual must be observed when installing and using the device.

Important



This symbol indicates a stage of installation particularly critical for safety, device performance, ease of installation or warranty protection.

1 | About the Manual

This manual describes the Ecostrad Thermamesh Underfloor Heating Mat and details how to install and use the product. It is important to thoroughly review this manual before using the product. The declaration of conformity is issued under the sole responsibility of the manufacturer.

For **technical advice** or help concerning the Ecostrad Thermamesh Underfloor Heating Mat, contact the retail establishment or distributor from which the product was purchased.

The Ecostrad Thermamesh is perfectly suited to a variety of floor coverings, such as tiles, vinyl flooring, engineered flooring, parquet, PVC, cork and carpet. The achievable floor temperature depends on the floor structure and the floor covering.

2 | Technical Information

Table 1 | Specifications

Cable Construction	Twin conductor (single-ended connection)
Rated Voltage	230V
Output	150W/m2
Cable Spacing	80mm
Cable Diameter	Approx. 3.2 mm
Conductor Insulation	Fluoropolymer (FEP)
Outer Insulation	PVC
Min Installation Temperature	5 °C
IP Rating	IPX7

3 | Warnings & Precautions

READ ALL SAFETY WARNINGS AND ALL INSTRUCTIONS.



Read this manual carefully before using or installing the heating mats. Always store the manual in the immediate vicinity of the radiator or its site of use.

Failure to follow the warnings and instructions may result in electric shock, fire, serious injury, or all of the above. Save all warnings and instructions for future reference.

Warning



Underfloor heating can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been supervised or provided instruction concerning the use of the radiator in a safe way and understand the hazards involved. Children shall not play with underfloor heating. Cleaning and user maintenance shall not be made by children without supervision.

Warning



Children of less than 3 years should be kept away unless continuously supervised.

Children aged from 3 years and less than 8 years shall only switch on/off the radiator provided that it has been placed or installed in its intended normal operating position and they have been given supervision or instruction concerning use of the radiator in a safe way and understand the hazards involved.

Children aged from 3 years and less than 8 years shall not plug in, regulate, or clean the radiator, or perform maintenance.

Warnings & Precautions

Warning



Some parts of this product can become very hot and cause burns. Do not touch the surface when in operation. Do not install close to curtains or other combustible materials. Particular attention should be given where children and vulnerable adults are present.

Warning



Do not use the device in enclosed spaces if persons are present who cannot leave the room independently and are not under constant supervision.

- This product is suitable for use as primary, supplementary or transitional heating in all living areas, such as bathrooms, kitchens, sauna anterooms and hallways.
- This product is intended for use in domestic settings, and may also be used in non-domestic environments, e.g. garages and small commercial premises, provided it is used in the same manner. Any other use is considered improper. Proper use includes following these instructions. When used in conjunction with the floor temperature controller, the thin-bed heating systems are designed for continuous operation.
- All our products undergo comprehensive functional, safety and quality testing prior to dispatch. We guarantee that our products are designed in accordance with current international, European and German safety regulations. The manufacture of our electric thin-bed heating systems is continuously monitored by a state-accredited testing body.
- The electrical connection must be made only as a fixed connection via the underfloor temperature controller. The thin-bed heating system must be disconnected from the mains supply on all poles via a disconnection plug with a minimum contact gap of 3 mm. Keep the power cable away from all hot parts of the radiator.
- Installation must only be carried out in accordance with the applicable DIN VDE 0100 standard:

Warnings & Precautions

- Please observe all national and regional regulations and requirements.
- Installation and commissioning must be carried out by a qualified technician.
- The thin-bed heating mat must not be put into operation whilst rolled up.
- Please refer to the electrical specifications on the type plate when commissioning the system.
- Operate the thin-bed heating mats only when fully assembled and fitted with all safety devices (residual current circuit breaker with a rated residual current of <30 mA).
- The thin-bed heating mat may only be operated in conjunction with an external floor temperature controller with a temperature sensor that complies with the Ecodesign Directive (Commission Implementing Regulation (EU) No 2015/1188).
- Only use floor temperature controllers that meet the required correction factors.
- Please read all the information contained in this manual carefully. It provides important guidance on the safety, installation and operation of the product. Keep this manual in a safe place and pass it on to any subsequent owners if necessary.
- If the heating conductor is damaged, contact the manufacturer immediately – before installation (see the last page for contact details).
- To ensure the safe operation of the thin-bed underfloor heating system, it must only be installed and connected in accordance with the instructions in this manual. This must be carried out by a qualified technician.
- The thin-bed heating system must only be used for the specified purpose.
- Repairs and maintenance work must only be carried out by a qualified technician in order to avoid hazards.
- All materials used (e.g. tile adhesive, screed, insulation boards and floor coverings) must be expressly approved by the

Warnings & Precautions

manufacturer for use with underfloor heating and must be able to withstand temperatures of at least 80°C.

- Dispose of packaging materials correctly.
- Before installing and commissioning the thin-bed underfloor heating system, an installation plan must be drawn up showing the heated area, the cold ends and the position of the temperature sensor. The installation plan, supplemented by a photograph if necessary, must be kept together with these installation instructions and passed on to the next owner.

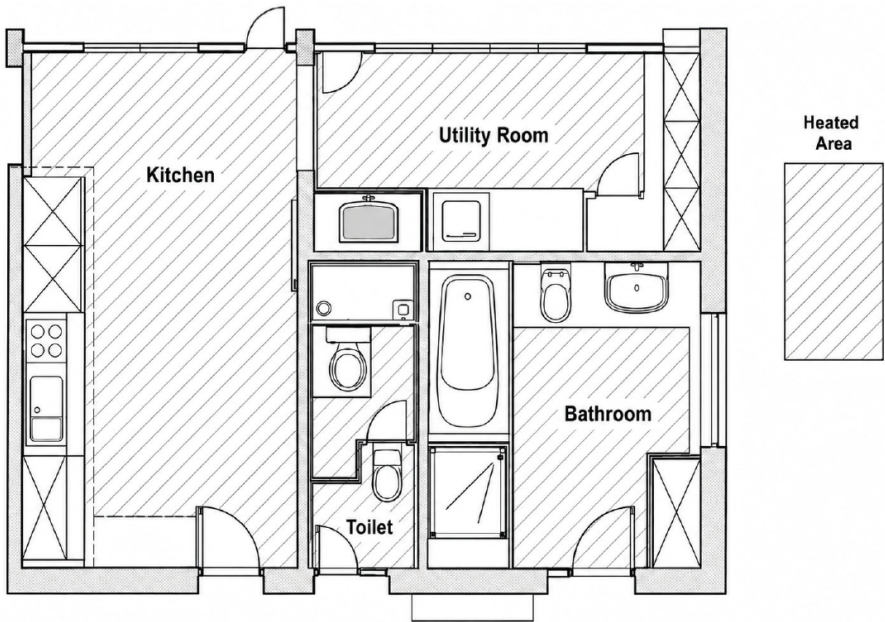


Figure 1 | Installation plan example

- Thin-bed heating mats must only be laid on surfaces that will not subsequently be completely covered by built-in furniture, foam accessories or other objects. Prolonged heat build-up can cause the heating mat to fail.
- If heated areas beneath built-in furniture cannot be completely avoided, it is essential to ensure adequate heat dissipation by means of slits in the plinth or spacers between the furniture and the floor.

- When laying several parallel tracks, the distance between the heating conductors of these tracks must be at least 5 cm. This must be taken into account at the design stage. Installation must be carried out with due care and attention to ensure that mechanical damage to the heating conductor is avoided.
- Sharp tools, nails or screws (e.g. door stops, etc.) must not be used.

4 | Installation

4-1 | Typical Installation

Beneath thin-bed heating mats, effective thermal insulation with a thickness of at least 5 mm – though 30 mm is preferable

– must be laid or bonded in place, e.g. PCI Polysilent

Heat loss downwards – which increases the thinner the additional insulation is – reduces the amount of the heat transferred to the room.

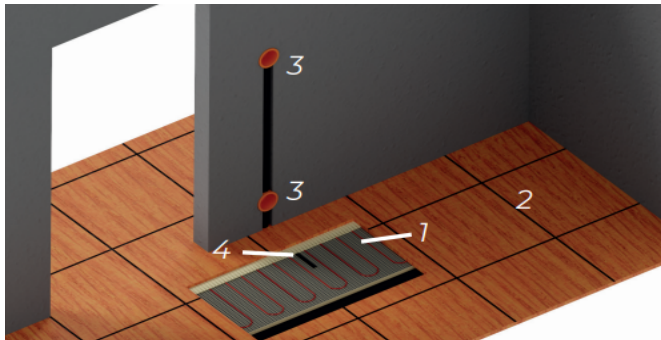
1 Thin-bed heating mat

2 Floor covering

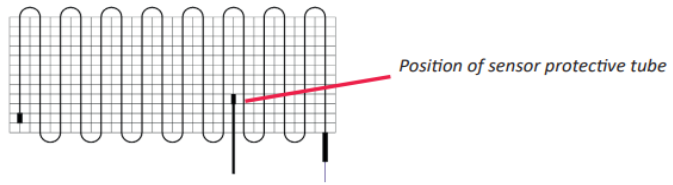
3 Flush-mounted junction box

4 Sensor protection tube

Without additional thermal insulation, the heat-up time is significantly longer and high heat loss downwards results in unnecessary additional heating costs!



Installation



4-2 | Preparation

Before installing the thin-bed underfloor heating, the substrate must be checked for load-bearing capacity.

Substrates that are heavily sandy or crumbly must be sealed. Any cracks must be repaired beforehand. Substrates that are slightly sandy on the surface must be stabilised with a primer (e.g. deep penetrating primer).

The substrate must be free of dust. Wood-based substrates such as wood fibre boards, chipboard and cork boards must be installed so that they are firm underfoot.

In this case, we recommend applying a bonding agent to the substrate. Suitable products include (Ardurit X7G, PCI Flex

mortar or similar).

If the tiles are to be bonded to ceramic tiles or similar surfaces, these must be roughened using a grinder.

Before installation, check that no sharp objects are protruding from the subfloor. The heating conductor resistance and insulation resistance must be measured and recorded on the warranty card. Immediately after embedding, this measurement must be repeated and recorded on the warranty card as a second check measurement.

The insulation resistance must be at least 1000k to the protective conductor during the second measurement!

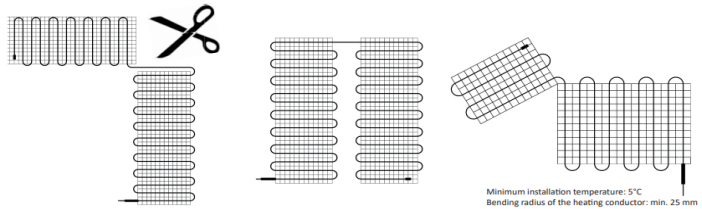
Installation

The warranty will only come into effect if both measurements are carried out and correctly recorded on the warranty card.

4-3 | Installing the Mats

Depending on local conditions, the heating mats are usually laid in several strips. To do this, the individual mats must be folded.

back, and the backing mat must be separated from the heating conductor and cut through.



Heating cables must never overlap or cross. The thin-bed heating mat must not be laid over expansion joints.

Lay the heating mat on the chosen surface in accordance with the installation plan and secure it in place. The PTC cable and the supply cable for the floor temperature sensor must be routed directly into the respective junction box without any breaks.

The temperature sensor must be routed through a conduit to facilitate access at a later date.

Thermistors and sensor cables must not be routed through the same empty conduit. Cut out the necessary space for the sensor conduit from the subfloor. The floor temperature sensor is secured between two heating conductors beneath the heating mats.

Once the sensor has been inserted into the conduit, the conduit must be sealed to prevent adhesive mortar from entering!

Then lay the thin-bed heating mat (with the heating conductor facing upwards) in place and press it down gently. It must be completely embedded in the

adhesive mortar; air pockets must be avoided and the glass fibre mesh and the heating conductor must lie flat on the floor without any creases.

Under no circumstances must the heating conductor be damaged when cutting the backing mat.

Please ensure that the cold ends do not touch or cross either the heating conductor or the sensor cable.

Tiling: The top surface of the element is then coated once more with 5–8 mm of adhesive mortar, smoothed down neatly, and the tiles embedded directly into it.

Other floor coverings: After approximately 48 hours, the dry mortar surface can be prepared and the desired floor covering then laid.

The heating mat should be in the centre of the adhesive and mortar layer.

It is essential to carry out an electrical test to verify the specified power output and to perform a functional test both before and after the heating element has been bonded in place.

Immediately after embedding in the tile adhesive, the second check measurement must always be carried out as described in section 4-2 and recorded on the warranty card. **Failure to comply will invalidate the warranty.**

4-4 | Mains Connection

The electrical connection must be carried out by a qualified electrician. To control the room temperature, the ECOSTRAD Touch 360 wall-mounted controller with a floor sensor must be installed.

The floor sensor must be positioned within the heating zone near the door, and in any case such that the end of the sensor lies between two heating conductors. Please ensure that follow the relevant instructions for

Installation

connecting the controller, as well as the applicable safety regulations.

When installing in rooms with a bath or shower, a residual current circuit breaker (RCCB) must be fitted in accordance with DIN VDE 0100-701.

Note:

In accordance with the Ecodesign Directive (Commission Guidelines accompanying (EU) No 2015/1188) external temperature control must be provided. Use only underfloor temperature controllers that comply with the required correction factors.

4-5 | Commissioning

The floor should not be heated for the first time after at least 48 hours after installation, to ensure that the adhesive or levelling compound cures slowly.

To start up the thin-bed underfloor heating system, switch on the controller and set the control to approximately one third of the maximum possible output.

This setting should not be exceeded during the first 24 hours. Alternatively, you can programme integrated into the controller. Please refer to the controller's instruction manual for details.

With temperature controllers fitted with a quartz clock, it is possible to set both the day and night temperatures individually for each day, on a weekly basis or according to any integrated programmes. Please refer to the operating instructions supplied with the controller.

Only floor coverings (carpets, PVC flooring, laminate flooring, etc.) that are suitable for and approved for use with underfloor heating may be used.

Installation

Before laying vinyl flooring, the heating should be left on continuously for at least 36 hours to remove any residual moisture from the subfloor.

Unsuitable working conditions and local circumstances beyond our control, as well as the use of unsuitable adhesives and accessories, preclude any further claims.

5 | Warranty

The Ecostrad ThermaMesh FH comes with a 25-year extended guarantee, activated upon completion and registration of the warranty card. See full terms and process for registering below.

5-1 | Warranty terms

What does the warranty cover?

The Ecostrad ThermaMesh underfloor heating system is protected by a 25-year guarantee. Within this period, starting from the date the customer receives their heating kit, Ecostrad guarantee to repair or replace the unit where a fault is due to defects in materials, design or manufacturing. Note – this warranty does not extend to the thermostat, which is covered by a separate guarantee; consult the thermostat manual for details.

What does the warranty NOT cover?

The warranty does not cover any defect arising from damage, negligence, usage outside the product's intended purpose or fair wear and tear. The warranty does not cover failures or faults due to force majeure, accidental damage, mishandling, external impact, chemical agents or atmospheric phenomena, incorrect use of the device, the purchaser's faulty electrical installations, transporting the device or problems caused by the device being handled by persons not authorised by Ecostrad. The warranty will be void if the system has been tampered with, altered in any way, used outside the United Kingdom, or used with components or accessories not designated by Ecostrad.

Ecostrad cannot accept responsibility for damage, loss or injury caused by incorrect installation or maintenance of the system. The warranty shall be void if the floor covering over the heater is damaged, lifted,

Warranty

replaced, repaired or covered with additional layers of flooring. Ecostrad cannot be held liable for damage caused by flood, fire, wind, lightning, earthquakes, accidents, frozen water pipes, corrosive atmospheric conditions or other phenomena beyond the control of Ecostrad.

Ecostrad shall not be liable for any secondary costs or damages not directly linked to the malfunction or replacement of the Ecostrad ThermaMesh mat. Ecostrad will not be liable for any costs directly relating to the dismantling of the defective product and the installation of a new product. The warranty is a contract with the original purchaser and does not transfer if the unit or property is re-sold, gifted or inherited. Claims must be made with the establishment where the device was purchased. This warranty does not affect the customer's consumer rights.

How to Claim

For **technical advice** or help concerning the Ecostrad Thermamesh Underfloor Heating Mat, please contact the retail establishment or distributor from which the product was purchased.

For queries, contact:

The UK manufacturer

Ecostrad Ltd.
Unit 21 Ash Way
Avenue C
Thorp Arch Trading Estate
WETHERBY
West Yorkshire
LS23 7FR

The ROI importer

Unit 44
Robinhood Industrial Estate
Robinhood Rd
Robinhood
Dublin 22
D22 W5T1
Ireland

<https://ecostrad.com/>

5-2 | Warranty Card

Ecostrad UFH Warranty Card

This card must be fully completed and submitted to Ecostrad within 30 days to register your underfloor heating warranty. Failure to include all required information may invalidate your warranty.

Owner details

Name:_____

Address:_____

Post Code:_____ Telephone Number:_____

Email:_____

Purchase details

Product:

☐ Ecostrad ThermaMesh 150W/m

Kit Size:_____

Order No:_____

Purchase Date:_____

Date Received:_____

Please state in which room the system is installed:_____

Installer details

Installer's Name:_____

Installer's Telephone Number_____

Installer's Address:_____

Warranty

Post Code:_____ Telephone Number:_____

Electrician's Part P Certificate Number:_____

Resistance Measurements

Confirm when you measure resistance that measured values are accurate. Warranty cards containing resistance measurements outside tolerances for the product size cannot be registered.

Installation Stage	Resistance (Ohms)
Before installation	
After mat installation	
After floor covering installation	

I hereby confirm that I have read and understood the contents of this manual and that the heater has been installed in accordance with all instructions contained therein. I confirm that the heating system(s) were working prior to installing the floor covering.

Installer's Signature:_____ Date:_____

5-3 | How to register this warranty

To register your warranty, you must complete the warranty card in section 5-2 and send it to Ecostrad using the QR code below.

Warranty

Scan here to register your warranty

ecostrad



5-4 | Notice Card

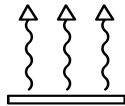
Place this card in a visible spot close to the consumer unit.

Heater Location: _____

Total Wattage: _____



CAUTION – Underfloor Heating
System Installed



Created by Adam Clarke
from Sketch-Project

Electric heating cables contained below
the floor



Warning – Risk of electric shock

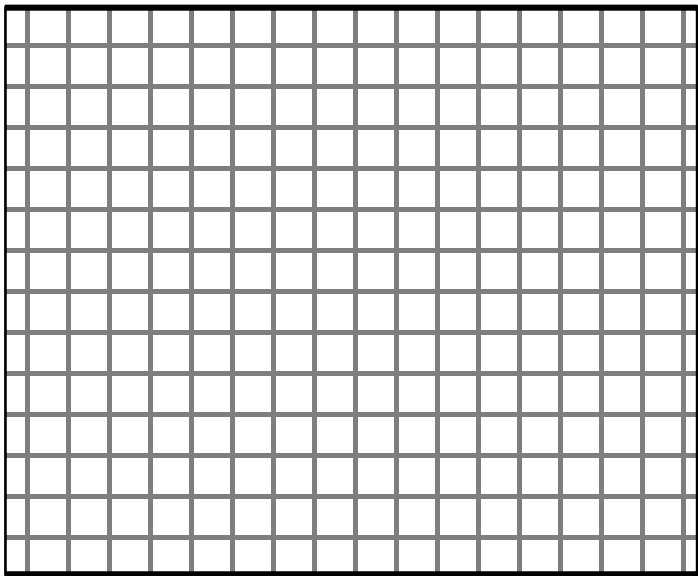
Do not penetrate floor with nails, screws or similar implements.

Do not restrict the thermal emission of the heated floor.

Do not cut or shorten the heating cables.

Warranty

See plan of system layout:



Company Name:_____ Signed:_____ Date

6 | ErP Ecodesign Information

This product is an electric floor-mounted single-room heater. In order to comply with the mandatory ecodesign requirements set out in Commission Regulation (EU) 2024/1103, it must be fitted with a controller that performs at least the following control functions:

TW (0/2/0/0/0/0/0/0)

TW (0/0/3/0/0/0/0/0)

TW (0/0/0/4/0/0/0/0)

TW (0/0/0/0/0/0/7/0)

		Code of the temperature control (TC)	Control functions							
			f1	f2	f3	f4	f5	f6	f7	f8
Type of temperature control	Single-stage, no temperature control	NC								
	Two or more manually adjustable levels, no temperature control	TX								
	Room thermostat with mechanical thermostat	TM								
	Electronic room thermostat	TE								
	Electronic room thermostat with time-of-day control	TD								
	Electronic room thermostat with weekday control	TW								
Control functions	Presence detection		1							
	Detection of open windows			2						
	Remote control options				3					
	Adaptive control of the start of heating					4				
	Operating time limit						5			
	Black ball sensor							6		
	Self-learning function								7	
	Control accuracy with CA <2 Kelvin and CSD <2 Kelvin									8

7 | Disposal



In accordance with WEEE Directive 2012/19/EU, the icon with the crossed-out waste bin on electrical or electronic equipment stipulates that this equipment must not be disposed of with household waste at the end of its life. You will find collection points for free return of waste electrical and electronic equipment in your vicinity. The addresses can be obtained from your local authority.

The separate collection of waste electrical and electronic equipment enables the re-use, recycling and other forms of recovery of waste equipment, and prevents any negative effects for the environment or human health caused by the disposal of hazardous substances potentially contained in the equipment.

