

WARM-ON

ELECTRIC

UNDERFLOOR ALUMINIUM FOIL HEATING MATS

EN

**INSTALLATION & OPERATION
MANUAL**

WARMON ALU

150 W/M²

30
YEAR
WARRANTY

& Safe
Secure
3600V
Tested under
15-times load

100%
QUALITY
CONTROL

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WARNING

- This appliance should be kept away from children aged under 3, unless they are under constant supervision.
- Children aged between 3 and 8 may only switch the appliance on or off, on condition that it is placed or installed in a normal, intended position and that the children are supervised or have received instructions concerning the safe use of the appliance and clearly understand the potential dangers. Children aged between 3 and 8 must not connect, adjust or clean the appliance or perform user maintenance.
- This appliance may be used by children aged 8 or older and persons with reduced physical, sensory or mental capacities, or lacking experience and knowledge, if they are properly supervised or if they have received instructions for using the appliance safely and if the risks entailed are taken into account. Children must not play with the appliance. The unit must not be cleaned or serviced by children without supervision.
- This appliance must only be connected by an authorised person in accordance with the rules and standards in force.
- You can access the user manual for this appliance by visiting the manufacturer's website indicated on the warranty card in this manual.



Appliances carrying this symbol must not be disposed of with household waste. They must be collected separately and recycled. Products at the end of their life must be collected and recycled in accordance with the local provisions and decrees.

BEFORE STARTING

Thank you for making your choice and placing your trust in us. The heating cable that you have just purchased has undergone a battery of tests and checks to ensure its quality, and therefore provide complete satisfaction.

RECOMMENDATIONS

Read this manual carefully before starting installation. In case of doubt, consult the customer technical assistance service. Carry out the electrical tests and checks before, during and after installation. Follow the layout plans.

FLOOR COVERINGS

Authorised coverings:

- floating floors compatible with low - temperature electric floors.
- The coverings must comply with the relevant standards, and adhere to a minimum thickness of 5 mm.

INSTALLATION PROCEDURE

The heating foil installation procedure must follow the requirements of the technical guidelines document.

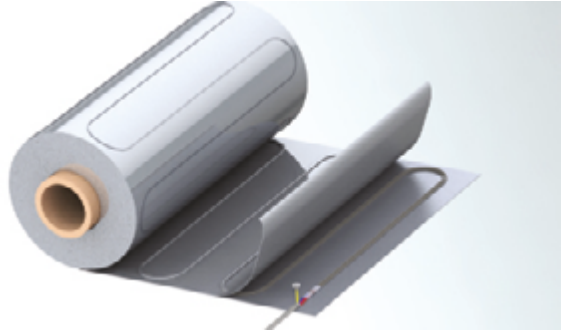
Follow the phases below

1	Floor preparation	Fitter
2	Thermal insulation - Optional operation	Fitter
3	Checking the resistances before installation	Electrician
4	Fitting the thermostat	Electrician
5	Fitting the floor sensor	Electrician
6	Installing the frame	Electrician
7	Checking the resistances after fitting	Electrician
8	Laying the floor covering	Fitter

TECHNICAL DESCRIPTION

PREFABRICATED FOIL

The heating elements are delivered in the form of prefabricated heating foils mounted on an aluminium support.



Supply voltage	230 VAC, 50 Hz
Minimum installation temperature	+5 °C
Heating cable diameter	1,2-1,52 mm
Cold lead length	up to 3 m ² (inclusive) 3 m, over 3 m ² - 4 m
Foil color	silvery

Product composition

Underfloor aluminium foil heating mats
Heating circuit
Termination sleeve
Cold lead
Termination sleeve

CHARACTERISTICS OF HEATING ELEMENTS

WARMON ALU	$l < > l, m$	$\frac{l}{v}, m$	m^2	W	$\Omega @ +20^{\circ}C (-5\%, +10\%)$		A
WARMON ALU (150)-150-1,00	0,5	2,0	1,0	150	320,78	304,74 - 352,85	0,72
WARMON ALU (150)-225-1,50	0,5	3,0	1,5	225	240,69	228,66 - 264,76	0,96
WARMON ALU (150)-300-2,00	0,5	4,0	2,0	300	171,12	162,57 - 188,24	1,34
WARMON ALU (150)-375-2,50	0,5	5,0	2,5	375	131,49	124,91 - 144,63	1,75
WARMON ALU (150)-450-3,00	0,5	6,0	3,0	450	108,91	103,46 - 119,80	2,11
WARMON ALU (150)-525-3,50	0,5	7,0	3,5	525	95,63	90,84 - 105,19	2,41
WARMON ALU (150)-600-4,00	0,5	8,0	4,0	600	84,47	80,25 - 92,92	2,72
WARMON ALU (150)-750-5,00	0,5	10,0	5,0	750	68,41	64,99 - 75,26	3,36
WARMON ALU (150)-900-6,00	0,5	12,0	6,0	900	57,77	54,88 - 63,55	3,98
WARMON ALU (150)-1050-7,00	0,5	14,0	7,0	1050	43,32	41,16 - 47,65	5,31
WARMON ALU (150)-1200-8,00	0,5	16,0	8,0	1200	38,82	36,88 - 42,70	5,92
WARMON ALU (150)-1500-10,00	0,5	20,0	10,0	1500	31,41	29,84 - 34,55	7,32
WARMON ALU (150)-1800-12,00	0,5	24,0	12,0	1800	25,95	24,65 - 28,54	8,86
WARMON ALU (150)-2250-15,00	0,5	30,0	15,0	2250	20,78	19,74 - 22,86	11,07

INSTALLATION

FLOOR PREPARATION

STEP 1 : CHECKING THE FLOOR EVENNESS

OPERATIVE FITTER

The unevenness of the prepared support must be less than or equal to 5 mm under a 2 m ruler, and 2 mm under a 0.2 m ruler.

If the evenness tolerances are not observed, an evenness adjustment must be made on the prepared support (old covering preserved, or underlying support bared), using a floor finish designed to restore the floor concerned



WARNING

The installation surface must be free from piping and/or electrical sheaths.

STEP 2 : PREPARING AND TREATING THE HEATING FOIL INSTALLATION AREAS

OPERATIVE FITTER

Prepare the support by cleaning and eliminating previous surface treatments, and if applicable, apply a suitable primer.



THERMAL INSULATION

INSTALLING AND SEALING THE THERMAL INSULATION PANELS

OPERATIVE FITTER

- Depending on the room type, the quality of insulation panels and the number of layers required may vary. Refer to the standard
- The insulation panels are used to ensure perfect continuity of the insulation and increase the responsiveness of the heating frame.
- Seal the joints between the insulation panels with adhesive tape.



WARNING

Check the evenness of the insulation panels (rigid panels).

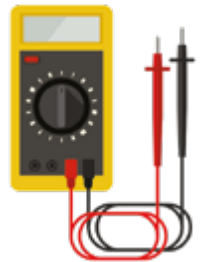
CHECKING THE RESISTANCES

ELECTRICAL TESTS AND CHECKS BEFORE INSTALLATION

OPERATIVE FITTER

Before fitting the heating frame on the floor, you need to check:

- Electrical resistance of insulation is measured at 1000V DC in 1 minute after the voltage is applied at positive polarity of water. Measured value should be not less than 50 MOhm.
- The continuity of the conductor cores. The resistance measurements of the heating frame and the floor temperature sensor (probe) must be recorded in the product's warranty form
- To maintain the warranty's validity, these resistances and the other data must be entered on the warranty form.
- Copy the data from the heating frame's manufacturer tag to the warranty form. Leave this manufacturer tag attached to the cold line.



WARNING

If this check is non-compliant, contact the dealer in order to replace the heating frame.

THERMOSTAT

FITTING THE THERMOSTAT IN THE WALL

OPERATIVE FITTER

Mark the spot where the thermostat will be installed.

Prepare the wall to house the thermostat and the electrical connection sheaths (power supply, cold line, heating foil, temperature sensor).



FLOOR SENSOR

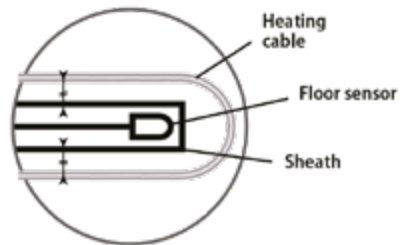
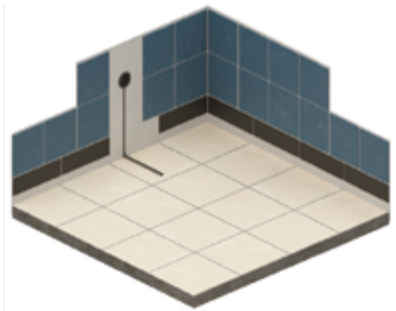
FITTING THE FLOOR SENSOR

To enable the sensor to comply with thermal regulations on electric underfloor heating, fit the floor sensor. Underfloor heating must be designed and installed so that, under base conditions, the contact temperature of the finished floors should be in a range 26-36 °C. Minimum point 26 °C should be set if people constantly stay in the premises. If people seldom stay in the premises, the optimum temperature should be 31 °C, Such temperature should be set for bathrooms, swimming pools, etc., where the comfort temperature for feet is necessary. The temperature along the axis of heating should not exceed 35 °C.

Before fitting the heating foil on the floor, you need to fit the floor sensor:

- 1/Unroll the foil into the floor.
- 2/Position the foil in its final position, in the vicinity of the thermostat position.
- 3/Mark out the position of the sensor on the floor, before making a groove for it: the position must be parallel to the foil heating cable, and equidistant between 2 loops of the heating cable.
- 4/Make a 50 cm long groove in the floor (20 mm x 20 mm) starting from the wall, and perpendicular to the wall.
- 5/Insert the floor sensor in a Ø16 mm electrical sheath, which has been cut to length in advance, and one end of which you have plugged with a leaktight seal.
- 6/Fit the sheath equipped with the sensor in the groove and feed it through to the position on the receiver for subsequent connection.
- 7/Fix the sheath in the floor, using binding mortar.
- 8/Mark on the floor the position of the sensor to ensure that the heating foil is correctly positioned in relation to the sensor.

OPERATIVE FITTER



WARNING

Completely seal the sheath containing the sensor, to prevent any penetration by the binding mortar.

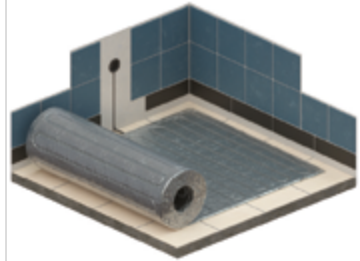
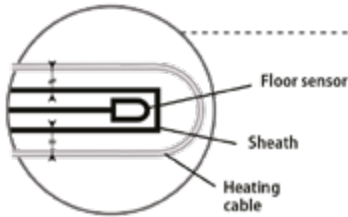
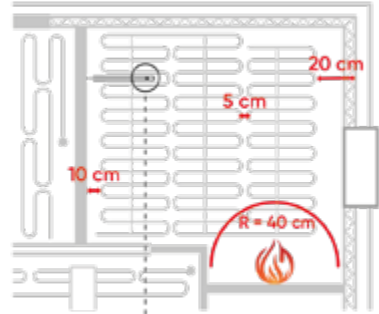
Make sure that the sensor is free to move inside the sheath.

INSTALLING THE HEATING FOIL

STEP 1: FITTING THE HEATING FOIL ON THE FLOOR

- The heating foil must be rolled out on the floor in accordance with the layout plan, so as to cover the majority of the surface area. The blue side is in contact with the floor.
- Make sure that the frame remains tight against the floor throughout the installation process.

OPERATIVE FITTER



WARNING

The layout plan must take into account the surface to be equipped.

Exclude areas supporting fixed equipment, such as bathroom, kitchen, toilet and household equipment.

Do not cross expansion joints in buildings or dividing joints in the covering structure.

Comply with the minimum distances between the heating foil and the frame, e.g.:

Bare with wall interior finish: 0.10 m; hearths, stoves and chimney inserts: 0.40 m.

The heating foil is turned over simply by cutting the aluminium support. The cutting tools must be used with care so as not to damage the cable.

The installed heating foil must be photographed so as to easily locate the heating elements in case of problems. You can submit these photos, as well as the actual installation plan (which may differ from the layout plan) to the site project manager.

It is prohibited to shorten the heating foil if it is too long. If the heating foil needs to be cut to ensure that the cable is correctly arranged (narrow passage, corner of a room, ..): Do not separate the cable from the aluminium support;

Do not cut the cable (if too long). The new arrangement must comply with the initial frame pitch (spacing between the cables).

STEP 2 : ELECTRICAL CONNECTION WITH THE THERMOSTAT RECEIVER

OPERATIVE FITTER

- The cold line must be connected directly to the thermostat receiver, or via a connection box. It is possible to shorten the cold line.
- Connect the thermostat receiver to the power supply circuit.
- Connect the cold line earth wire to the power supply circuit earth wire.
- Connect the temperature sensor (probe) to the thermostat receiver.



WARNING

The cold line must not overlap the heating foil, but run around it.

The various connection points must be photographed, so as to improve decision making in case of problems.

The heating foil's manufacturer tag must remain on the cold line, and be accessible on it throughout the product's lifetime, in case identification is required.

Connection to the switchboard with a fuse holder is prohibited. Only one circuit breaker is authorised.

The heating units must be powered by a residual current device (RCD) with a rated residual operating current of no more than 30 mA

INSTALLATION PLAN

Please prepare an exact drawing of the room, the installed heating mat(s) and the floor temperatur sensor.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1																									
2																									
3																									
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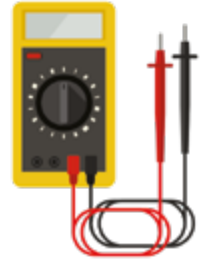
CHECKING THE RESISTANCES

ELECTRICAL TESTS AND CHECKS AFTER INSTALLATION

OPERATIVE FITTER

After installation you need to check:

- Electrical resistance of insulation is measured at 1000V DC in 1 minute after the voltage is applied at positive polarity of water. Measured value should be not less than 50 MOhm.
- The continuity of the conductor cores. The resistance measurements of the heating foil and the floor temperature sensor (probe) must be recorded in the product's warranty form.
- To maintain the warranty's validity, these resistances and the other data must be entered on the warranty form.



OPERATIVE FITTER

After installation you must provide notification

- Display the round normative sticker on the house's electrical cabinet.



WARNING

If this check is non-compliant, contact the dealer in order to replace the heating foil.

LAYING THE FLOOR COVERING

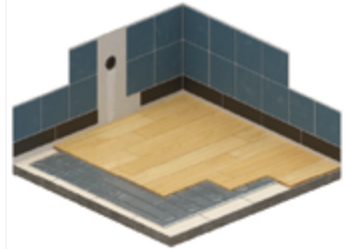
ELECTRICAL TESTS AND CHECKS AFTER INSTALLATION

Authorised coverings::

- floating floors compatible with low-temperature electric floors. floating floors compatible with low-temperature electric floors.

The coverings must comply with the relevant standards, and adhere to a minimum thickness of 5 mm.

OPERATIVE FITTER



WARNING

Coverings without a favourable technical evaluation are not authorised (risk of excessive thermal resistance).

Installation must not be carried out on floor heating during heating (heating shut down at least 48 h before installation).

WARRANTY

The manufacturer guarantees the conformity of the heating mat with the design description, assuming compliance with the installation and operating instructions.

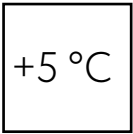
Warranty period – 30 years from date of purchase.

In case of a failure during guarantee period caused by a manufacturing defect, the customer has the right to supplementary performance. The warranty does not cover any damages due to inadequate handling, damages through a third party, wrong installation (not following the manual) or its consequential damages. Please keep your receipt.

For any warranty claims you have to show your sales receipt as well as completed resistance acceptance test certificate and guarantee card.



Follow the installation manual instructions



Minimum installation temperature



Protect against damage



Power supply

GUARANTEE CARD AND TEST RECORD

The completed resistance acceptance test certificate/guarantee card are necessary for warranty claims.

Heating mat type

Company stamp

Customer

Name

Name

Company name

Street

Tel

Postal Code, City

e-mail

Country

Street

Tel

Postal Code, City

e-mail

Country

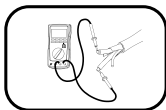
Purchase date

Installation date

Installation date

Client's signature

Installer's signature



First measurement: Before and after installation of the heating mat.

Total resistance in W		Isolation resistance in MW (>10 MW)	
before installation	after installation	before installation	after installation
Ω	Ω	$M\Omega$	$M\Omega$



The sensor can be removed through the corrugated tube (\varnothing 16mm) during installation of the heating mat.



Second measurement: Before and after installation of the flooring.

Total resistance in W		Isolation resistance in MW (>10 MW)	
before installation	after installation	before installation	after installation
Ω	Ω	$M\Omega$	$M\Omega$



The sensor can be removed through the corrugated tube (\varnothing 16mm) before installation of the flooring.

NOTE

RESERVATION

All information given are believed to be reliable and correct according to the best of our knowledge. Modifications, mistakes and printing errors do not justify claims for compensation. Liability is governed exclusively by the general terms and conditions. Specifications are subject to change without prior notice.

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