INSTRUCTIONS FOR:-

FOIL HEATING MATS
F SERIES

Thank you for purchasing a BN Thermic product. Manufactured to a high standard this product will, if installed and used according to these instructions, give you years of trouble free performance. Installer: Please ensure instructions remain with your customer for their reference.

REGISTER: PLEASE REGISTER THIS PRODUCT ONLINE TO ACTIVATE YOUR GUARANTEE AT www.bnthermic.co.uk

IMPORTANT: PLEASE READ THESE INSTRUCTIONS, NOTE THE SAFE OPERATIONAL REQUIREMENTS, WARNINGS, AND CAUTIONS. USE THIS PRODUCT CORRECTLY, AND WITH CARE FOR THE PURPOSE FOR WHICH IT IS INTENDED. FAILURE TO DO SO MAY CAUSE DAMAGE AND/OR PERSONAL INJURY AND WILL INVALIDATE THE WARRANTY.

1. SAFETY INSTRUCTIONS

1.1 ELECTRICAL SAFETY

❑ **WARNING!** It is the responsibility of the Installer, owner and operator to read, understand and comply with the following:

1.1.1 All electrical wiring must be carried out by a fully qualified Electrician in accordance with the current IEE wiring regulations.

1.1.2 The installation must be protected by a 30mA RCD for safe operation (not included).

1.1.3 The cold lead is 3m long. It can be cut / extended to suit the location of the mains power connection box.

1.1.4 Check the continuity and resistance of the floor mat cable before, during and after installation.

1.2 GENERAL SAFETY INSTRUCTIONS

✓ The foil mat is intended for use with floating laminate or timber floor coverings.

✓ Make sure that no sharp edges of the floor covering system can come into contact with the heating foil.

✓ After fitting the mat, use the aluminium tape provided to cover the exposed wire and link the pieces of the mat.

✓ Plan your installation carefully. Always under estimate the amount of matting required by 10-15% as the mat cannot be cut in length or reduced in size. Example: If area of floor to be heated is 2.5m² select a 2.0m² mat.

✓ The thermostat floor limit sensor should be located centrally between 2 cable loops under the foil mat.

✓ During installation, you may need to cut and turn the mat to fit the room. It is imperative that you never cut, twist or kink the encapsulated heating cable.

✓ Use scissors, to provide more control when cutting the aluminium foil mat.

✓ Ensure floor is clean, dry and free from sharp objects before laying foil mat and insulation material.

✓ Avoid unnecessary foot traffic over unprotected matting.

X **DO NOT** install the heating mat on uneven surfaces.

X **DO NOT** installed directly on top of concrete subfloors. A suitable soft insulation material should be used to improve heating efficiency and heat up times.

X **DO NOT** install under tile or stone floors as it is unsuitable for use with cement, adhesives or screed materials.

X **DO NOT** install insulation or sound attenuation materials between the heating mat and the floor covering.

X **DO NOT** use with laminates or wood floors that use a metal clip locking system.

X **DO NOT** put the mat under permanent fixtures (baths, toilets, fitted cabinets etc).

X **DO NOT** use cellulose insulation.

X **DO NOT** use screws or nails in places where the heating mat is installed.

X **DO NOT** shorten the foil mat. No attempt must be made to shortened the mat it will invalidate you guarantee and put you at risk of dangerous overheating of the floor.

X **DO NOT** use thick rugs, bean bags, exercise mats, dog beds and other items with high insulation on the heated floor as it may cause localised overheating.

X **DO NOT** cover any heated part of the floor with walls, solid or permanent floor fixed furniture as this can trap heat and cause local overheating.

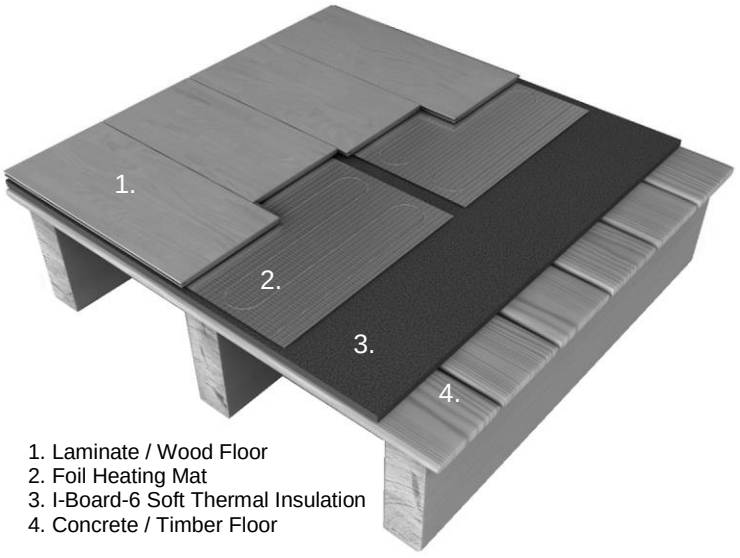
2. FLOOR INSTRUCTIONS

2.1 CONCRETE SUBFLOORS

2.1.1 The insulation level of your subfloor will affect the performance and running costs of your floor heating system. Do not install the foil heating mat directly onto a concrete floor slab. The mat must be installed on top of a suitable soft insulation board and we recommend that that you use our I-BOARD-6. This will minimise heat losses to the subfloor, reducing heat up times and running costs.

2.2 WOODEN SUBFLOORS

2.2.1 These should be reinforced and stabilised to provide a rigid base. Ensure the subfloor is clean and free from any sharp objects. We recommend that that you first cover the floor with a layer of I-BOARD-6 Insulation. This will minimise heat losses, reduce running costs and ensure quicker heat-up times.

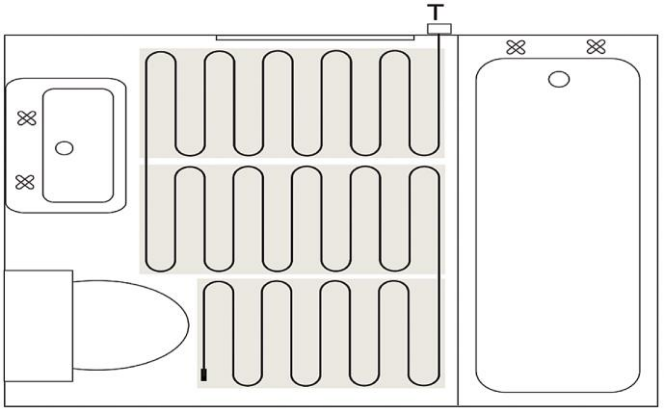


1. Laminate / Wood Floor
2. Foil Heating Mat
3. I-Board-6 Soft Thermal Insulation
4. Concrete / Timber Floor

3. PLANNING

Plan your installation using a sketch, marking your laying pattern and the positions for the thermostat and floor limit sensor. Calculate the free floor space that you want heated. You cannot install the matting under floor fitted furniture (baths, WC or cabinets). It is important that you calculate accurately the size of mat or combination of mats you require. The mats cannot be reduced in size so always undersize the calculated free floor area by 10-15% before selecting the correct mat(s). Additional mats should be wired in parallel using a suitable junction box.

NOTE:- Do not install the thermostat on an interior bathroom wall.



4. HEATING CONTROL

IMPORTANT! The foil heating mat MUST be controlled by a thermostat with a floor limit sensor.

Choices range from a sophisticated timer/ thermostat with touch-screen interface that can be programmed for convenience to a simple manual thermostat with temperature dial adjustment and on/off selection.

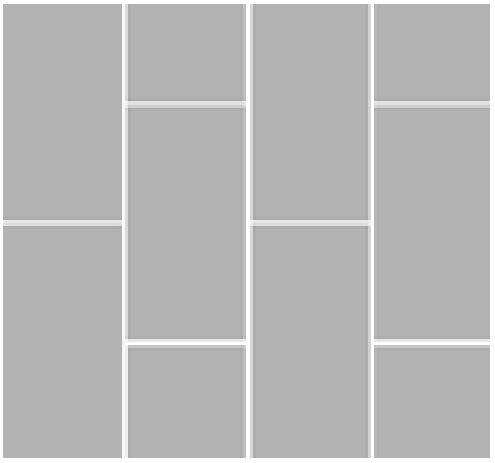
With the exception of Bathrooms or Shower rooms the thermostat should be installed within the room to be heated and away from draughts.

For bathrooms or shower rooms, the thermostats must be placed outside the room but as close to the installation as possible. Control of the heated floor in this application is provided by the floor sensor only.

Refer to the thermostat instructions for installation and technical information.

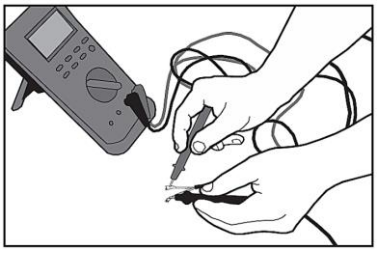
5. LAY THE THERMAL INSULATION

The subfloor should be level and dust free. Suitable thermal insulation board should be used and laid in a staggered pattern as shown. We recommend our I-BOARD-6. This limits the downward heat loss and significantly reduces the cost of heating your room. Secure the insulation boards by taping the edges together.



6. TESTING OF THE HEAT MAT

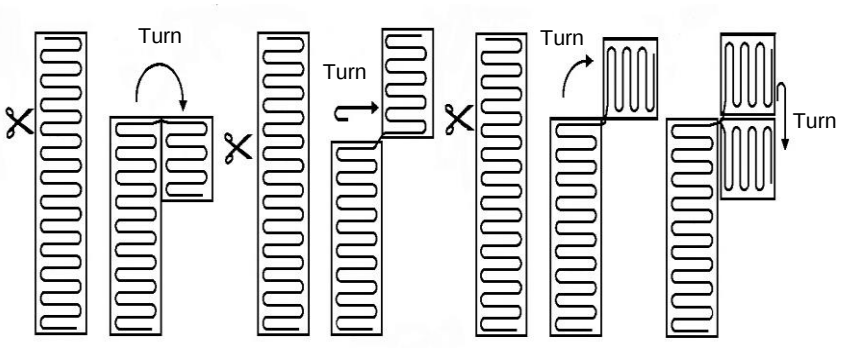
It is important to test the resistance of the heating mat using a multi- meter before, during and after installation. These readings should be checked against the label value and recorder on the record sheet on the back page of these instructions.



If there is any variation which is out of the mat tolerance of -5% / +10%, stop immediately and call the technical helpline. When checking the resistance make sure you don't touch the metal probes on the multi-meter otherwise the meter will give you the wrong reading as it is also measuring your internal resistance.

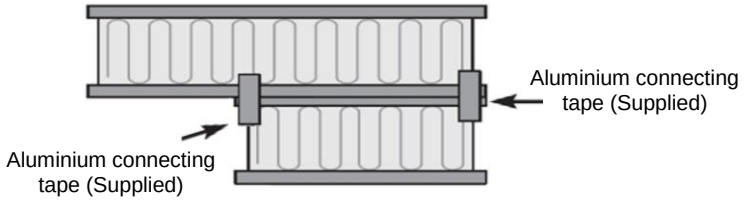
7. LAY THE MAT

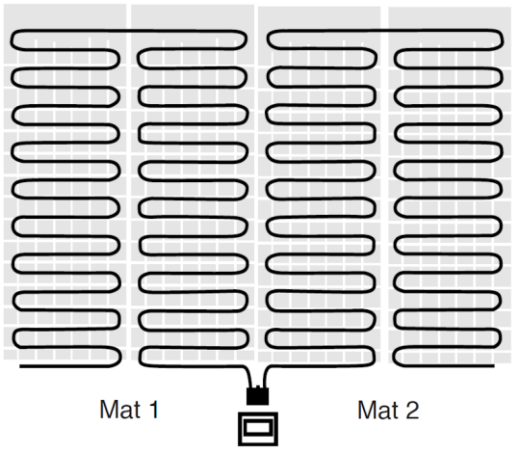
Identify the start point from your plan recognising the 3 metre cold tail and the position of the thermostat and junction box. Unroll the matting. When the end of a run has been reached, turn the mat over so that the cable loops are exposed. Cut the backing foil, between 2 cable loops with scissors ensuring you do not cut the heating cables. Turn the matting in the required direction and continue unrolling. It is important that the ex- posed cable at each turn should be covered with the supplied aluminium tape to link the mats together. This is essential to keep the earth circuit intact. There should be a minimum clearance of 50mm from walls or floor mounted furniture. Leave a minimum 30mm spacing between cut sections of the matting. Do NOT shorten the heating cable length.



Stick the mat down

When satisfied with the layout pattern stick the matting to the floor using aluminium tape. The tape supplied with the mat should be used to bridge the gaps between cut sections of the foil matting ensuring suitable continuity between sections.



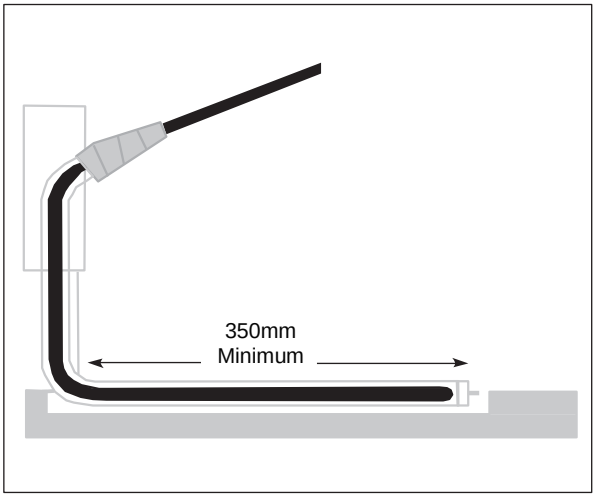


Joining Multiple Mats

If your floor area is bigger than the largest mat available it is possible to use multiple mats by wiring them in parallel. (Example: a calculated heating area of 18m² would require 10m² + 8m² mats). Please ensure if joining large mats in parallel the load rating of the thermostat is not exceeded. Consult your electrician.

8. INSTALLING THE FLOOR SENSOR

Install the floor sensor by threading into the protective conduit - supplied. Conduit should be positioned under the foil matting between two cable loops a minimum of 350mm into the heated floor. Ensure that you have sufficient sensor cable to stretch back to your low level junction box and then onto the Thermostat. Avoid crossing under any of the heating cable. You will need to create a groove in the floor to recess the conduit below the foil of the mat.



9. ELECTRICAL INSTALATION

Wiring up (Electrician only)

A fully qualified electrician must now make the final connections to the mains supply and install the thermostat.

The electrician should first check for continuity of the floor sensor and retest the resistance of the foil mat. This reading should be recorded on the record sheet.

The foil mat MUST be earthed – connect the braided wire to a suitable Earth connection.

The other two wires are not pole sensitive and one wire should be connected to Neutral and the other to Live.

10. COMPLETE YOUR INSTALATION

Following installation all the techinical information on the back page should be fully completed. This should include an additional sketch plan of the mat or mats layout and position of the floor sensor. This together with the purchase receipt and layout sketch should be permanently fixed near the consumer unit.

11. TECHNICAL / INSTALATION INFORMATION

Mat Model	Area to be heated m²	Output (W)	Length (m)	Nominal Resistance (Ohms)	-5% Resistance (Ohms)	+10% Resistance (Ohms)
140W/m² Foil Heating Mats						
F140-010	1.0	140	2.0	378	359.1	415.8
F140-015	1.5	210	3.0	252	239.4	277.2
F140-020	2.0	280	4.0	189	179.6	207.9
F140-030	3.0	420	6.0	126	119.7	138.6
F140-040	4.0	560	8.0	94	89.3	103.4
F140-050	5.0	700	10.0	76	72.2	83.6
F140-060	6.0	840	12.0	63	59.9	69.3
F140-070	7.0	980	14.0	54	51.3	59.4
F140-080	8.0	1120	16.0	47	44.7	51.7
F140-090	9.0	1260	18.0	42	39.9	46.2
F140-100	10.0	1400	20.0	38	36.1	41.8
F140-120	12.0	1680	24.0	31.5	29.9	34.65
F140-140	14.0	1960	28.0	27	25.6	29.7

Installer - Please fill in the details for each Mat you install and leave a separate drawing showing instalation layout and position of the floor sensor

Mat Model	Example F140-060					
Date first resistance taken	30-06-2015					
First resistance	63.4 Ω	Ω	Ω	Ω	Ω	Ω
Date second resistance taken	02-07-2015					
Second resistance	63.5 Ω	Ω	Ω	Ω	Ω	Ω
Electrical Instalation date	14-07-2015					
Third resistance	63.4 Ω	Ω	Ω	Ω	Ω	Ω
Insulation Resistance	8.5 MΩ	MΩ	MΩ	MΩ	MΩ	MΩ

This product conforms to EU Directive 2002/96/EC.
This appliance bears the symbol of the crossed waste bin. This indicates that, at the end of its useful life, it must not be disposed of as domestic waste, but must be taken to a collection centre for waste electrical and electronic equipment. It is the user's responsibility to dispose of this appliance through the appropriate channels. Failure to do so may incur penalties established by laws governing waste disposal.

NOTE: *It is our policy to continually improve products and as such we reserve the right to alter data, specifications and component parts without prior notice.*

IMPORTANT: No liability is accepted for incorrect use of this product.

WARRANTY: Your BN Thermic product correctly installed is guaranteed for 10 years from date of purchase in the un-likely event of malfunction resulting from faulty manufacture. The Guarantee covers the full purchase price but not the cost of repairing or replacing the heater in the floor. Control devices carry the manufacturers 1 year warranty only. This guarantee in no way prejudices your rights under common law and is offered as an addition to consumer liability rights.

REGISTER: Activate your warranty by registering online at www.bnthermic.co.uk and retain this installation data for future reference.

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