

Underfloor Heating

Bluethermal™ Mat Thin twin conductor heating mat

Renovating with Heating Mats

Minimum floor thickness can be important in renovation processes in order to avoid extra work on doors and thresholds. For these projects our Bluethermal™ Mat range is the ideal product. The heating mat consists of a thin twin conductor heating cable attached to an adhesive flexible glass fibre net. The thin heating cable has a total thickness of only 4mm, is delivered with a 2.5m cold lead and has a width of 0.5m.

The 100W/m² mat can be installed on any type of levelled and stable sub floor, and can also be used under parquet or other wooden floor coverings. The 150W/m² must be installed on a non-combustible levelled and stable sub floor. With all our products we recommend the use of a thermostat with a temperature limiting function such as our Bluethermal™ Thermostatic Controller.

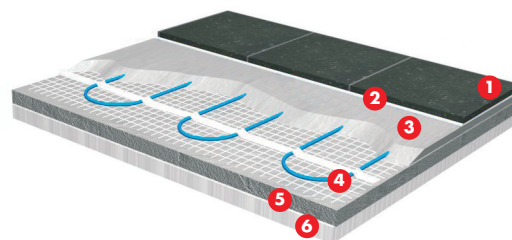
Construction:

- Solid resistance wires
- FEP insulation
- Solid copper earth wire
- Fibre-glass net
- PVC outer jacket
- Aluminium sheath
- Total thickness is 4mm
- Width 0.5m (19.7")

Technical data:

- Area load 100 or 150W/m² (9.3 or 14.0W/sq.ft.)
- Loads from 100W to 180W
- Max. continuously operating temperature outer jacket: 65°C
- Tolerance on conductor resistance: -5 / + 10 %
- Rated voltage: 230V

Installation Detail



- 1 Tiles/floor covering
- 2 Tile adhesive
- 3 Thin screed/slab
- 4 Bluethermal™ Mat
- 5 Insulation
- 6 Non combustible sub floor

Performance Guide

Stock Ref	Model	Mat Area (m ²)	Output (W)	Mat Length x Width (m)	Element Nom. Resistance
446175	VAUFHM 100	1.0	100	2 x 0.5	529.0
446176	VAUFHM 100	1.5	150	3 x 0.5	352.7
446177	VAUFHM 100	2.0	200	4 x 0.5	264.5
446178	VAUFHM 100	2.5	250	5 x 0.5	211.6
446179	VAUFHM 100	3.0	300	6 x 0.5	176.3
446180	VAUFHM 100/HS	3.5	350	7 x 0.5	151.1
446181	VAUFHM 100/HS	4.0	400	8 x 0.5	132.3
446182	VAUFHM 100/HS	5.0	500	10 x 0.5	105.8
446183	VAUFHM 100/HS	6.0	600	12 x 0.5	88.2
446184	VAUFHM 100/HS	7.0	700	14 x 0.5	75.6
446185	VAUFHM 100/HS	8.0	800	16 x 0.5	66.1
446186	VAUFHM 100/HS	10.0	1000	20 x 0.5	52.9
446187	VAUFHM 100/HS	12.0	1200	24 x 0.5	44.1
446188	VAUFHM 150	1.0	150	2 x 0.5	352.7
446189	VAUFHM 150	1.5	225	3 x 0.5	235.1
446190	VAUFHM 150	2.0	300	4 x 0.5	176.3
446191	VAUFHM 150/HS	2.5	375	5 x 0.5	141.1
446192	VAUFHM 150/HS	3.0	450	6 x 0.5	117.6
446193	VAUFHM 150/HS	3.5	525	7 x 0.5	100.8
446194	VAUFHM 150/HS	4.0	600	8 x 0.5	88.2
446195	VAUFHM 150/HS	5.0	750	10 x 0.5	70.5
446196	VAUFHM 150/HS	6.0	900	12 x 0.5	58.8
446197	VAUFHM 150/HS	7.0	1050	14 x 0.5	50.4
446198	VAUFHM 150/HS	8.0	1200	16 x 0.5	44.1
446199	VAUFHM 150/HS	10.0	1500	20 x 0.5	35.3
446200	VAUFHM 150/HS	12.0	1800	24 x 0.5	29.4

*HS = hidden splice.

The products are delivered with a 2.5m cold lead



Bluethermal™ Cable

Twin conductor cable for direct heating

Renovation with heating cables

When renovating with our Bluethermal™ Cable range, apply the cable to a non-combustible subfloor (minimum thickness 5mm) and take into consideration the placement of permanent installations such as showers, baths, toilets, cupboards etc. Place the end seal away from potentially wet areas of the floor. See picture illustrating the placement of a free laid heating cable. Note that the cable is not crossing or touching itself, this is to provide the best possible heat conductivity to the surroundings of the cable.

The heating cable is embedded in a screed/concrete with low overall construction height. After drying and hardening, the moisture barrier/membrane can be put on top of the screed/concrete before the floor covering is installed.

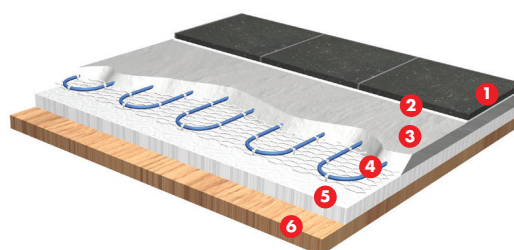
Construction:

- Solid resistance wire
- XLPE insulation
- Tinned copper drain wire
- Aluminium screen
- PVC outer jacket
- Overall diameter: approx 7mm (0.3")
- Width 40 and 80cm

Technical data:

- Series resistance, element values from 300 to 3300W
- Linear load: 17W/m (5.2W/ft)
- UV resistant
- Max. cont. operating temperature outer jacket: 65°C (149°F)
- Min. bending radius: 5 x cable diameter
- Tolerance on conductor resistance: -5 / + 10 %
- Highest system voltage: 300/500V
- Rated voltage: 230V

Installation Detail

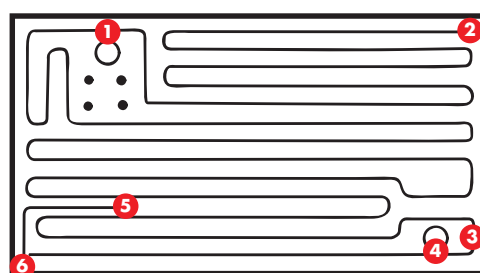


- 1 Ceramic tiles
- 2 Tile adhesive
- 3 40-60mm screed
- 4 Bluethermal™ Cable
- 5 Min 10mm solid subfloor.
- 6 Lower floor over well insulated wooden beams

Performance Guide

Stock Ref	Model	Load @ 230V (W)	Element length (m)	Element length (ft)	Element Nom Resistance	Outer diameter (mm)
446201	VAUFHC	300	17.6	58	176.30	7.0
446202	VAUFHC	400	23.5	77	132.30	7.0
446203	VAUFHC	500	29.3	96	105.80	7.0
446204	VAUFHC	600	35.2	115	88.20	7.0
446205	VAUFHC	700	41.0	135	75.60	7.0
446206	VAUFHC	840	49.7	162	63.00	7.0
446207	VAUFHC	1000	58.3	191	52.90	7.0
446208	VAUFHC	1250	72.4	237	42.30	7.0
446209	VAUFHC	1370	80.8	265	38.60	7.0
446210	VAUFHC	1700	150.0	328	31.10	7.0
446211	VAUFHC	2100	123.7	405	25.20	7.0
446212	VAUFHC	2600	154.5	507	20.30	7.0
446213	VAUFHC	3300	194.0	615	16.00	7.0

Installation Example



- 1 Cable laid behind the toilet to dry up condensation
- 2 End seal preferably placed in a dry zone of the floor
- 3 Put some distance between drain and cable to avoid excessive dryness of gully and odour problems
- 4 Drain/gully
- 5 Floor sensor
- 6 Transition between heating cable and cold end attachment



Accessories

Bluethermal™ Thermostatic Controller

Applications

Precise and accurate temperature control is important to fully achieve the advantages of under floor heating, without using more electric energy than necessary. Heating cables in combination with an accurate thermostat is one of the most energy efficient heating systems one can have in a modern building.

The use of heating cables in combination with an accurate thermostat can provide an energy efficient and comfortable floor heating solution for most modern buildings.



Recommended Application Guide

Features

- Large screen with blue backlighting
- 4-event programme or constant temperature control
- Clock: 12 hours (am/pm) / 24 hours
- Day display: Monday - Sunday
- Celsius or Fahrenheit display selection
- Frost protection setting
- 5 to 40°C working range (default)

Specifications

- Accuracy: +0.5°C / 1°F
- Maximum load: 16A
- Power supply: 230V
- Dimensions: 86 x 86 x 13mm (WxHxD)
- IP21 rated

Model
VAUFHTC

Stock Ref
446174

Splicing Kit

In the unlikely event that you need to repair your heating cables, this kit provides you with the necessary joints to get your systems back running.

Model
VAUFHS

Stock Ref
446214

Application	Output Max	Normal	Product		
			VAUFHM 100	VAUFHM 150	VAUFHC
Entrance/Hall	150	80-150	X		X
Entrance/Porch	150	120-150		X	X
Hall/Corridor	150	80-100	X		X
Living Room	100	70-100	X		X
Kitchen	100	70-100	X		X
WC	150	120-150		X	X
Utility Room	150	120-150		X	X
Bedroom	100	70-100	X		X
Bathroom	150	120-150		X	X
Office	100	80-100	X		X
Storage Room	100	80-100	X		X
Shop	100	80-100	X		X
Workshop	100	80-100	X		X

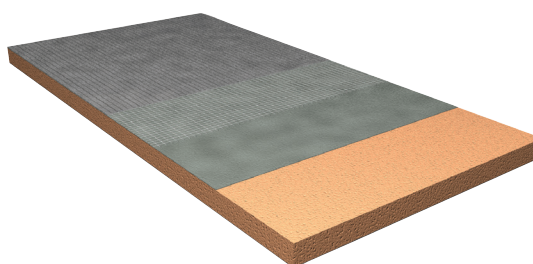


Bluethermal™ Insulation Boards

Applications

Our insulation boards limit the downward heat loss within the system directing the heat to where you need it.

Vent-Axia underfloor heating insulation boards are recommended for use with our products to increase the efficiency and minimise the warm up time of the system, saving both energy and money. They are available from 6mm to 70mm thick in packs as in the table.



Fixing to Wooden Floors

By Adhesive - The boards must be laid onto a level floor, with a suitable flexible rapid set cementitious tile adhesive - solvent based or ready mixed adhesives MUST NOT be used.

By Mechanical Fixing - The boards (other than 6mm boards) can be installed with mechanical fixings only to flat and level timber floors using approximately 12 fixings per 1200mm x 600mm board, with suitable screws and a 35mm fixing washer under the head. Fixing kits are available as detailed in the table below.

Fixing to Concrete Floors

A suitable flexible rapid set cementitious tile adhesive should be used - solvent based adhesives or ready mixed adhesives MUST NOT be used.

Vent-Axia underfloor heating insulation boards

Stock Ref	Model	Thickness mm	Number of boards per box	Pack coverage m ²	U-Value W/m ² /K
447267	VAUFHIB6	6	8	5.76	4.5
447268	VAUFHIB10	10	6	4.32	2.7
447269	VAUFHIB12	12.5	6	4.32	2.16
447270	VAUFHIB20	20	6	4.32	1.35
447271	VAUFHIB30	30	4	2.88	0.9
447272	VAUFHIB40	40	3	2.16	0.67
447273	VAUFHIB50	50	2	1.44	0.54
447274	VAUFHIB60	60	2	1.44	0.45
447275	VAUFHIB70	70	2	1.44	0.39

Vent-Axia underfloor heating insulation board accessories

Stock Ref	Model	Type	To be used with Insulation board	Size
447277	VAUFHIB10S	Screws (50 per pack)	VAUFHIB6 -12	25mm (L)
447278	VAUFHIB20S	Screws (50 per pack)	VAUFHIB20	35mm (L)
447279	VAUFHIB30S	Screws (50 per pack)	VAUFHIB30	45mm (L)
447280	VAUFHIB40S	Screws (50 per pack)	VAUFHIB40	60mm (L)
447281	VAUFHIB50S	Screws (50 per pack)	VAUFHIB50	65mm (L)
447282	VAUFHIB60S	Screws (50 per pack)	VAUFHIB60	75mm (L)
447283	VAUFHIBV	Washers (50 per pack)	All	35mmØ
447276	VAUFHIBT	Tape	All	100mm (W) x 50m roll (L)