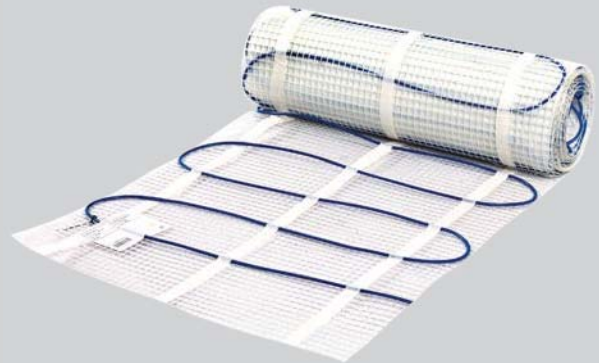


# Bluethermal Underfloor Heating Mat

## Features & Benefits

- Energy efficient
- Maintenance free
- Zone controllable
- Easy to install adhesive mats
- Offers design freedom by removing radiators
- 100W/m<sup>2</sup> & 150W/m<sup>2</sup> options available
- 2.5m cold lead cable
- Controller & insulation board available
- 10 Years warranty



## 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<sup>®</sup> 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/m<sup>2</sup> 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/m<sup>2</sup> must be installed on a non-combustible levelled and stable sub floor. With all our products we recommend the use of our Bluethermal<sup>®</sup> Thermostatic Controller thermostat with a temperature limiting function.

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### 10 year Warranty

Vent-Axia offers a 2 year standard warranty on underfloor heating and their components from the date of purchase. A 10 year extended warranty is also available upon completing the 'Warranty Form' found in the Fitting and Wiring Instructions.

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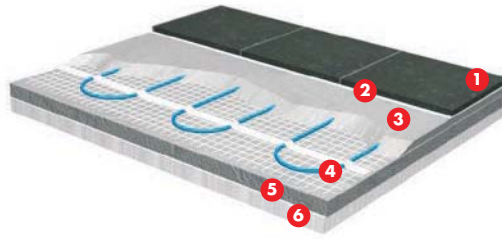
### Construction:

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

### Technical Data:

- Area load 100W or 150W/m<sup>2</sup> (9.3 or 14.0W/sq.ft.)
- Loads from 100W to 1800W
- Max. continuously operating temperature outer jacket: 65°C
- Tolerance on conductor resistance: -5 / + 10 %
- Rated voltage: 230V

## Installation Detail



- 1 Floor covering
- 2 Tile adhesive
- 3 Recommended screed depth 10-30mm
- 4 Bluethermal® Mat 4mm
- 5 Insulation board
- 6 Stable and levelled sub-floor

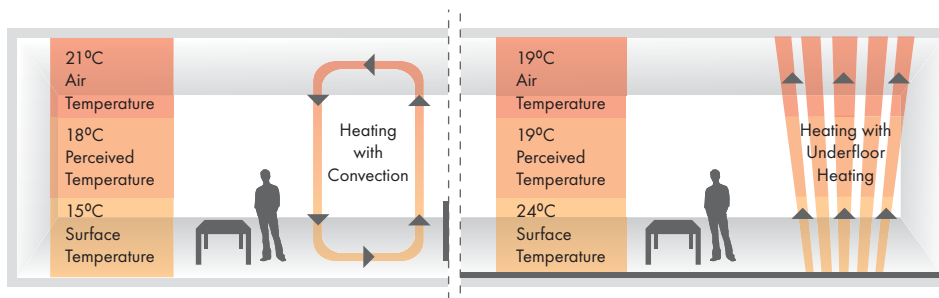
## Performance Guide

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

\*HS = hidden splice

The mats are equipped with a 2.5m cold lead

## Convection Heating and Underfloor Heating Comparison



# Bluethermal Underfloor Heating Cable

## Features & Benefits

- Energy efficient
- Maintenance free
- Zone controllable
- Allows for application in tight areas
- Offers design freedom by removing radiators
- 100W/m<sup>2</sup> & 150W/m<sup>2</sup> options available
- 2.5m cold lead cable
- Controller & insulation board available
- 10 Years warranty



## 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 'Installation Example' on the next page detailing 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, a moisture barrier/membrane can be put on top of the screed/concrete before the floor covering is installed.

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### 10 year Warranty

Vent-Axia offers a 2 year standard warranty on underfloor heating and their components from the date of purchase. A 10 year extended warranty is also available upon completing the 'Warranty Form' found in the Fitting and Wiring Instructions.

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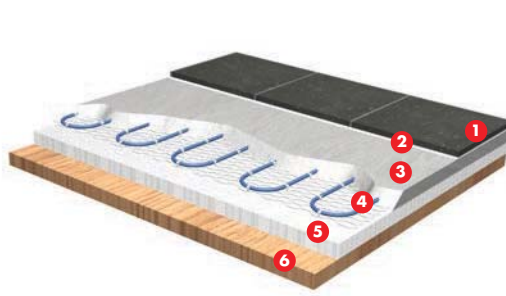
### Construction:

- Solid resistance wire
  - XLPE insulation
  - Tinned copper drain wire
  - Aluminium screen
  - PVC outer jacket
  - Cable thickness is 7mm
- 

### Technical Data:

- Series resistance, element values from 300W 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



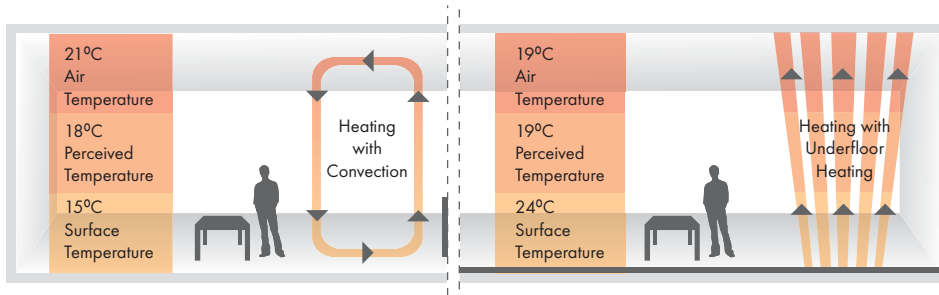
- 1 Floor covering
- 2 Tile adhesive
- 3 Recommended screed depth 40-60mm
- 4 Bluethermal® Cable 7mm
- 5 Insulation board
- 6 5-10mm stable and levelled subfloor

## Performance Guide

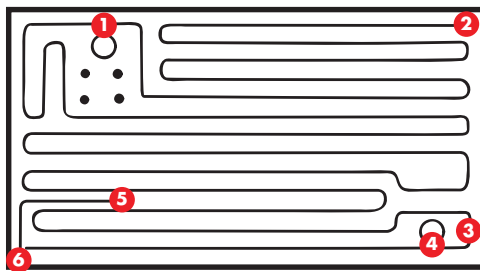
Stock Ref	Model	Load @ 230V		Element length		Element Nom	Outer diameter
		W	m	ft	Resistance $\Omega$	mm	
446201	VAUFHC	300	17.6	58	176.30	7	
446202	VAUFHC	400	23.5	77	132.30	7	
446203	VAUFHC	500	29.3	96	105.80	7	
446204	VAUFHC	600	35.2	115	88.20	7	
446205	VAUFHC	700	41.0	135	75.60	7	
446206	VAUFHC	840	49.7	162	63.00	7	
446207	VAUFHC	1000	58.3	191	52.90	7	
446208	VAUFHC	1250	72.4	237	42.30	7	
446209	VAUFHC	1370	80.8	265	38.60	7	
446210	VAUFHC	1700	100.0	328	31.10	7	
446211	VAUFHC	2100	123.7	405	25.20	7	
446212	VAUFHC	2600	154.5	507	20.30	7	
446213	VAUFHC	3300	194.0	615	16.00	7	

The cables are equipped with a 2.3m cold lead

## Convection Heating and Underfloor Heating Comparison



## 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

# Bluethermal Thermostatic Controller

## Features & Benefits

- 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 - 40°C working range (default)



## Applications

Precise and accurate temperature control is important to fully achieve the advantages of underfloor heating, without using more electric energy than necessary.

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

## Specifications

- Accuracy: +0.5°C / 1°F
- Maximum load: 16A or 3.2kW
- Power supply: 230V
- Dimensions: 86 x 86 x 13mm (WxHxD)
- IP24 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**

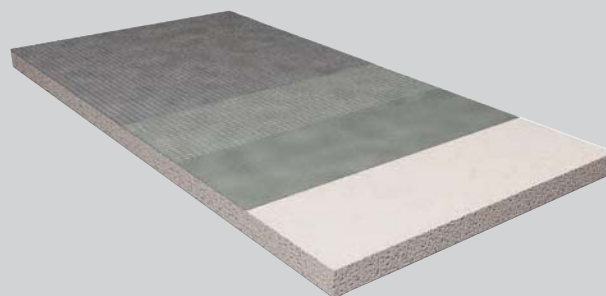
## Recommended Application Guide

Application	Output Min W/m <sup>2</sup>	Output Max W/m <sup>2</sup>	Model		
			VAUFHM 100	VAUFHM 150	VAUFHC
Entrance/Hall	80	150	X		X
Entrance/Porch	120	150		X	X
Hall/Corridor	80	100	X		X
Living Room	70	100	X		X
Kitchen	70	100	X		X
WC	120	150		X	X
Utility Room	120	150		X	X
Bedroom	70	100	X		X
Bathroom	120	150		X	X
Office	80	100	X		X
Storage Room	80	100	X		X
Shop	80	100	X		X
Workshop	80	100	X		X

# Bluethermal Insulation Boards

## Features & Benefits

- Increases the Efficiency of Any Underfloor Heating System
- Variety of Sizes to Suit Any Project
- Minimizes downwards heat loss.



### 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.

### 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 to the right.

### 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 <sup>2</sup>	U-Value W/m <sup>2</sup> /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 *	VAUFHIB6-12	25mm (L)
447278	VAUFHIB20S	Screws *	VAUFHIB20	35mm (L)
447279	VAUFHIB30S	Screws *	VAUFHIB30	45mm (L)
447280	VAUFHIB40S	Screws *	VAUFHIB40	60mm (L)
447281	VAUFHIB50S	Screws *	VAUFHIB50	65mm (L)
447282	VAUFHIB60S	Screws *	VAUFHIB60	75mm (L)
447283	VAUFHIBW	Washers *	All	35mmØ
447276	VAUFHIBT	Tape	All	100mm (W) x 50m roll (L)

\* (50 per pack)