

CI/SfB

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2nd Edition

bluethermalTM
the warmth beneath your feet



Vent-Axia Underfloor Heating Solutions

Underfloor Heating

FREE
NEXT DAY
DELIVERY



Vent-Axia[®]

Bluethermal™ Underfloor Heating

Advantages of Electrical Underfloor Heating

Electricity is used the world over for heating homes and is our most common energy source. As the world's supply of oil and gas becomes depleted, many of the world's countries will be searching for renewable and environmentally friendly sources of energy such as, wind, solar, nuclear, and hydro power, we are no different and it is clear in the UK that credible solutions to get us off the fossil fuel habit are required. This is why Vent-Axia has launched our electric underfloor heating range.

Using electricity for heating your home is becoming more and more popular. Once you have made the choice to use electricity to heat your home, your choice of heating appliances is numerous. Underfloor heating is becoming the natural choice for many, for obvious reasons.

The cables are economical and easy to install and incur no yearly maintenance costs, it is invisible, silent in operation, gives you freedom to place furniture where you like as there is no appliances to be mounted on your wall. Our thermostatic controller monitors both the floor and air temperature to give you maximum control over your environment.

Using the large surface area of your floor to heat your room allows the low temperature radiant heat to provide evenly distributed warmth giving much higher levels of comfort

when compared to other more traditional methods. Using this method the thermal output is 2-3 °C lower than using a convection based system where the heat will collect close to the ceiling thus saving 5-10% of the running cost while not producing any drafts or cold spots in the room.

Our products are suitable for renovation projects as well as new building construction to heat your home completely or in combination with other heating sources. Key advantages are flexibility, advanced control and easy integration with other systems.

Design Service

We offer a comprehensive design service and will help you make the right choice for your application; this service is available over the phone directly to one of our heating experts in our technical department. To make use of this service please phone 0844 856 0594.

Vent Axia Lifetime Warranty

All heating cable products come with a lifetime warranty so you have peace of mind that our cables will stand the test of time. More information on our warranty and correct application of the products can be found on our website.

Bluethermal Promise

No minimum order charge when ordering Bluethermal products for an installation with free of charge next day delivery for orders placed before 3.30pm.

We will aim to have a product selection and quote issued to you over the phone or within 1 hour.



Vent-Axia Contact Numbers

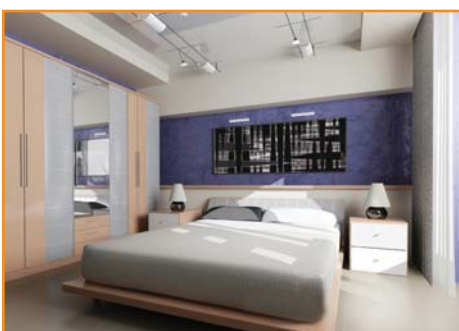
Free technical, installation and sales advice is available

Sales Tel: 0844 856 0590

Sales Fax: 01293 565169

Tech Support Tel: 0844 856 0594

Tech Support Fax: 01293 539209



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 4 mm, is delivered with a 2.5 m cold lead and has a width of 50 cm.

The 100 W/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 where as the 150 W/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.

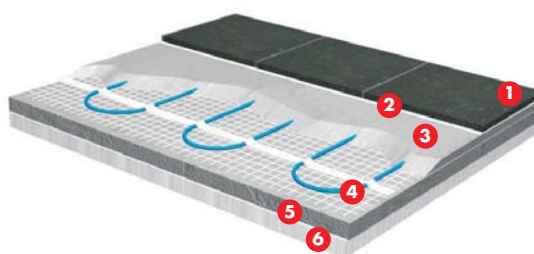
Construction:

- Solid resistance wires
- FEP insulation
- Solid copper earth wire
- Fibre-glass net
- PVC outer jacket
- Aluminium sheath
- 4mm Ø cable
- Width 50cm (19.7")

Technical data:

- Area load 100 or 150 W/m² (9.3 or 14.0 W/sq.ft.)
- Loads from 100 W to 1800 W
- Max. continuously operating temperature outer jacket: 65 °C
- Tolerance on conductor resistance: -5 / + 10 %
- Rated voltage: 230 V

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

Model	Stock Ref	Mat Area (m ²)	Output (W)	Mat Length x Width (m)	Element Resistance + 10/-5% Nom.	UFI Trade £
VAUFHM 100	446175	1.0	150	2 x 0.5	529.0	66.93
VAUFHM 100	446176	1.5	150	3 x 0.5	352.7	78.37
VAUFHM 100	446177	2.0	200	4 x 0.5	264.5	89.81
VAUFHM 100	446178	2.5	250	5 x 0.5	211.6	101.26
VAUFHM 100	446179	3.0	300	6 x 0.5	176.3	112.70
VAUFHM 100/HS	446180	3.5	350	7 x 0.5	151.1	124.14
VAUFHM 100/HS	446181	4.0	400	8 x 0.5	132.3	135.59
VAUFHM 100/HS	446182	5.0	500	10 x 0.5	105.8	158.47
VAUFHM 100/HS	446183	6.0	600	12 x 0.5	88.2	181.36
VAUFHM 100/HS	446184	7.0	700	14 x 0.5	75.6	204.25
VAUFHM 100/HS	446185	8.0	800	16 x 0.5	66.1	227.14
VAUFHM 100/HS	446186	10.0	1500	20 x 0.5	52.9	272.91
VAUFHM 100/HS	446187	12.0	1200	24 x 0.5	44.1	318.68
VAUFHM 150	446188	1.0	150	2 x 0.5	352.7	74.36
VAUFHM 150	446189	1.5	225	3 x 0.5	235.1	87.08
VAUFHM 150	446190	2.0	300	4 x 0.5	176.3	99.79
VAUFHM 150	446191	2.5	375	5 x 0.5	141.1	112.51
VAUFHM 150	446192	3.0	450	6 x 0.5	117.6	125.22
VAUFHM 150/HS	446193	3.5	525	7 x 0.5	100.8	137.94
VAUFHM 150/HS	446194	4.0	600	8 x 0.5	88.2	150.65
VAUFHM 150/HS	446195	5.0	750	10 x 0.5	70.5	176.08
VAUFHM 150/HS	446196	6.0	900	12 x 0.5	58.8	201.51
VAUFHM 150/HS	446197	7.0	1050	14 x 0.5	50.4	226.94
VAUFHM 150/HS	446198	8.0	1200	16 x 0.5	44.1	252.37
VAUFHM 150/HS	446199	10.0	1500	20 x 0.5	35.3	303.23
VAUFHM 150/HS	446200	12.0	1800	24 x 0.5	29.4	354.09

*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.

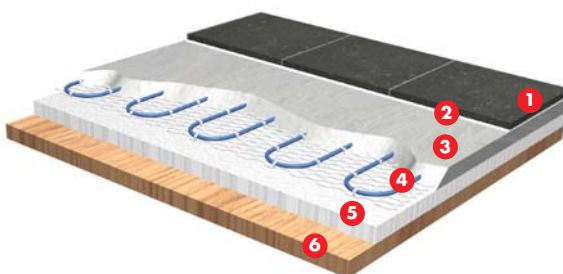
Construction:

- Solid resistance wire
- XLPE insulation
- Tinned copper drain wire
- Aluminium screen
- PVC outer jacket
- Overall diameter: approx 7.0mm (0.3")
- Width 40 and 80cm

Technical data:

- Series resistance, element values from 300 to 3300 W
- Linear load: 17 W/m (5.2 W/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: 300/500 V
- Rated voltage: 230 V

Installation Detail

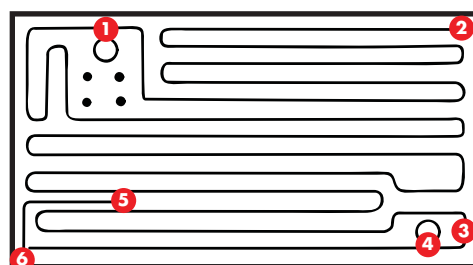


- 1 Ceramic tiles
- 2 Tile adhesive
- 3 40-60mm screed
- 4 Bluethermal™ Cable
- 5 Min 10mm solid subfloor. Water resistant if room is a wetroom (f.ex. bathroom)
- 6 Lower floor over well insulated wooden beams

Performance Guide

Model	Stock Ref	Load @ 230V (W)	Element length(*)		Nom element resistance (Ω)	Outer diameter (mm)	UFH Trade £
			(m)	(ft)			
VAUFHC	446201	300	17.6	58	176.30	7.0	77.54
VAUFHC	446202	400	23.5	77	132.30	7.0	84.59
VAUFHC	446203	500	29.3	96	105.80	7.0	89.03
VAUFHC	446204	600	35.2	115	88.20	7.0	98.64
VAUFHC	446205	700	41.0	135	75.60	7.0	103.10
VAUFHC	446206	840	49.7	162	63.00	7.0	115.70
VAUFHC	446207	1500	58.3	191	52.90	7.0	135.40
VAUFHC	446208	1250	72.4	237	42.30	7.0	151.10
VAUFHC	446209	1370	80.8	265	38.60	7.0	168.20
VAUFHC	446210	1700	150.0	328	31.10	7.0	183.70
VAUFHC	446211	2150	123.7	405	25.20	7.0	218.80
VAUFHC	446212	2600	154.5	507	20.30	7.0	243.70
VAUFHC	446213	3300	194.0	615	16.00	7.0	319.10

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™ 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 are one of the most energy efficient heating systems one can have in a modern building.

The design of the thermostat is unique. Every detail has been carefully designed, paying special attention to aesthetic appearance, user-friendliness and quality, as required and demanded by both consumers and professional installers.

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
- 5 to 40°C working range (default)
- Manual override
- Weather compensating

Specifications

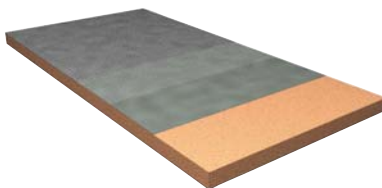
- Accuracy: +0.5°C / 1°F
- Maximum load: 16A
- Power supply: 230V
- Dimensions: 86 x 86 13mm (WxHxD)
- IP21

Model
VAUFHTC

Stock Ref
446174

UFH
£Trade
70.00

BLUETHERMAL™ INSULATION BOARD



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

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

The 6,10 and 20mm products are held in stock with the other products available on request.

Fixing to Wooden Floors

By Adhesive - The boards can 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

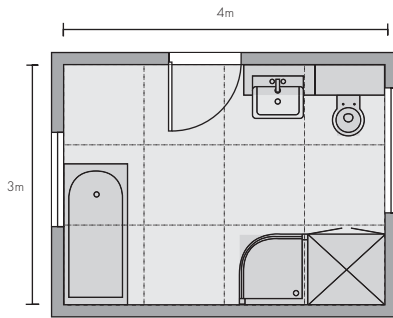
Stock Ref	Description	Thickness mm	Number of boards per box	Pack m ² Coverage M2	U-Value w/m ² /k	UFH Trade £
447267	VAUFHIB6	6	8	5.76	4.5	125.58
447268	VAUFHIB10	10	6	4.32	2.7	94.18
447270	VAUFHIB20	20	6	4.32	1.35	120.55

Vent Axia underfloor heating insulation boards fixings

Stock Ref	Description	Screw/washerpack for	Screw length mm	Trade £
447277	VAUFHIB10S	VAUFHIB6-12	25mm	12.02
447278	VAUFHIB20S	VAUFHIB20	35mm	12.79
447283	VAUFHIBW	Washers	dia 35mm	16.56
447276	VAUFHIBT		100mm x 50m roll	15.04

12, 30, 40, 50, 60 & 70mm insulation boards available on request

How to measuring up

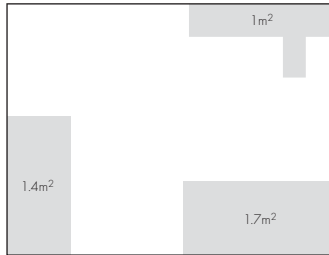


Step 1. - Calculating Total Area

Measure the total area of your room.

In this example:

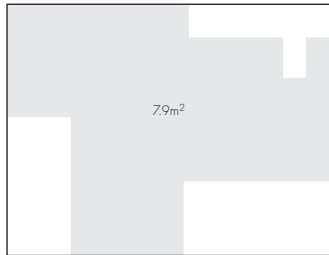
Width		3m
Length	x	4m
Total floor area	=	12m²



Step 2. - Calculating Unheated areas

When installing underfloor heating you have to ensure that the heat can escape into the room. When calculating the heated area we deduct any fixed furniture such as kitchen cupboards. In this example we will deduct the bath, basin, shower tray toilet and cupboard.

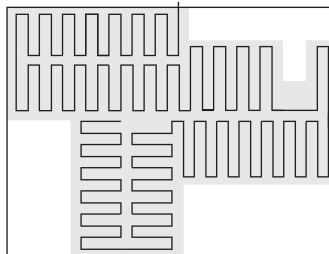
Bath		1.4m ²
Sink & Toilet		1m ²
Shower & cupboard	+	1.7m ²
Total unheated area	=	4.1m²



Step 3. - Calculating Heated area

The heated area is calculated by taking the unheated areas away from the total area. In this case:

Total floor area		12m ²
Total unheated area	-	4.1m ²
Total heated area	=	7.9m²



Step 4. - Product Selection & Sizing

Mats - 90% of the total heated area allowing room for installing. In this example the area is 7m² for mat installation, rounded down to the nearest 0.5m².

Insulation boards - 110% of the total heated area requirement due to the wastage when cutting.

Mat installation area	=	7m²
Board installation area	=	*8.7m²

* more insulation boards will be required to insulate the total floor area.

Recommended application guide

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
W/C	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