Drawing of floor:

Dealer :

HandyMat
Instruction for installation



Content:

Full instruction with
Guarantee Certificate

HANDYHEAT®
DANSK VARMEKABEL A/S

Before installation

Thank you for choosing *HANDYHEAT* Floor Mat heating . Before you begin installing please read through these instructions carefully and chech you have all the component required.
The system is designed for installation below marble, stone or tiles. It may also be installed below parquet, laminate, vinyl or thin carpets, but in these cases must first be covered with a suitable latex-based leveling compound.

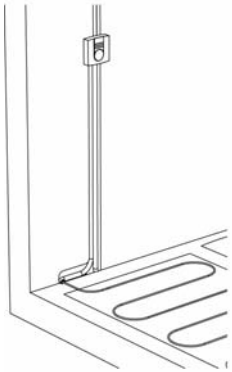
Recommended Watt / m²
(For well insulated rooms)

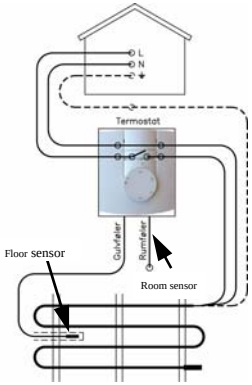
Watt / m²	Flooring	Room
120 W/m²	Parquet / laminate / vinyl	Kitchen / living room
150 W/m²	Tiles/stone/marble	Kitchen / living room
200 W/m²	Tiles/stone/marble	Conservetries

Note: Badly insulated floors or geographic cold areas may need higher W/m². Consult your dealer for more information.

Electrical provision:

Before starting the installation you should make provisions for the electrical connections, for smaller areas this should be possible by means of a fused spur from an existing circuit





Locating Thermostat:

Place Thermostat in a hight of aprox. 150cm. If installing in a bath-room or other wet room, the Thermostat must be located outside of the room on the opposite side of the wall.

Avoid:
Thermostat location with:

Radiant heat from appliances
Sinshine spots
Cold walls
Concealed pipes and chimneys
Do not cover behind curtains

Locating Floor sensor:
The floor sensor must be installed in the flexible tube. Locate the flexible tube in a spur in the floor as shown above picture. Close the end of the tube to avoid any tile adhesive to fill the tube.

Important:

- The system MUST incorporate a RCD protection Let an qualified Electrician connect the system.
- The system must be installed according National/local electrical regulations
- Minimum temperature during installation must be 5°C
- The orange heater cable must NOT be cut or cross in any point– only the black ”cold” cable may be cut or lengtened
- The joint between the orange cable and the black cable MUST be located under the floor. All the orange cable must be located under floor.
- Do not stretch the cable. Protect the cable against any physical damage. Protect the cable with cardboard or carpet during tiling
- Test the cable BEFORE tiling or covering the cable
- Wait at least 7 days before turning on the system. Allways follow instructions on tile adhesive.
- Ensure that the subfloor is solid and suitable for tiling. Wood flooring with more than 30 cm between the joists should ideally be reinforced to prevent flexing and the posibillity of tiles dislodging. Wood flooring can be reinforced using 18 mm plywood or gipsonite boards.
- Do not cover the floor with thich carpets or semilar having thermal lagging data above 0,12 W/(m*k)

Guarantee Certificate

HANDYHEAT gives 10 years Guarantee on heating cables and mats and 2 year on Thermostats.

Guarantee

Without prejudice to any claim the user (customer) may have in relation to the dealer or retailer, the customer shall be granted a manufacturer's Guarantee under the conditions set out below:

1. In the case of new heating cable/mat and their components exhibiting defects resulting from manufacturing and/or material faults within 10 years (heating cables/mats) and 24 months (Thermostats) of purchase, ***HANDYHEAT*** shall, at its own option and free of charge, either replace the device with another device reflecting the current state of the art, or repair the said device.
2. This Guarantee shall be invalid if the device defect is attributable to improper treatment and/or failure to comply with information contained in the user manuals.
3. This Guarantee shall not apply to or extend to services performed by the authorised dealer or the customer themselves (e.g. installation, configuration, software downloads).
4. The purchase receipt, together with the date of purchase, shall be required as evidence for invoking the Guarantee. Claims under the Guarantee must be submitted within two months of the Guarantee default becoming evident.
5. This Guarantee shall apply to new heating devices purchased in the European Union. The Guarantee is issued by ***HANDYHEAT***
6. Any other claims resulting out of or in connection with the device shall be excluded from this Guarantee. Nothing in this Guarantee shall attempt to limit or exclude a Customers Statutory Rights, nor the manufacturer's liability for death or personal injury resulting from its negligence.
7. The duration of the Guarantee shall not be extended by services rendered under the terms of the Guarantee.
8. Insofar as no Guarantee default exists, *HANDYHEAT* reserves the right to charge the customer for replacement or repair.
9. The above provisions does not imply a change in the burden of proof to the detriment of the customer.

To invoke this Guarantee, please contact the ***HANDYHEAT*** telephone service or your authorized ***HANDYHEAT*** dealer. The relevant number is to be found in the accompanying user guide.
HANDYHEAT *is a Brand manufactured by: Dansk Varmekabel, Denmark*

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www. handy-heat.com
info@dansk-varmekabel.dk

Place product label here

Temperature control

Thermostats from the HandyHeat series is suited for the system. With the Thermostats the best possible heating comfort and economy is obtained.

Digital Thermostat



HandyHeat 131-A-AF

Programable digital Thermostat



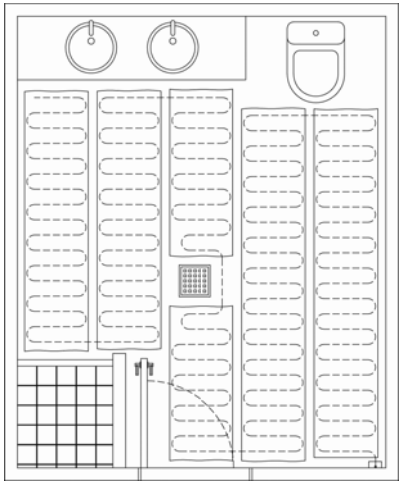
HandyHeat 132-A-AF

The Thermostat have a rating of 16 amps— loads in excess of 16 amps / 3600 Watt will need to be connected via a suitable switched contactor. Consult your electrician on this.
Please se seperate instruction for connection and operation of the digital thermostat.

Technical Data:

Type:	DVCM-80 / DVCM-120 / DVCM-150 / DVCM-200 Twin element heating mat, fully shielded, kevlar enforced heating element.	
Supply voltage	230 VAC , 50Hz	
Power	120 / 150 / 200 W / m²	
Diameter	3,5 mm	
Heating element insulation	Teflon	
Shielding	Tinned cupper wires, 1,5 mm²	
Outer jacket	PVC/ 90°C	
Cold cable	2,5 metre 2 x 1,5 mm² + shielding wires 1,5 mm²	
Cold cable dimension	6,5 mm x 4,5 mm	
Available mat sizes :	DVCM-80	1-10 m²
	DVCM-120	1-10 m²
	DVCM-150	1-12 m²
	DVCM-200	5-10 m²
Cold cable:	2,5 meter	
Approvals:	**CE**	
	Ⓢ By Intertek ETL SEMKO	
Standards:	EN 60335-1:1994 and A1+A2+A11-A16	
	SEMKO PA 834:1997	

Installation Step-by-Step



Step 1

Preparations
Plan your mat lay-out. This is a very important step and **MUST** be done correctly to ensure all the mat is used up.
Once it has been unrolled and cut the mat cannot be returned

Make a sketch of your floor with the lay-out of your floor heating.

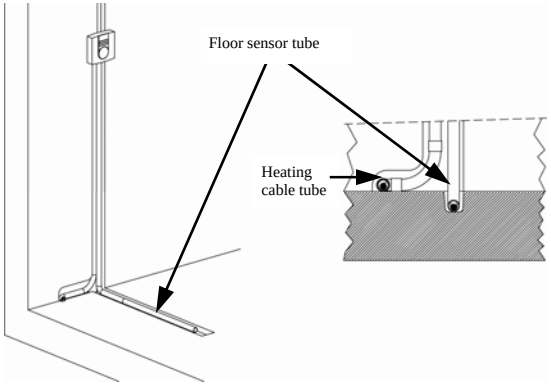
Determine the number of Watt /m² that you want.

Calculate the netto floor area you have, by subtracting areas for toilets, drains etc.

Ex. Total floor area: 5,5 m² Netto floor area: 5,2 m²
Wanted :150 Watt /m²
Size of mat to be used: 5 m²

If the netto area is smaller than the choosen mat size STOP and return or exchange for the correct size

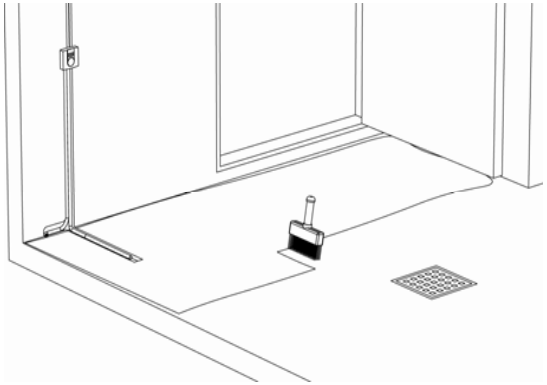
Deside where to place the Thermostat and start the lay-out from the thermostat. The sketch will help you to install the floor heating correct as well as help you to remember the lay-out details. This may be a great advantage to future changes.



Step 2

Locate the Floor sensor tube in centre between the heating cable. Using the tube makes a later replacement of sensor easyer.

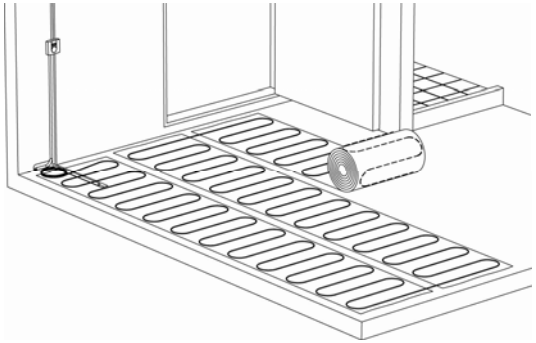
Remember to close the end of the tube.



Step 3

Clean the floor. Make sure the floor is free from dust, grease and debris.
Suitable subfloors are: concrete, existing tiles, waterresistant timber, water resistant gypsonite
Floor boards.
National building regulations must be respected.

Prime the floor using a primer If installing over larger areas or an absorbant surface the primer may need to be deluted with water to a maximum of two parts primer to one part primer.
Leave the primer to dry. Typically **1– 3 hours**

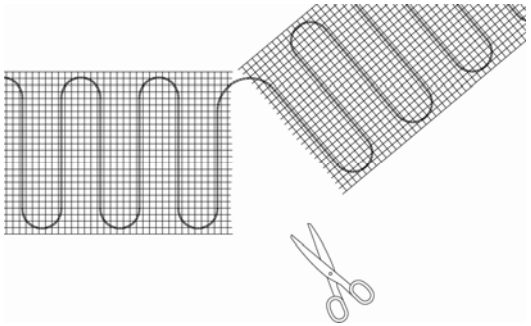


Step 4

Lay-out your mat in accordance with your grawing.

Start in the corner where you have located your Thermostat. Check that the black cold lead will reach the location of the thermstat.

You may chose to start another point or cut a strip of the mesh either side of the cable and run along the edge of the room back to the thermostat. The joint between the black cold cable and the orange heater cable must be located under the tiles.



Step 5

When you reach the wall, cut the mat by cutting the net/mesh

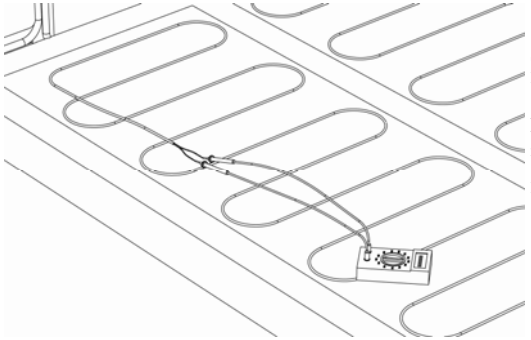
Don't cut the cable

Turn the mat in the direction required. If you are using two or more mats, try to finish off at the opposite wall, so the second mat is easier to lay.



Step 6

Press the mat lightly down to the primed floor to hold it in place. With th mat in possition, apply pressure using a roller to ensure a good adhesion to the floor before tiling.

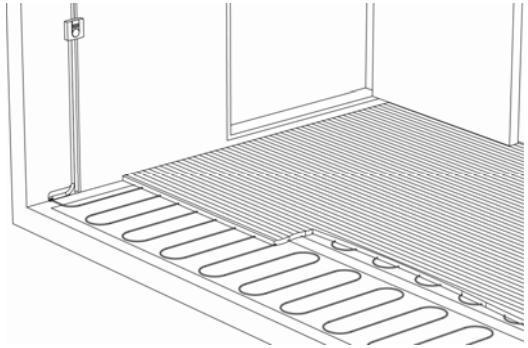


Step 7

Check the cable resistance. Check before and after the mat routing. Note the resistance.

Alternatively you may connect the system to 230 VAC in a few minutes to ensure the cable start up heating. Do not leave the cable connectet more than 4 minutes under no circumstances.

Do NEVER cover the heating mat without testing the mat!

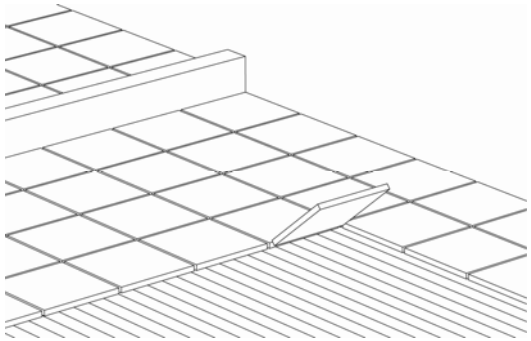


Step 7

If possible cover the mat with a leveling screed. This will protect the mat when tiling. There are many suitable products. Do always follow the instruction on the bag.

If you do not wish to use the leveling screed, you may tile directly over the cables in a single operation. However extra care must be taken not to damage the heating mat cable or dislodge the cable
If you are using a suitable vinyl or thin carpet, we recommend a minimum 6 mm screed over the cables to ensure even heat distribution.

For wet rooms special considerations must be taken



Step 8

Tile the floor using a flexible tile adhesive.

Carefully follow the instructions given by the manufacturer of the tile adhesive.

Finally wait at least one week before turning the heating system on, to allow the tile adhesive to harden and dry.
Forced heating to dry the tile adhesive will weaken the adhesive and may damage the heating mat. Optimal drying time for the most common tile adhesives is aproximately 28 days

NOTE. The heating may be slow to react first, especially if installed on new screed floor or in a new building.
Start by setting the temperature at 20-22 °C and build up the temperature by 1 degree per day until the desired temperature is reached.

Installation Notes

The system reqires a main voltage of 230 VAC and must be connected by a suitable and qualified electrician. All wiring must conform to national regulations.

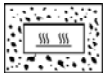
The system is intended for heating tiled or stone floors and the optimum recomended output is aprox. 150 Watt per sqm, ahhieved by spacing the cable at around 6,5 cm between the loops.

The insulation level of a floor will affect both the performance and running cost of an underfloor heating system. Good insulation level in floor, walls and roof is strongly recomended. It would not generally be considered nessery to insulate small areas where the reguirement is simply to "take the chill of the floor". However in cases where the heating is being installed over large areas, particulary as the primary heating source in a ground floor room or conservatory, insulation boards will greatly reduce warm-up times and running cost.

The system is suitable both as primary or secondary heating source. Since the Thermostat is suited with both a floor sensor and a room temperature sensor. Any adding heating sources wil reduce the running cost of the floor heating system.



Direct floor heating system



To be covered by cement based compounds