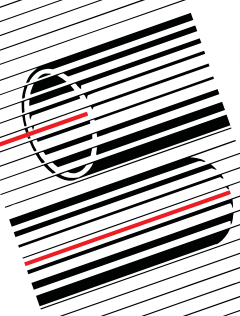
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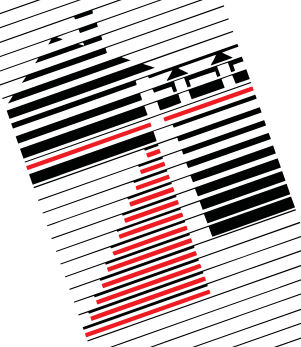
Installation And User Instructions

Devimat™ Warm Floor System

Installation Instructions
User Guide
Trouble Shooter







DEVI™

Existing Floor	Maximum load per m²
Wooden Floors	100 W/m²
Concrete Floors	150 W/m²

In all above situations, the floor temperature must be controlled with a DEVI floor sensor and devireg™ 550 thermostat/timer.

IMPORTANT!

- Before laying the mat the floor sensor (in controller box) MUST be installed. The sensor is fitted into a tube (in mat box) which should be laid 20-30cm across the floor under the mat between a cable loop.
- Before laying check the continuity of the cable, it should match the Ohm rating on the devimat™ label with a tolerance of -5 to +10% and check the insulation resistance which should read infinity.
- To install the mat simply cut and turn the mat. The heating cable must NOT be cut or subjected to strain around the area of the coupling, only the blue and black cables can be cut to suit.
- When installing more than one mat, all 'cold tails' (blue/black wires) must be taken back to the connection point/controller, DO NOT wire one mat to another.
- After laying the adhesive the heating mat must be checked once again for continuity and insulation resistance, then connected by an authorised electrician.
- The blue central core is NEUTRAL and the black central core is LIVE. The outer wires on both cables are the earth screens and should be connected to earth.
- A flexible adhesive is required when installing the devimat™ product.
- Installation on new concrete floors should not be carried out for approximately 30 days to ensure thorough drying out.

devimat™ specifications

Cable	DSVF
Type	Single conductor with screen
Voltage	230 V AC
Effect	100 W/m² to 150 W/m²
Dimension (W x H)	460 mm x 2.7 mm
Cold tails	4.0 m, 1.0 mm² plus screen
Conductor insulation	Teflon FEP
Sheath insulation	PVDF 90°C
Max. temperature	90°C

Connections

Live	-	Black
Neutral	-	Blue
Earth	-	Screen

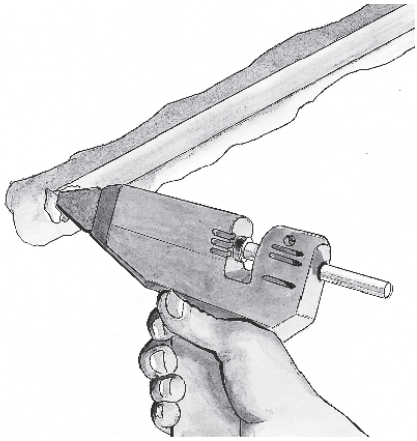
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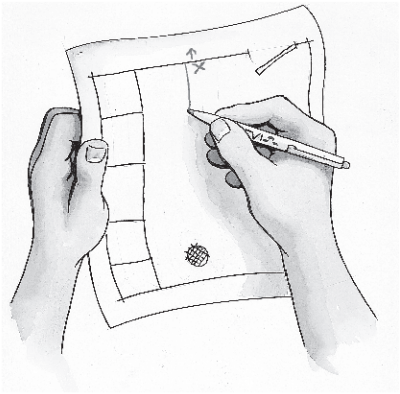
Installation - Part 1

When installing devimat™ the following should be observed:

Clean and remove all loose particles. Remove any sharp protrusions and fill in any holes with 1:3 mixture of sand/cement. Prime the floor if the surface is contaminated with oil, etc. in accordance with the tile fixative manufacturers instructions.

It is recommended to draw up a plan showing where the heating mat, including cold tail, floor sensor and connection box are to be positioned.



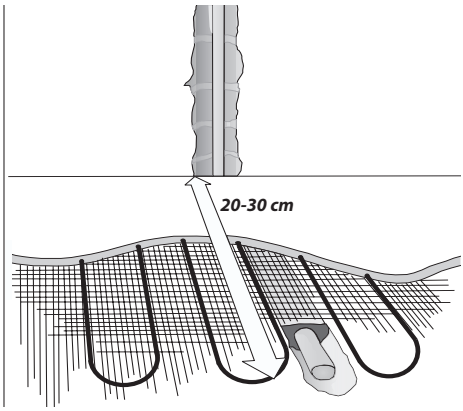


1. The flexible tubing (15 mm) for the floor sensor needs to be parallel with the mat and sitting between a cable loop.

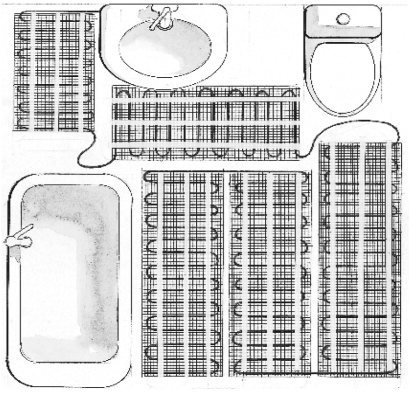
Decide on the direction of the cable loops and lay the mat on the floor so a channel for the tube can be made. The channel should be deep enough for the tube to finish flush with the floor surface. The installation of the tubing is necessary so in the unlikely event of sensor failure, it can be removed and replaced without lifting the floor.
The sensor cable is then inserted in the tube and the end of the tube is sealed/taped.

2. In situations where the thermostat is not located at low level, it is recommended that a low level connection box is installed.
This low level connection box is useful should the cold tails of the devimat™ be too short or situations where the controller has to be located outside the room, i.e. bathroom. The connecting box is also useful in the unlikely event the sensor requires replacement.
A channel should then be made from the floor to the box/thermostat.

The wiring regulations state that the controller should be located away from sources of water, i.e. outside the bathroom.

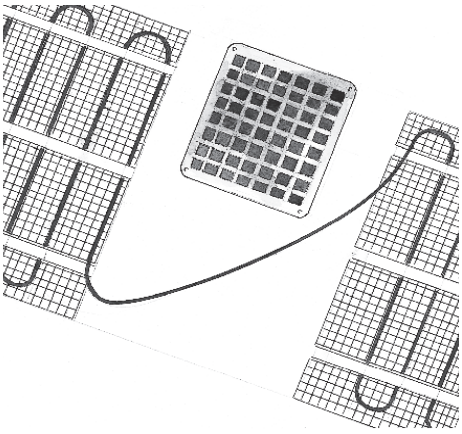


Various ways to lay devimat™ where there are obstructions.

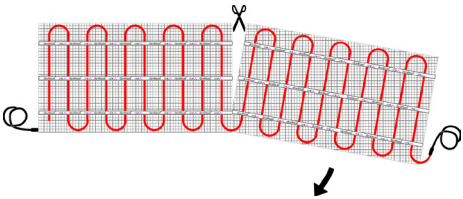


It is important to calculate the free floor area before installation begins.

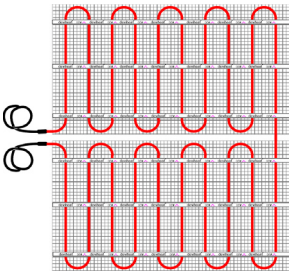
It is then recommended not to lay devimat™ at temperatures lower than approx. 5°C. The mat must be laid evenly over the floor area avoiding all obstructions like pipes, baths and cupboards. It is acceptable to lay the devimat™ under suspended cupboards and wash basins.



The heating mat must be guided around drains, basins and other objects which are attached to floor to avoid the risk of drilling holes in the heating mat at a later stage.



When the devimat™ reaches an obstruction e.g. the end of a wall it can be simply turned by cutting the mesh netting (NOT THE CABLE) placing the next length parallel with the first. When installing the mats, ensure a 50 mm gap is left between the end of the loops of the mat.

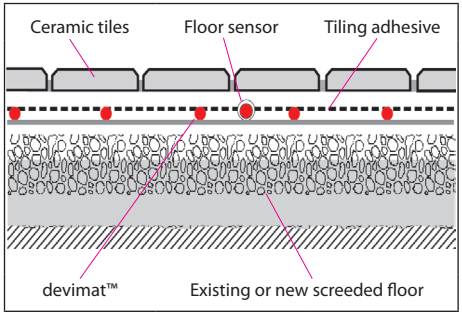


The devimat™ cable must not be shortened in any way.

- The devimat™ must NOT be installed across two or more rooms.
- The heating cables (RED CABLE) must NOT touch or cross each other.
- The heating cables (RED CABLE) must NOT be CUT.
- All the red heating cable must be within the floor.

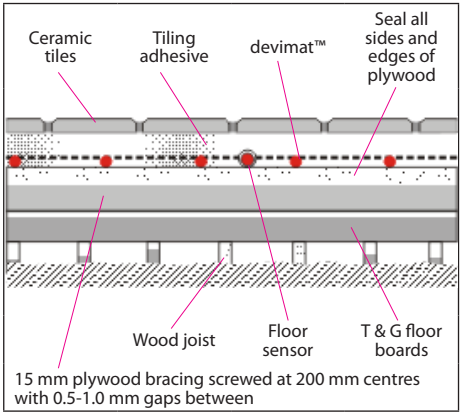
Installation - Part 2

Installing the devimat™ on concrete floors



Note! Prior to laying devimat™, the existing floor should be prepared as normally required for tiling.

Installing the devimat™ on timber floors



Concrete and wooden floors using flexible adhesives

The devimat™ is self-adhesive, so the mat should be laid with cable facing upwards. In situations where the mat has to be turned over or the mat cannot stick to the surface, the mat can be secured to the floor using: for concrete floors devipins or hot glue gun (taking care not to damage the cable) and for wooden floors a staple gun or for both double sided adhesive tape 35 mm width max. using the minimum amount with maximum adhesion.

Working with a width of devimat™ at a time, apply flexible tile adhesive through the mat with a rubber backed trowel or similar so that the cable is covered, making sure that there are no air pockets. Then another 3 mm of adhesive can be applied carefully using a suitable notched trowel to comb the adhesive before applying the tiles.

Concrete and wooden floors using self levelling compounds

An alternative method is to lay the devimat™ over the area of the floor to be warmed. A suitable self levelling compound is then applied to cover the mat. Once this has set a 3 mm depth of flexible tile adhesive is spread over the compound and a suitable notched trowel is used to comb the adhesive before applying the tiles.

Regulating



- The devimat™ system is controlled by a devireg™ 550 combined thermostat/timer, this uses a floor sensor to monitor the floor temperature.
- Leading from the floor level to the controller should ONLY be the blue and black wires of the mat and the white sensor cable.
- The controller is a flush mounted unit and requires a 47 mm deep box.

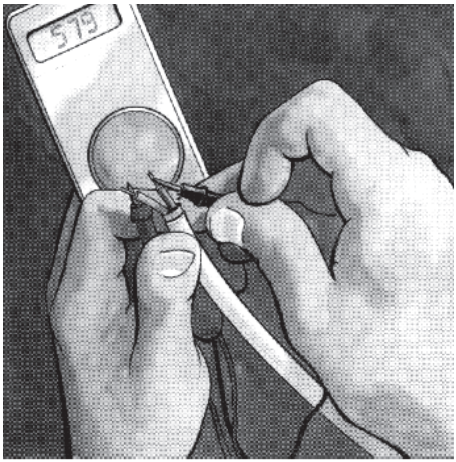
Electrical Connections

The heating mat must be connected by an authorised electrician.

It is recommended that the devimat™ is connected to the mains via a 30 mA residual current device.

After the floor tiling is complete:

- Check the continuity of the cable, it should match the Ohm rating on the devimat™ label with a tolerance of -5 to +10%.
- Check the insulation resistance between the conductor and the earth screen, this should read infinity.



Wiring The Controller

The sensor cable, heating mat and electricity supply can now be connected. Five simple steps to connecting your controller are:

1. The mains voltage is connected to the terminals marked (Mains L & N).

   L = Live
   N = Neutral

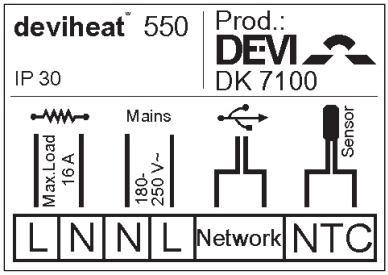
2. The devimat™ is connected via terminals L and N where :

   Blue Cable Central Core = Neutral
   Black Cable Central Core = Live

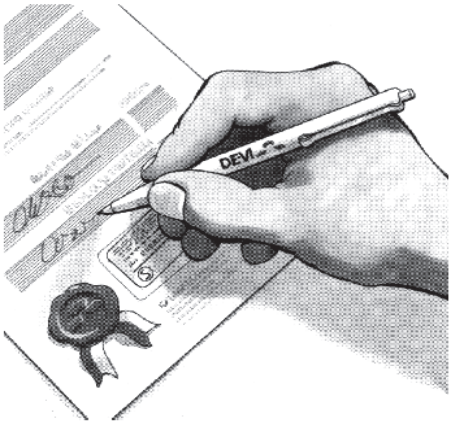
3. The screening around the black and blue wires of the devimat™ should both be connected to the earth terminal within the electrical box, in accordance with the electricity regulations.

4. The sensor must be connected to the terminals marked NTC. This cable can be cut as required and connected either way round.

5. The 'Network' terminal is not used.



The Warranty Certificate should now be filled in.



The devimat™ system should not be turned on until the adhesive and tile grout has completely dried, then turn on gradually over a 48 hour period.

No close fitting objects should be laid onto or fixed to the warm floor area, for example thick mats or bean bags.

Setting up your deviheat™ 550 programmable thermostat with your devimat™ system

If the thermostat is displaying 'CODE', initially you will ONLY be presented with step 1 and step 4, set these as described below.

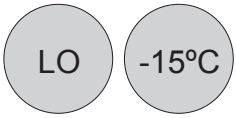
Once you have either completed steps 1 and 4, or the controller is displaying something other than 'CODE', you must press and hold the button until the word 'CODE' is displayed and follow the steps below:

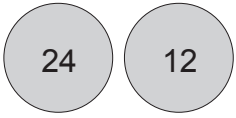
Step 1: Setup code	Rotate button to select code 0044 and then press button once.
Step 2: Operating mode	Rotate button to select 'ALO' and then press button.
Step 3: Temperature readout	Rotate button to select °C and then press button.
Step 4: Sensor selection	Rotate button to select 'FS' to activate the floor sensor, then press button (not rFs or rs).
Step 5: Maximum floor temperature selection	At 'nt' rotate button to select either of the following temperature selection maximum floor temperatures, then press button. Tiles on timber based floors 29°C Tiles on concrete based floors 40°C Timber covered floors (parquet etc.) 27°C
Step 6: Off periods	'LO' should be displayed, you should rotate dial to select -15°C, then press button.
Step 7: Clock display	Rotate button to select clock display as either 24 hours or 12 hours AM/PM.
Step 8: Save settings	Press button once.











(If the controller is now displaying 'CODE', disconnect the power to the controller and then reconnect).

Now you can set the time and day on the controller.

Step 9: Setting of clock	Press and hold button until is displayed in bottom left corner. The display now shows the time and day (number 1 represents Monday, number 7 is Sunday). Rotate the dial to show the correct time and day of the week and then press the button to save the correct time setting.

*If any steps are skipped, hold button until word 'CODE' is displayed to reset controller and start again at step 1.

Finally you can now set how you wish the controller to operate.

You can operate the controller in either Manual or Timer Mode, by pressing the button you can toggle between these two modes.

Manual Mode

In this mode the temperature set on the display is maintained 24 hours a day, i.e. no timing facility and therefore no ' ' displayed.
Whilst in manual mode, if you rotate the dial to level 1.0 then turn the dial further anti-clockwise, the thermostat will switch off and display 'OFF'.



Timer Mode

On the timer program, the controller switches on and off as programmed. With this mode you tell the controller **at what time of day you want a warm floor** and then using its intelligence,the controller learns how long your floor takes to warm up.



Step 10:
Enter timer mode

Press and hold button until is displayed in bottom right corner.

Step 11:
Select first day

Rotate button to display the first day you wish to program and then press button.



Step 12:
First start time

Rotate button to indicate the start of the first time period when you want a warm floor (i.e. 06:00) and then press the button.



Step 13:
First end time

Rotate button to highlight duration of first warm floor period, then press button to indicate the end of first time period (i.e. 07:30).



Step 14:
Continue

Rotate button to indicate next warm floor start time, press the button, rotate to the end of the period and press button again. Continue this through the whole week.



Step 15:
Save program

To save programs, press and hold the button to return to the normal display. By pressing the button once you can now toggle between manual and timer modes.



Step 16:
Set floor level

The button now controls the heat level of your devimat™ system. The controller can be adjusted to the required heat level on a range from 1-10, level 10 being the maximum floor heat. The displayed heat level is what the controller will provide at the times programmed. It is recommended that you initially set to level 5, then adjust to suit.

devimat™ Trouble Shooter

Should you experience any problems with the devimat™ not warming the floor, call a qualified electrician to carry out the following tests:

No.	Test	Expected Outcome	Action
1	Check for a 230 V supply to the thermostat on terminals 1 and 2.	230 V	If no voltage present, connect supply.
2	Rotate thermostat dial to position 10 and test for a 230 V output on terminals 3 and 4. This may take a few minutes to switch on.	230 V	Firstly, check resistance of floor sensor first (step 3). If floor sensor is normal, the thermostat is faulty - contact your supplier.
3	Turn off power to thermostat and test resistance of floor sensor.	10-20kΩ, depending on temperature of floor.	If sensor is faulty, call your supplier for replacement.
4	Turn off power to thermostat and test resistance of the devimat™.	35-550Ω, depending on mat size (see mat label).	If mat is faulty, the mat has been damaged, contact your supplier.
5	Turn off power to thermostat and ensure there is no continuity between the conductors and the earth screen.	No continuity.	If there is continuity between the conductor and screen, the mat has been damaged, contact your supplier.

devireg™ 550 Controller Trouble Shooter

If the outer ring on the devireg™ 550 controller is flashing you have a fault, note the small number at the bottom of the display and follow the procedures below:

Fault on devireg™ 550	Possible Cause	Solution
Error No. 2.	Unit Configured as a Master, but can detect another master unit.	Only one unit may be configured as a master-see 550 programming instructions.
Error No. 3.	Unit Configured as a Slave, but cannot detect another master unit.	Only one unit may be configured as a master-see 550 programming instructions.
Error No. 4.	The thermostat is over heating.	Let the thermostat cool down and have an authorised electrician to check the wiring.
Error No. 5.	Sensor fault-floor sensor short-circuit.	Have an authorised electrician check the floor sensor, resistance should be 10K-24K Ohms.
Error No. 6.	Sensor fault-floor sensor open-circuit.	Have an authorised electrician check the floor sensor wiring and check for a resistance reading of 10K - 24K Ohms.
Error No. 7.	Clock not adjusted.	Set the clock.
devireg™ 550 not working at all.	No power Wiring incorrect or Faulty unit	Have an authorised electrician check the wiring-see devimat™ Trouble Shooter.

IF AT ANY POINT THE CONTROLLER IS NOT FUNCTIONING CORRECTLY PLEASE TURN OFF THE POWER AND RESET THE CONTROLLER.

SHOULD YOUR AUTHORISED ELECTRICIAN EXPERIENCE ANY DIFFICULTY PLEASE CONTACT YOUR SUPPLIER.

The DEVI Warranty:

You have purchased a deviheat™ system, which we are certain will improve your home comfort and economy.

deviheat™ provides complete heating solutions with deviflex™ heating cables or devimat™ heating mats, devireg™ thermostats and devifast fitting bands.

If, however, contrary to all expectations, a problem should occur with your heating system, we at **DEVI**, with manufacturing units in Denmark, are, as European Union suppliers, subject to general product liability rules, as stated in Directive 85/374/CEE, and all relevant national laws which imply that:

DEVI provides a warranty for deviflex™ heating cables and devimat™ heating mats for a 10 year period and all other **DEVI** products for a 2 year period against defects in material and production.

The guarantee is granted on the condition that the WARRANTY CERTIFICATE overleaf is filled out properly in accordance with instructions and that the defect is inspected by, or presented to, **DEVI** or their authorised **DEVI** distributor.

Please note that the wording of the WARRANTY CERTIFICATE must be provided in English with the ISO code for your country in the upper left corner of the front page of the installation instructions in order to release the warranty.
The obligation of **DEVI** will be to repair or supply a new unit, free of charge to the customer, without secondary charges linked to repairing the unit. In case of defective devireg™ thermostats, **DEVI** reserves the right to repair the unit free of charge and without unreasonable delay to the customer.

The **DEVI** warranty does not cover installations made by unauthorised electricians, or faults caused by incorrect designs supplied by others, misuse, damage caused by others, or incorrect installation or any subsequent damage that may occur. If **DEVI** is required to inspect or repair any defects caused by any of the above, then all work will be fully chargeable.
The **DEVI** warranty is void, if pay-ment of the equipment is in default.

At all times, we at **DEVI** will respond honestly, efficiently and promptly to all queries and reasonable requests from our customers.

The above mentioned warranty concerns product liability whereas matters in relation to legislation on sale of goods shall be referred to national law.

Warranty Certificate

The DEVI Warranty is granted to:

Name: Phone:

Address: Postal code:

Please Observe!

In order to obtain the **DEVI Warranty,** the following must be carefully filled in. See other conditions on the overleaf.

devimat™ layout contractor: Lay-out date:

Electrical Installation by: Installation date:

Mat length: Watt:

Stock code:

Application:

☐ Concrete floor ☐ Tiles ☐ Parquet

☐ Wooden floor ☐ Vinyl ☐ Carpet

Suppliers Stamp:



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