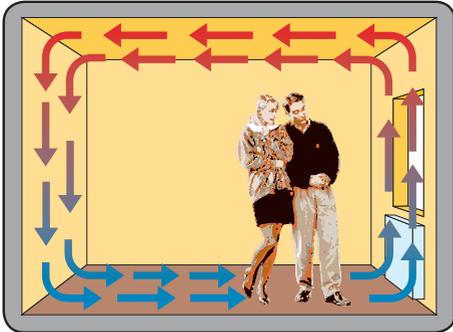


INT

Installation instruction Devidry™

Devidry™

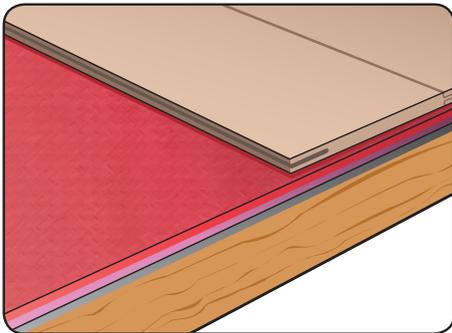
Congratulations with your new DEVI floor heating system. DEVI is Europe's leading floor heating manufacturer with more than 45 years of experience. We are confident that you will be satisfied with your new system. DEVI brings you optimum comfort with the luxury and comfort of a warm floor as well as a pleasant room temperature. Floor heating is the most comfortable type of heating because it is based on the fact that warmth travels upwards; pleasant warmth for your feet, body and head.



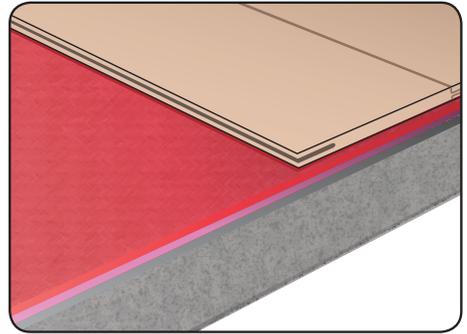
General information

The Devidry™ floor heating system consists of a foam/carpet heating element with heating elements inside. The system must always be controlled with the Devidry™ Kit (controller and current device – sold separately) as it is part of the safety and overheating protections system. The Devidry™ floor heating system has been developed to the dry application area for underfloor heating. It is applicable for wooden and concrete floor constructions with the two output ranges 55W/m² and 100W/m². Your Devidry™ floor heating system complies with the standard for removable floors EN/IEC 60335-1 and EN/IEC 60335-2-106, which specifies the maximum output for the following floor constructions:

- Wooden floor constructions:
Only 55 W/m²
- Concrete floor constructions:
55 W/m² or 100 W/m²



*Flooring Devidry™
Wooden floor construction*

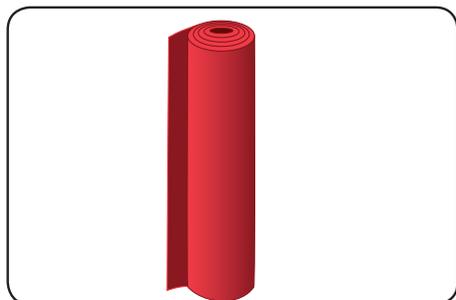
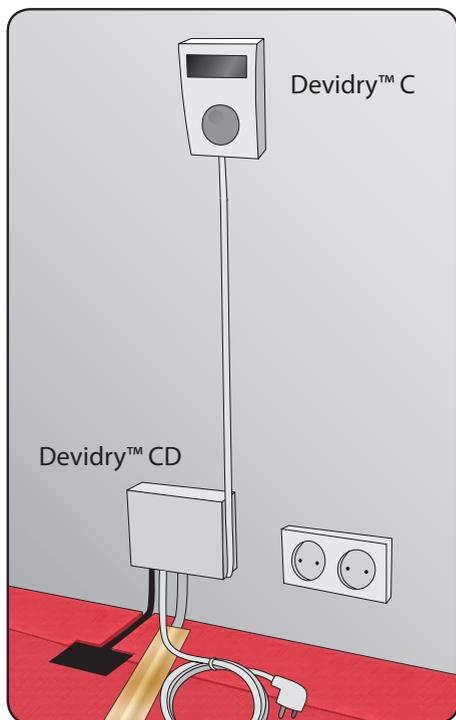


*Flooring Devidry™
Concrete floor construction*

The Devidry™ floor heating system can be used under wooden floors, parquet and laminate (and thin carpets). Please check the specifications with your supplier of these products. The insulation value of the floor covering should not exceed 0,1m² K/W. The Devidry™ floor heating system is for indoor applications in dry rooms only and must always be installed with the Devidry™ Kit. If the system is installed under carpets we recommend to full tape the elements together with duct tape (not supplied in the kit). As with any other underfloor heating system, it will be most effective if the underfloor is well insulated. The following directions will guide you step-by-step through the installation process. Please read the directions and the safety precautions before you start the installation process.

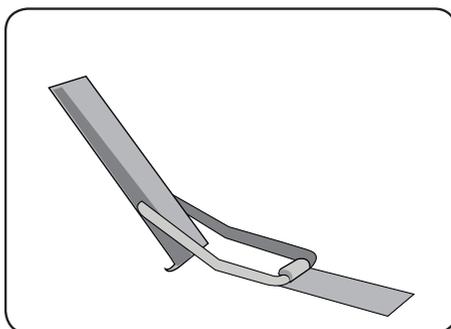
Product overview

The Devidry™ Kit consists of the Devidry™ C (controller), the Devidry™ CD (current device), the Devidry™ Connection Tool and aluminium tape to fasten the floor sensor to the floor with.

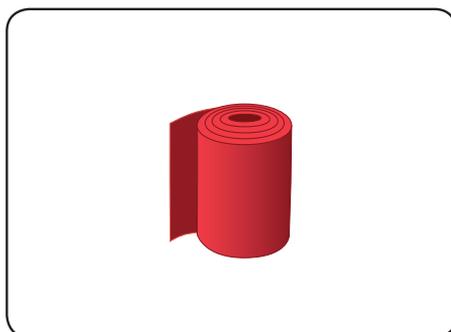


Devidry™ Element

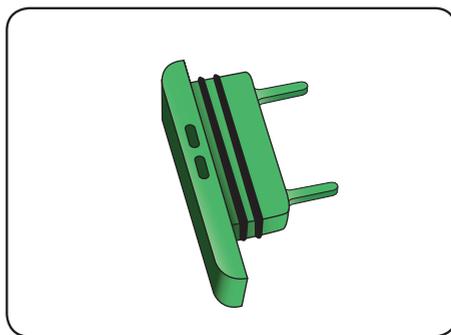
Other products in the Devidry™ product range are:



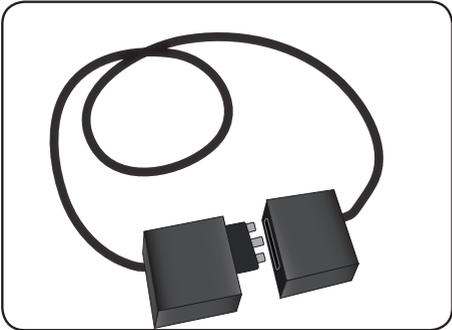
Devidry™ Connection Tool



Devidry™ FM



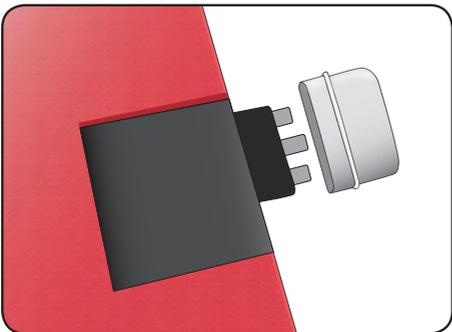
Devidry™ End Stop



Devidry™ X



Devidry™ Tape



Devidry™ Protection Cap

Products supplied for <u>wooden</u> floor constructions	
Devidry™ Name	Description
Devidry™ 55	Devidry™ Element
Devidry™ Kit 55	Devidry™ Kit

Products supplied for <u>concrete</u> floor constructions	
Devidry™ Name	Description
Devidry™ 55	Devidry™ Element
Devidry™ Kit 55	Devidry™ Kit
or	
Devidry™ 100	Devidry™ Element
Devidry™ Kit 100	Devidry™ Kit

Accessories	
Devidry™ Name	Description
Devidry™ X-25	Devidry™ Extension Cord, 25 cm
Devidry™ X-100	Devidry™ Extension Cord, 100 cm
Devidry™ X-200	Devidry™ Extension Cord, 200 cm
Devidry™ FM-1	Devidry™ Filler Material, 1 m ²
Devidry™ FM-2	Devidry™ Filler Material, 2 m ²
Devidry™ FM-4	Devidry™ Filler Material, 4 m ²
Devidry™ Tape	Devidry™ Duct Tape

Technical Details

Installation in accordance with the national regulation and wiring rules for installation only.

INT

Technical details of Devidry™	
Height	8 mm
Mains voltage	230 V (50 Hz)
Max. Amps per Devidry™ System	10 Amp
IP rating for Devidry™ Element	IP X7
Output	55 W/m ² or 100 W/m ²
Sound reduction value	17 dB
Insulation value μ	8W/m ² K

Maximum heated surface per Devidry Kit (Max. current limit is 10 Amps)	
Product	Max. heated surface
Devidry™ 55	42 m ²
Devidry™ 100	23 m ²

For Devidry™ 55

Floor area	Heated surface	Total power output	Amp
1 m ²	0,4 m ²	22 watt	0,10 Amp
2 m ²	1,4 m ²	77 watt	0,33 Amp
3 m ²	2,4 m ²	132 watt	0,57 Amp
4 m ²	3,4 m ²	187 watt	0,81 Amp
5 m ²	4,4 m ²	242 watt	1,05 Amp

For Devidry™ 100

Floor area	Heated surface	Total power output	Amp
1 m ²	0,4 m ²	40 watt	0,17 Amp
2 m ²	1,4 m ²	140 watt	0,61 Amp
3 m ²	2,4 m ²	240 watt	1,04 Amp
4 m ²	3,4 m ²	340 watt	1,48 Amp
5 m ²	4,4 m ²	440 watt	1,91 Amp

Signature explanation

	<p>This side up</p>
	<p>Heating element must only be installed on top of concrete floor constructions (never on wooden floor consr imbedded in concrete) truction, never imbedded in concrete)</p>
	<p>The Devidry™ element may be cut here to fit the actual area, as there are no electrical parts in this area</p>
	<p>The Devidry™ element cannot be cut here as there are electrical parts in this area</p>
	<p>For indoor use only</p>
	<p>Read the instruction manual before installation</p>
	<p>Double insulated</p>
	<p>DEVI declares that Devidry™ is tested according to the standard for removable floors:</p> <ul style="list-style-type: none"> • EN/IEC 60335-1 Household and similar electrical appliances – Safety – Part 1: General requirements and • EN/IEC 60335-2-106 Household and similar electrical appliances – Safety – Part 2-106 with parti for heated carpets and heating units for room heating installed under removable floor coverings cular requirements

INT

1. Preparing the base

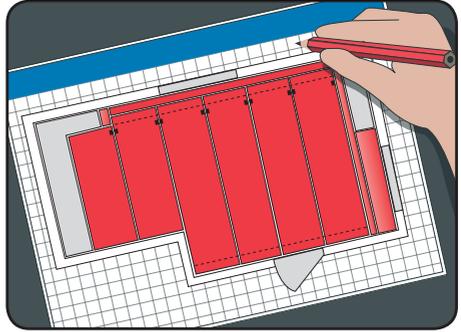
Before you start installing the product, please ensure that the floor is:

- permanently inflexible
- dry
- flat and regular
- dust- and fat-free
- free from any sharp objects

Use a powerful vacuum cleaner to remove all dust from the floor.



2. Designing the layout

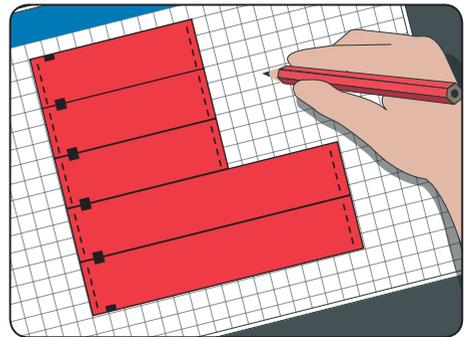
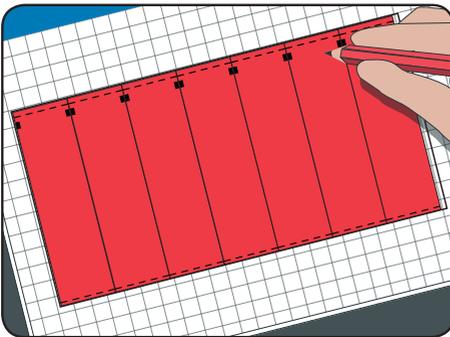
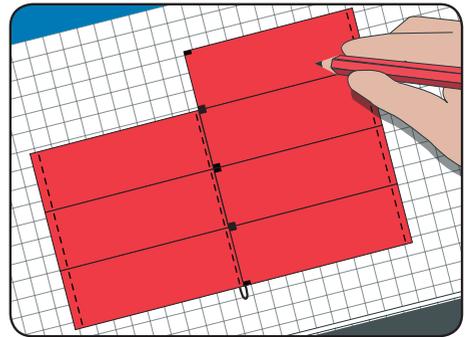
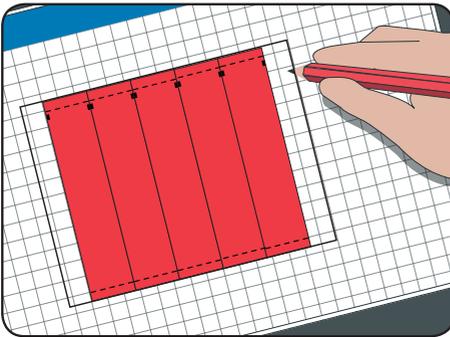


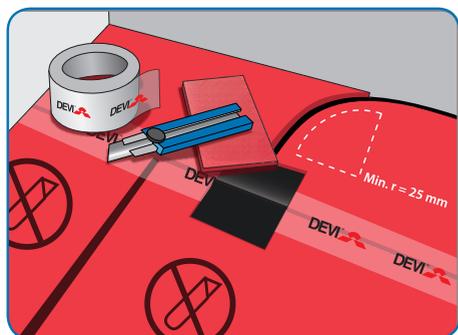
Draw a floor plan of the room and determine the most logical location for the control system and the position of the floor heating elements. Consider the placement of the wall outlet to get the most convenient access and make sure the necessary power supply is available (See next chapter 3 for Calculation of available power supply).

The output cord from the control system will go into the right side of the heating element, so you should start laying the first heat element on the right side of the floor and work towards the left side. Remember to keep at least 70 mm of free space between the skirting/wall and the first heating element for the plug-in connection between the floor heating element and the control system. Use the filler material to fill this space afterwards.

Sample calculations are provided below to help you work out how many Devidry™ floor heating elements are required. All Devidry™ floor heating elements are one metre wide and the standard length varies from one to five metres. Reduce the length of the elements to the required size as shown in the table.

- 1) When the area is 5m wide and 6m long, you will need 5 x 5m Devidry™ floor heating elements, plus 5 square metres of filler material.
- 2) When the area is 3,75m wide and 7,10 m long, you will need 6 x 4m Devidry™ floor heating elements. Cut the 4m long elements down to 3.75m. You will also need 0,38 square metres (~ 1 square metres) of filler material. A Devidry™ floor heating extension cord is available as an accessory. Use the cord only in the event that you are unable to make a direct connection between two adjacent floor heating elements.
- 3) When placing the elements after each other you should always cut away the cold end (25 cm) of the element to avoid cold zones
- 4) Installing extension cords Devidry™ X: The extension cords must only be placed in the filler material and not over/in the heating element. The filler material shall be cut so it is close to the extension cords. The Devidry™ X can withstand 10 A.





Make sure that no hot spots develop when using the floor heating system. Avoid hot spots by ensuring that the heat from the floor heating is homogeneously released to the area you wish to heat and that there is free space (ventilation) under the furniture. When designing the layout, make sure not to install Devidry™ heating element under permanent or built-in cupboards or fire places/ovens. Instead Devidry™ filler material should be used.



Element size	Standard length	Minimum length
1 m ²	1 m	0,5 m
2 m ²	2 m	1,5 m
3 m ²	3 m	2,5 m
4 m ²	4 m	3,5 m
5 m ²	5 m	4,5 m
1 m wide filler materials without heating (1, 2 and 4m)		

3. Calculating the required electric power

Always connect the Devidry™ CD between the power source and the Devidry™ element. Connect the Devidry™ floor heating system in accordance with national standards and wiring rules. Every fuse has its protective value imprinted in Ampere (e.g. 10, 13 or 16 A). Multiply this number by the mains voltage (e.g. 230 Volt) to find the available output.

Example: Ampere (I) multiplied by Volt (U) equals Power (P):

$$I \times U = P$$

$$13 \text{ Amp} \times 230 \text{ V} = 2990 \text{ Watt}$$

When calculating the output available for the Devidry™ system, you should

take all your electrical appliances on this fuse into consideration. If you are in doubt about which fuse covers the particular floor area, you can simply turn it off and see what appliances that are not working.

You can typically find the power of your electric appliances imprinted as wattage on the back of the product. The 'power' of your fuses minus the total power of your appliances equals the remaining power that is available for your Devidry™ floor heating system. Calculate the available power for your Devidry™ floor heating system using the following table:

Calculation example

Fuse in the distribution board (e.g. 16 A x 230 V)	3.680 watt
EXISTING APPLIANCES IN THE ROOM:	
TV and DVD recorder	80 watt
Hi-fi set (radio/cd player/amplifier)	60 watt
Total lighting	180 watt
Aquarium	60 watt
Subtotals	380 watt
Total available power	3.300 watt

Your calculation

Insert your fuse size from the distribution board (___ A x 230 V)	watt
EXISTING APPLIANCES IN THE ROOM:	
TV and DVD	watt
Hi-fi set (radio/CD player/amplifier)	watt
Total lighting	watt
Other appliances	watt
Other appliances	watt
Other appliances	watt
Subtotals	watt
Total available power	watt

In the event that you are running short of power (total wattage) on the one fuse, you will need to split the floor heating elements up into several zones. Connect the second zone to a second control system/thermostat and a second available fuse.

The Devidry™ CD withstands max. 10 A at 230 V ~ (equivalent to 2300 watt). In the following tables you will find maximum heated surface per Devidry™ Kit and an overview of the total power output of the systems.

Maximum heated surface per Devidry Kit (Max. current limit is 10 Amps)	
Product	Max. heated surface
Devidry™ 55	42 m ²
Devidry™ 100	23 m ²

For Devidry™ 55 (Mains voltage 230 Volt and 50 Hz)

Floor area	Heated surface	Total power output	Amp
1 m ²	0,5 m ²	22 watt	0,10 Amp
2 m ²	1,5 m ²	77 watt	0,33 Amp
3 m ²	2,5 m ²	132 watt	0,57 Amp
4 m ²	3,5 m ²	187 watt	0,81 Amp
5 m ²	4,5 m ²	242 watt	1,05 Amp

For Devidry™ 100

Floor area	Heated surface	Total power output	Amp
1 m ²	0,5 m ²	40 watt	0,17 Amp
2 m ²	1,5 m ²	140 watt	0,61 Amp
3 m ²	2,5 m ²	240 watt	1,04 Amp
4 m ²	3,5 m ²	340 watt	1,48 Amp
5 m ²	4,5 m ²	440 watt	1,91 Amp

4. Connecting the Devidry™ elements

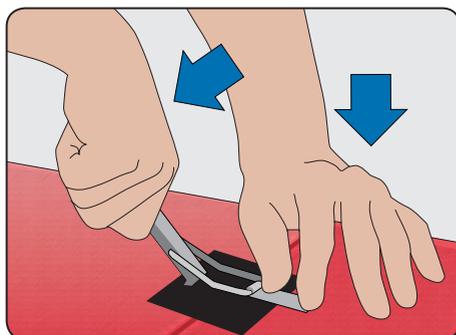
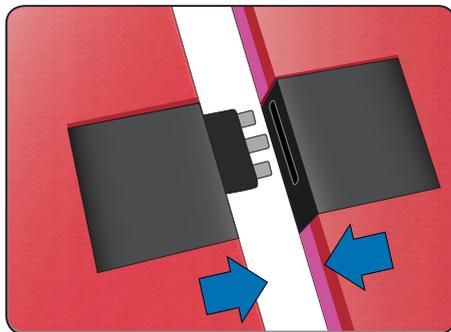
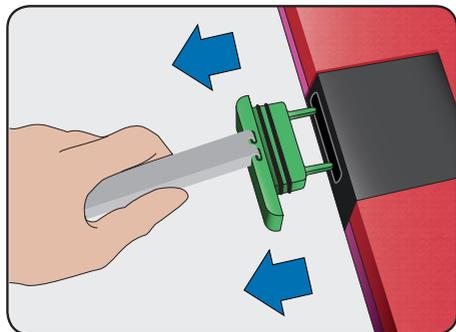
Unroll and align the Devidry™ elements where you intend to place them with the printed side upwards. All elements have an end stop to protect the connection against pressure. Remove the end stops with the special tool, just before making the connection with the next heating elements. If all end stops are taken out at once, remember to leave the end stop in the last element.

Connect the plug-in connection of the second element into the plug-in connection of the first element. Put the male and female connector together by hand before using the connector tool to push the elements tight together. Check that the plug-in connection fits correctly and

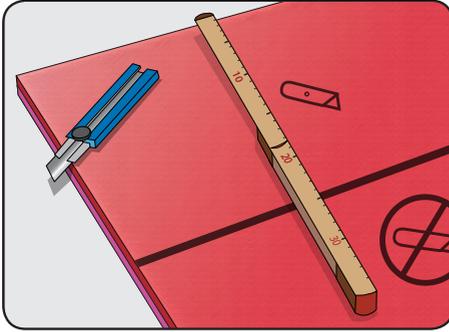
permanently. Continue with the subsequent elements in the same manner.

Make sure that all plug-in connections fit straight and without any mechanical stress. Discontinue the floor heating installation process in the event of damage to one or more components. Incorrect installation may cause problems and/or defects to the floor heating elements or activating the safety unit.

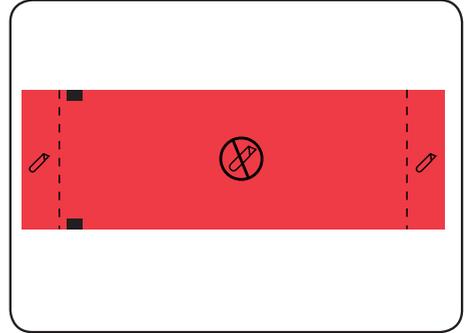
Make sure that the end stop in the last element is in place before the floor covering is laid. Keep the end stops if you intend to remove/reposition your floor later.



5. Cutting the Devidry™ floor heating element to size



To cut the element to size:
Carefully measure the piece you wish to cut off and simply cut with your knife.



INT

Each end of the Devidry™ heating element consists of 25 cm without electrical parts inside. The Devidry™ heating element may only be cut at the far ends where there are no electrical parts inside as marked on the product below.

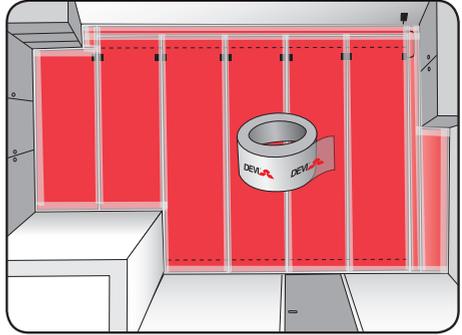
Markings and symbols have been printed on the Devidry™ heating elements:

-  Indicates where it is allowed to cut
-  Do not cut. Electrical parts inside. If cut, element will be destroyed.

6. Filling up the remaining space

At this point all connections between the elements should be aligned and connected and as much of the floor as possible should be covered with Devidry™ elements. The space without Devidry™ heating elements should be covered with the Devidry™ Filler Material to ensure an even and homogenous floor surface. A lineal and a wooden plate can be used when cutting the Devidry™ Filler Material to avoid cutting into the electrical parts and ensuring a straight cut.

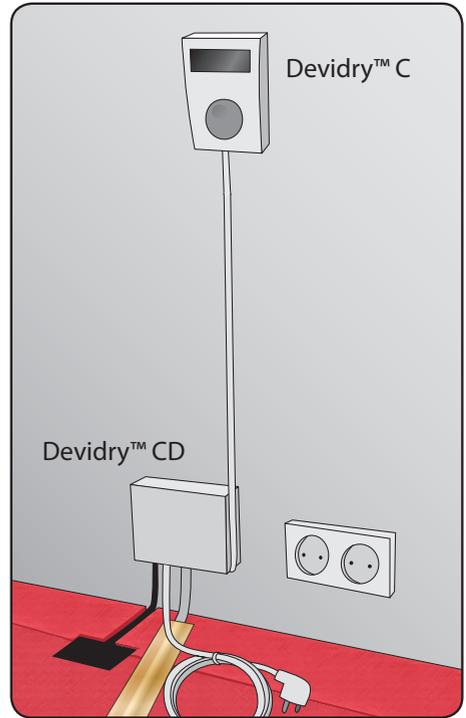
To be certain that the distribution of the floor heating elements in your room is correct, we suggest you make everything fit before you secure the elements permanently. It is most important to make sure that all plug-in connections are perfectly aligned to allow the flow of electricity from one element to the next. Put the floor heating elements plus any filler materials down as shown in the layout. Once you have correctly positioned all floor heating elements and you have cut the filler material to size, you can proceed with the permanent installation as explained in the following steps. (If you plan to install the Devidry™ under carpets we recommend taping the elements together with Devidry™ Tape as shown on the picture).



7. Mounting the Devidry™ Kit

Mount the Devidry™ Kit to the wall. The Devidry™ Kit should be installed in accordance with the instruction manual supplied with the kit. Cut a piece of material from the filler material to make room for the plug-in connection between the Devidry™ Kit and the Devidry™ element. Make sure not to fold and/or squeeze the cord between the kit and the floor heating element but make room for the cord in the filler material. Minimum bending diameter is 5 cm.

The sensor is installed by clicking the connector into the port in the Devidry™ CD. The sensor must be placed so that at least 30 cm of the sensor is lying on the Devidry™ heated element. And the end of the sensor should be placed right between two cables in the element as shown in the figure.



8. Checking the Devidry™ floor heating system

Check that all work has been carried out in accordance with directions before testing the Devidry™ floor heating system. Testing may commence when everything has been correctly connected. Read the directions for the control system before you proceed. Plug the control system into the wall socket. Set the temperature at maximum temperatures (30° Celsius for wooden floors and 35° Celsius for concrete floor constructions). After a short while you will notice the Devidry™ floor heating elements are warming up.

Max. set point temperature of the thermostat is:

- 30°C for wooden floors
- 35°C for concrete floors

If the floor heating elements are not warming up to the same temperature the plug-in connections should be checked once again. Remember to first unplug the Devidry™ system from the mains.

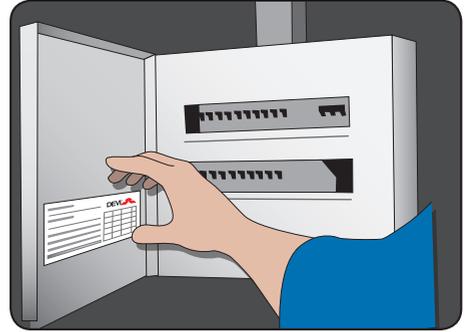


9. Laying the top floor

The final floor covering (lamininate, carpet or loose parquet) can be laid when the system has been tested.

10. Warning label

The warning label that is included in the Devidry™ Kit must be filled out and installed in the distribution board. For future reference it is important to fill in, which room and how many Devidry™ elements that have been installed, by whom and the installation date. Furthermore, the room should be drawn in the manual so it is easy to see how the elements have been positioned in the room in the future.

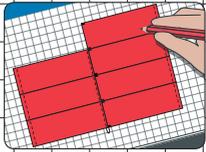
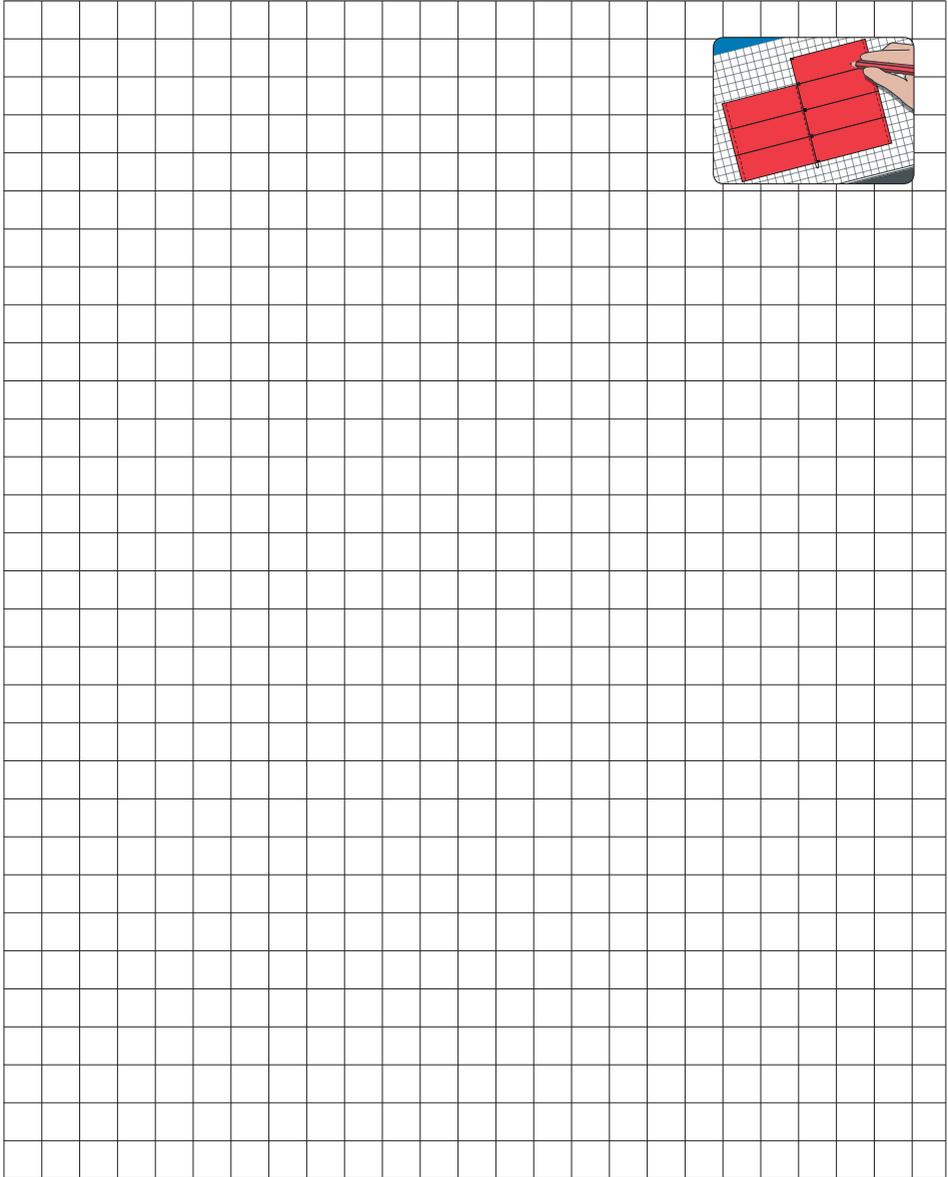


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Layout paper

Please draw the room on the page below and position the heating mats that you are installing (for future reference)

These products are installed in Room _____



Safety precautions

- Use the floor heating element for the purposes described in the directions only.
- Devidry™ must always be installed with the Devidry™ Kit.
- Mount and connect the Devidry™ Kit to the mains following the correct installation instructions supplied with the Kit. The Devidry™ Kit is sold separately.
- The Devidry™ floor heating system is to be supplied through a residual current device having a rated residual operating current not exceeding 30 mA.
- All the used Devidry™ elements must have the same area output.
- The Devidry™ elements are not to be installed on irregular surfaces.
- Do not fold or sharply bend the floor heating elements.
- In order to avoid a fire hazard, the Devidry™ 100 is to be installed only above a floor of concrete or similar material. Devidry™ 55 can be installed on either concrete or wooden floors.
- The controller Devidry™ C100 must only be used with installations on concrete floors and Devidry™ C55 can be used with both floor constructions.
- Devidry™ heating element must be separated from other heat sources.
- The Devidry™ heating element must not be installed at ambient temperatures below 5°C.
- The Devidry™ floor heating system is only for indoor use.
- Do not install or use the floor heating system after one or more components have been damaged.
- Do not allow home repairs under any circumstances. Repairs must be carried out by qualified electricians. Faulty repairs may cause personal injury or damage to property.
- Do not use the floor heating in combination with parts that are not recommended, installed or supplied by DEVI.
- Use original parts of the Devidry™ floor heating system only. The warranty for the entire system and for the separate parts becomes null and void if parts from other manufactures have been used.
- Make sure that no hot spots develop when using the floor heating system. Avoid hot spots by ensuring that the heat from the floor heating is homogeneously released to the area you wish to heat. Do not install the floor heating element under permanent or built-in cupboards (full covering furniture).
- Do not use the Devidry™ floor heating system if the system is wet.
- Warning label should be filled out and placed next to the distribution switchboard.
- The Devidry™ floor heating system is only to be used with the Devidry™ extension cords (The Devidry™ X). Do never cut the extension cords or the output cords.
- Do not buckle the supply cord and the extension cords; do not have them run across hot and/or sharp objects.
- Unroll the cords entirely to prevent the cords from overheating.
- Remove the plug from the wall socket outlet if work is carried out at or near the floor heating system when fluids or sharp objects are being used.

- Do not pull the cord or the floor heating to undo a plug-in connection. Always hold the plug and take the unit apart with the connection tool.
- If the extension or output cord is damaged, it must be replaced by the manufacturer, its service agent or similar persons in order to avoid a hazard.
- Connect the floor heating to alternating current 230 Volt and 50 Hz only.
- Do not allow needles, sharp objects, liquids and/or other electricity-conducting objects/fluids to make contact with the floor heating.
- The printed side of the heating element must be visible when rolling out the element showing the symbol: THIS SIDE UP 
- Save the manual together with the warranty papers for further use – or if you want to take the Devidry floor heating system with you at a later state.

The 5 Year DEVI Warranty:

You have purchased a DEVI heating system which we are sure will serve to improve the comfort and economy of your application.

DEVI provides superior electrical heating solutions for total climate control in and around homes and buildings. DEVI offers a complete product program with Deviflex™ heating cables or Devimat™ heating mats, Devireg™ thermostats, Devidry™ heating systems, Devifast™ fixing strips and Devi Self-limiting heating cables combined with additional products completing the product program.

This 5 year warranty applies to Devidry™ heating elements and DEVI Self-limiting heating cables, connection units and DEVI crimp set for self-limiting heating cables.

Should you, against all expectations, experience a problem with your DEVI product, you will find that DEVI offers a 5 year warranty from the date of purchase on the following conditions:

During the warranty period DEVI shall offer a new comparable product or repair the product in case the product is found to be faulty by reason of defective design, materials or workmanship. Repair or replacement shall be carried out solely at DEVI's discretion. DEVI shall not be liable for any consequential or incidental damages including, but not limited to, damages to property or extra utility expenses.

The warranty shall be valid only if the WARRANTY CERTIFICATE is completed correctly and in accordance with the instructions, and provided the fault is submitted to the installer or the seller without undue delay and proof of purchase is provided. Please note that the WARRANTY CERTIFICATE must be completed in English or local language.

An extension of the warranty period following repairs undertaken under warranty cannot be granted.

The DEVI Warranty shall not cover any damage caused by incorrect conditions of use, incorrect installation or if installation has been carried out by non-authorized electricians. All work will be invoiced in full if DEVI is required to inspect or repair faults that have arisen as a result of any of the above.

The DEVI Warranty shall not extend to equipment which has not been paid in full.

DEVI will, at all times, provide a rapid and effective response to all complaints and inquiries from our customers.

The warranty explicitly excludes all claims exceeding the above conditions.

5 YEAR WARRANTY

Warranty Certificate

The DEVI Warranty certificate is granted to

Name

Address

City

Country

Telephone

INT

Attention:

*The Warranty Certificate must be completed correctly for the Warranty to be valid.
Please read the Warranty conditions on the previous page.*

Type of product

Material number

Supplier Stamp

08090471
Version - 01

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DK-7100 Vejle
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Fax: +45 7642 4701
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