

Please read the instruction carefully before installation !

Floor Heating Mat



voordelig design
SANITAIR

Installation Manual

Installation advice

All electrical wiring must be done by a fully qualified electrician and in accordance with the current IEE wiring regulations in order to validate product warranty.

ℓ The insulation board must be installed if you have a wooden substrate. It is also recommended with concrete substrates to optimise efficiency and reduce warming times (up to 50% more thermally efficient).

ℓ Always round down your floor space area e.g. 2.6m² of floor will require 2 m² of matting (To avoid surplus matting).

ℓ Never overlap the mat, always ensure a min.50mm spacing between the wires for optimum heat distribution.

ℓ If there is a matting shortfall in your floor space then concentrate the heat mat in heavily trafficked areas.

ℓ A Residual Current Device (RCD) should be used with this system (must be bought separately).

ℓ Floor must be clean and free from dust & dirt.

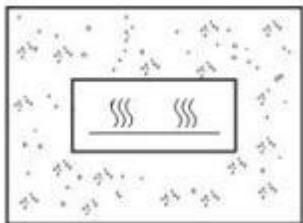
ℓ Never cut the heating (red or blue color) wire or join two or more mats together in series, use a

junction box.

- ℓ Only use scissors when cutting the mesh.
- ℓ The wire is tough but extra care must be taken when using sharp objects near the mat. a plastic trowel is advisable.
- ℓ Check your system with a multi-meter before tile installation.
- ℓ Ensure your tile adhesive is suitable for use with undertile heating e.g. highly polymer modified(flexible).
- ℓ Your substrate and floor covering, e.g. tile adhesive or screed, must be completely dry before switching on your system for the first time.
- ℓ Wear gloves when handling the mat(to avoid irritation to skin).
- ℓ Take care when tiling to ensure your do not dislodge or damage the wire from the mesh mat.
- ℓ The insulation board is not suitable for floor strengthening and structural reinforcing.
- ℓ Matting and insulation board should not be passed under permanent fixings e.g. bath, toilet, etc.
- ℓ Do not store objects on top of the matting during installation e.g. tiles.
- ℓ Remove old floor coverings.



Direct floor heating



Installation in concrete

Fig-A:

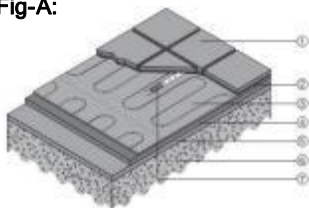


Fig-B :

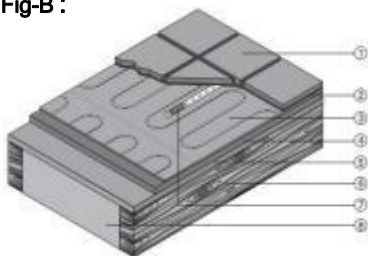


Fig-C:

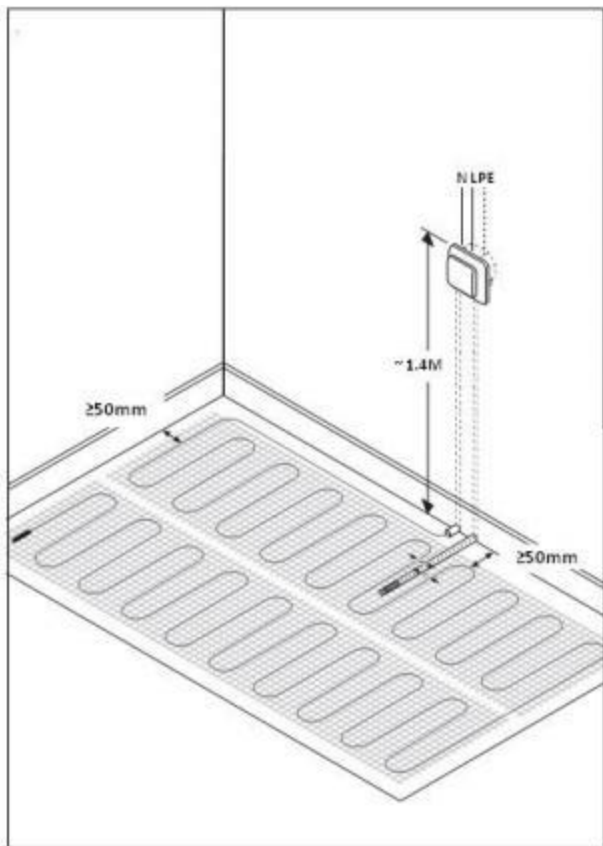


Fig-A:

- 1- Floor covering
- 2- Waterproofing layer
- 3- Heating mat and Filler
- 4- Sub-floor
- 5- Insulation
- 6- Base ground
- 7- Temperature sensor

Fig-B:

- 1- Floor covering
- 2- Waterproofing layer
- 3- Heating mat and Filler
- 4- Gypsum plasterboard
- 5- Wooden plate
- 6- Joist
- 7- Temperature sensor
- 8- Insulation

General

Voordelig Design Sanitair offers a 5 year warranty for the thermostat and lifelong for the electrical functions of the heating mat. Please read the complete installation instructions carefully. Pay attention to local circumstances, standards and regulations. The Install and Test Report be filled out by a qualified electrician. It should be kept by the owner of the building to comply with electrical regulations and the warranty conditions.

Installation instructions

Heating mat can not be cut at will, or overlapping, and the cable space cannot be closer than the spacing of cables assembled on the mat.

Mat can be installed under floor tiles, natural stone, laminate or wooden floor.

Thermal resistance of the floor construction above heating mat should be as low as possible.

Do not step on the mats during installation.

Avoid sharp objects and incautious pouring of concrete or filler. No big air gaps are allowed in the concrete or filler.

Always pay attention to instructions for the floor covering adhesive. Heating mat shall be installed in min. 5 mm of concrete or filler.

Do not lay heating cable in areas that might be damaged by drilling, might be covered by cupboards or under a heat source such as a stove etc.

The subfloor should be clean, plain, stable and rigid, without cracks, sharp objects.

The concrete subfloor must be completely dry before installing the floor heating system. Heating mat can be fixed, if required, to the subfloor by means of glue or staples.

Fixing with staples is only allowed in the net, and never over the heating cable.

Warning!

It is recommended to install the sensor cable in a conduit, so that it is possible to replace the temperature sensor easily. The conduit must be sealed properly.

Avoid mechanical damage to the heating cable.

It is recommended to use 30 mA Leakage Protection Switch

Technical data

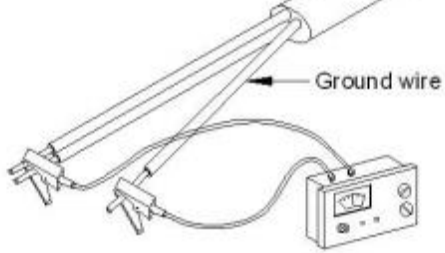
	100W/M2	160W/M2
Power supply	220-240Vac	220-240Vac
Power output	100W/M2	160W/M2
Min. bending radius	30mm	30mm
Min. cable spacing	11cm	9cm
Max . exposure temp.	90 C	90 C
Min. installation temp.	+ 5 C	+ 5 C
Cold lead cable	3x1.0mm ²	3x1.0mm ²
Length of cold lead	2.0m	2.0m

TEST STEPS: (The most important)

The qualified electrician must test the heating mats at every step during installation:

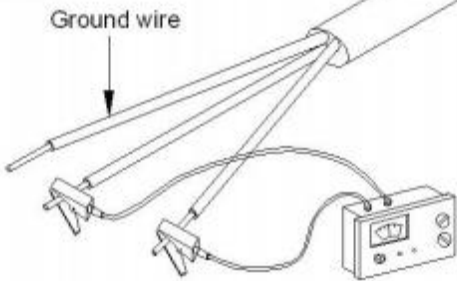
1, before installation, please test the heating mat's insulation resistance(IR) and conductor resistance(CR) (as the picture 1. 1 and 1.2) to make sure the two items are both good. If good, please continue the next step: install the mat onto the ground.

1.1



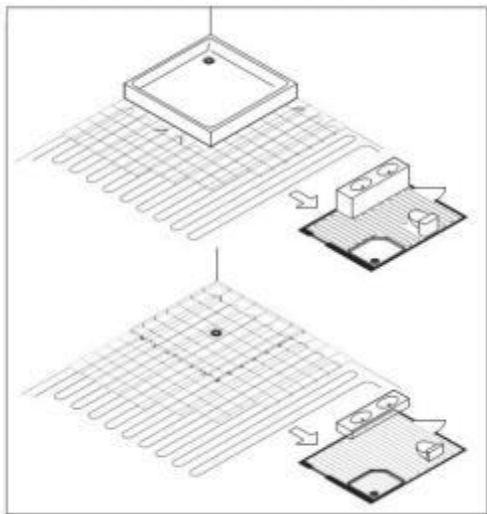
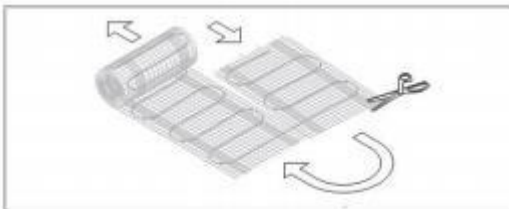
IR= xx M Ω

1.2

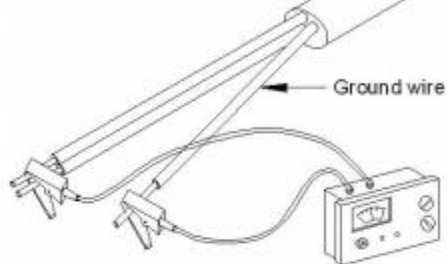


CR= xx Ω

2, after installing the mat onto ground but before pouring the primer or cement, please test the mat again(as the picture 2. 1 and 2.2) in case of any damage during the installation.

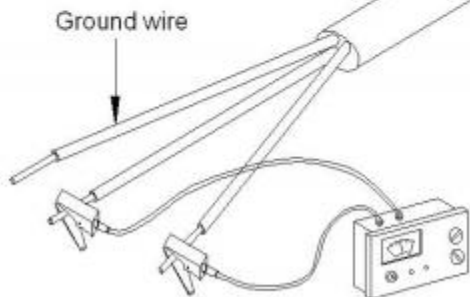


2.1



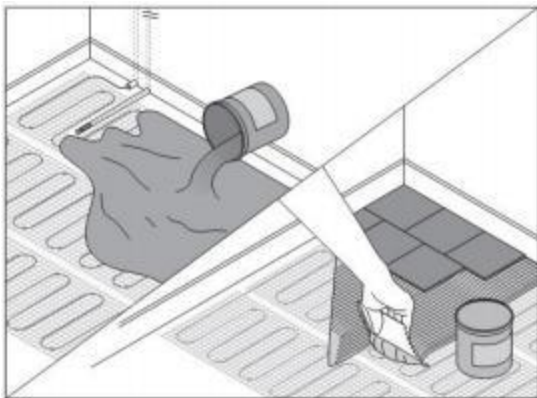
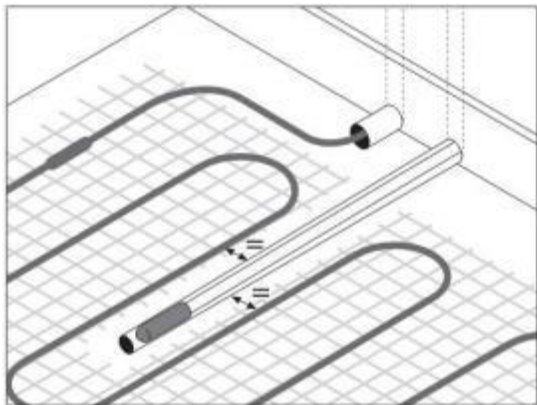
$IR = xx \text{ M}\Omega$

2.2

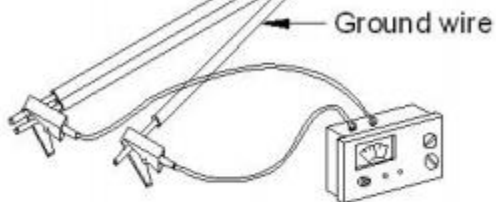


$CR = xx \Omega$

3, after finishing all the installation, please test the mat again(as the picture 3. 1 and 3.2) to make sure all are in good condition.

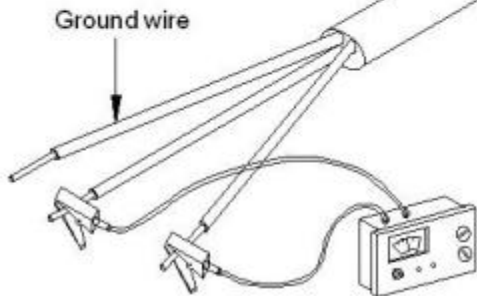


3. 1



$IR = xx \text{ M}\Omega$

3. 2



$CR = xx \Omega$

Note: The electrician must fill the test datas into the following table.

Please also write the customer name and address, etc information.

Attachment

Project

Customer name and address:

Product installed

Mat size		1	2	3
Insulation Resistance IR= MΩ	1.1 Before installation			
	2.1 After installation			
	3.1 After floor covering			
导体电阻 Conductor Resistance DR= Ω	1.2 Before installation			
	2.2 After installation			
	3.2 After floor covering			

For the conductor resistance, please refer to the following

standard resistance values . The tolerance is -5% . ~+10%.

Type	voltage	Rated power	Resistance @20°C+10/-5%	Mat size	Cable Length
	V	W	(CR) Ω	m	m
1.0M2	220	160	302.5	0.5X2.0	11.1
1.5M2	220	240	201.7	0.5X3.0	16.65
2.0M2	220	320	151.3	0.5X4.0	22.2
2.5M2	220	400	121.0	0.5X5.0	27.75
3.0M2	220	480	100.8	0.5X6.0	33.3
3.5M2	220	560	86.4	0.5X7.0	38.85
4.0M2	220	640	75.6	0.5X8.0	44.4
4.5M2	220	720	67.2	0.5X9.0	49.95
5.0M2	220	800	60.5	0.5X10.	55.5
6.0M2	220	960	50.4	0.5X12.	66.6
7.0M2	220	1120	43.2	0.5X14.	77.7
8.0M2	220	1280	37.8	0.5X16.	88.8
9.0M2	220	1440	33.6	0.5X18.	99.9
10M2	220	1600	30.3	0.5X20.	111
12.0M2	220	1920	25.2	0.5X24.	133.2