

Floor heating system E-ENERGY CARBON FLEECE

Installation instructions



Prepare level, clean, load-bearing substrate. Dry screeds and wood-based panels must always be laid in two layers and offset.



The floor sensor must be positioned at least 60 cm from the wall in the room.



Lay the floor sensor connection sets in the recess and tape the floor sensor sleeve with insulating tape to avoid residual currents.



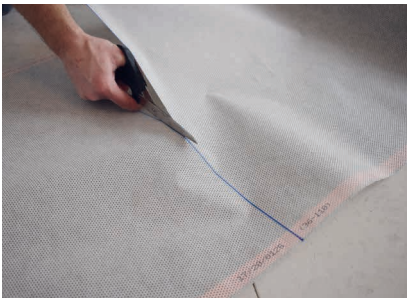
Guide the soil sensor through the learning tube to the measuring point in the soil.



For ideal measuring values, allow the soil sensor sleeve to be flush with the top.



Check resistance according to installation & operating instructions and document values in the test report.



The heating foil can be shortened individually in advance. Right-angled cutting edges to the copper tracks are a prerequisite.



Resistances of cut foils must be measured again and documented on the label and in the test report - take nominal values from the installation instructions.



Rework the recesses for the supply lines and contacts of the heating foils downwards if necessary.



Apply adhesive mortar according to the manufacturer's instructions.



Place E-ENERGY CARBON FLEECE in adhesive bed. Align the heating foils with each other (at least 2 cm distance between the foils).



Press in the foil with a plastic spatula and cover with adhesive mortar. Avoid kinks and folds. If necessary, rework the contacts of the heating foils downwards.

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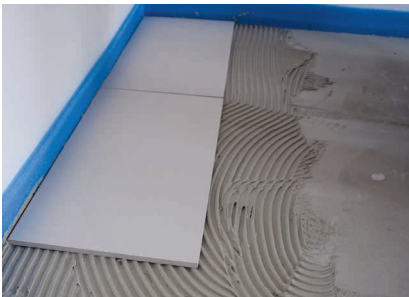
Do not lay heating foil over expansion joints and let it end at a distance of at least 2 cm before the expansion joint.



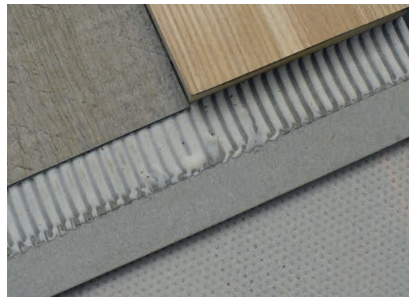
Connect the connection cable and lead it to the transformer.



Measure resistance again and document in the test report.



Tiles can be laid directly on the smooth adhesive mortar with a suitable tile adhesive according to the manufacturer's instructions.

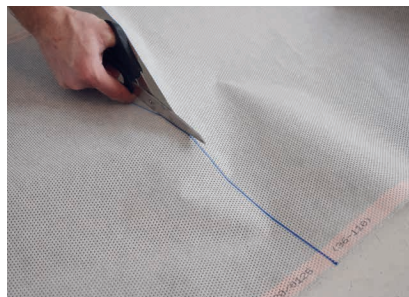


In the case of other floor coverings, a levelling layer must be applied to the heating foils in accordance with the manufacturer's instructions before laying.

Note for heating foils with contacts on both sides



Heating foils contacted on both sides can be cut individually into two single foils.



The heating foil can be shortened as required. Right-angled cut edges to the copper tracks are a prerequisite.



Measure the resistances again and document them in the test report. Take the set values from the installation instructions.



For cut-to-size foils, enter the measured resistances on the enclosed labels and stick them on the heating foil.



If the complete film is to be processed without individual cutting, cut off a contact vertically along the film.

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Only a maximum of 400 W may be connected to the individual load outputs of the power supply units. The maximum lengths of the individual heating tracks are

E-ENERGY CARBON FLEECE – 36 W/lfm (60 W/m ²)	max. 11 m
E-ENERGY CARBON FLEECE – 66 W/lfm (110 W/m ²)	max. 6 m

Depending on the design, the power supply units can be surface-mounted or flush-mounted. For this purpose, a minimum distance of 50 mm to the foil must be maintained. The maximum cable length on the secondary side of the power supply unit must not exceed 50 mm:

10 m with 2.5 mm ² cable
25 m with 6 mm ² cable

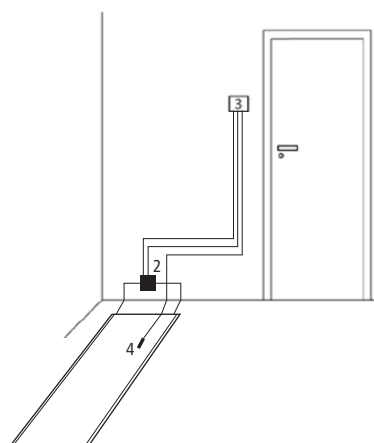
Resistance values as a function of length*

Länge Length	E-ENERGY CARBON FLEECE		Länge Length	E-ENERGY CARBON FLEECE		Länge Length	E-ENERGY CARBON FLEECE		Länge Length	E-ENERGY CARBON FLEECE	
	36 W/lfm (60 W/m ²)	66 W/lfm (110 W/m ²) only tile		36 W/lfm (60 W/m ²)	66 W/lfm (110 W/m ²) only tile		36 W/lfm (60 W/m ²)	66 W/lfm (110 W/m ²) only tile		36 W/lfm (60 W/m ²)	66 W/lfm (110 W/m ²) only tile
0,1 m	365,84 Ω	199,06 Ω	1,6 m	22,87 Ω	12,44 Ω	3,1 m	11,80 Ω	6,42 Ω	4,6 m	7,95 Ω	4,33 Ω
0,2 m	182,92 Ω	99,53 Ω	1,7 m	21,52 Ω	11,71 Ω	3,2 m	11,43 Ω	6,22 Ω	4,7 m	7,78 Ω	4,24 Ω
0,3 m	121,95 Ω	66,35 Ω	1,8 m	20,32 Ω	11,06 Ω	3,3 m	11,09 Ω	6,03 Ω	4,8 m	7,62 Ω	4,15 Ω
0,4 m	91,46 Ω	49,77 Ω	1,9 m	19,25 Ω	10,48 Ω	3,4 m	10,76 Ω	5,85 Ω	4,9 m	7,47 Ω	4,06 Ω
0,5 m	73,17 Ω	39,81 Ω	2,0 m	18,29 Ω	9,95 Ω	3,5 m	10,45 Ω	5,69 Ω	5,0 m	7,32 Ω	3,98 Ω
0,6 m	60,97 Ω	33,18 Ω	2,1 m	17,42 Ω	9,48 Ω	3,6 m	10,16 Ω	5,53 Ω	5,1 m	7,17 Ω	3,90 Ω
0,7 m	52,26 Ω	28,44 Ω	2,2 m	16,63 Ω	9,05 Ω	3,7 m	9,89 Ω	5,38 Ω	5,2 m	7,04 Ω	3,83 Ω
0,8 m	45,73 Ω	24,88 Ω	2,3 m	15,91 Ω	8,65 Ω	3,8 m	9,63 Ω	5,24 Ω	5,3 m	6,90 Ω	3,76 Ω
0,9 m	40,65 Ω	22,12 Ω	2,4 m	15,24 Ω	8,29 Ω	3,9 m	9,38 Ω	5,10 Ω	5,4 m	6,77 Ω	3,69 Ω
1,0 m	36,58 Ω	19,91 Ω	2,5 m	14,63 Ω	7,96 Ω	4,0 m	9,15 Ω	4,98 Ω	5,5 m	6,65 Ω	3,62 Ω
1,1 m	33,26 Ω	18,10 Ω	2,6 m	14,07 Ω	7,66 Ω	4,1 m	8,92 Ω	4,86 Ω	5,6 m	6,53 Ω	3,55 Ω
1,2 m	30,49 Ω	16,59 Ω	2,7 m	13,55 Ω	7,37 Ω	4,2 m	8,71 Ω	4,74 Ω	5,7 m	6,42 Ω	3,49 Ω
1,3 m	28,14 Ω	15,31 Ω	2,8 m	13,07 Ω	7,11 Ω	4,3 m	8,51 Ω	4,63 Ω	5,8 m	6,31 Ω	3,43 Ω
1,4 m	26,13 Ω	14,22 Ω	2,9 m	12,62 Ω	6,86 Ω	4,4 m	8,31 Ω	4,52 Ω	5,9 m	6,20 Ω	3,37 Ω
1,5 m	24,39 Ω	13,27 Ω	3,0 m	12,19 Ω	6,64 Ω	4,5 m	8,13 Ω	4,42 Ω	6,0 m	6,10 Ω	3,32 Ω

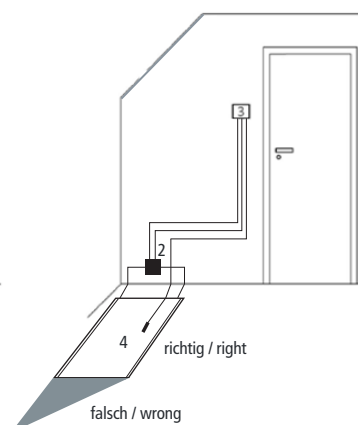
*If the measured resistance values deviate more than 15% from the output value, damage to the contacts or the heating foil must be expected. In this case you must not start up the heating system.

General notes

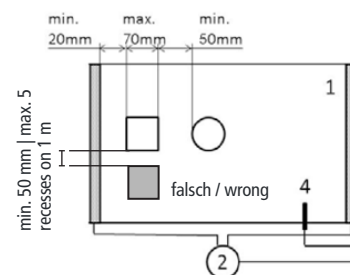
Allgemeiner Wandaufbau
General wall structure



Folienbeschnitt
Film cutting



Folienaussparungen
Film cutout



(1) Heizungsfolie
(3) Regler

(1) Heating film
(3) Controller

(2) Trafo
(4) Fühler

(2) Transformer
(4) Sensor

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Example of an installation situation

