

TECHNICAL DATA SHEET

BLANKE ELOTOP CARBON

Flexibly adjustable electrical heating mat for walls and floors in modern shower areas, bathrooms and spas, as well as all other indoor living areas



Technical Data

BLANKE ELOTOP CARBON:

Safety extra-low voltage SELV:	36 V
Nominal limit temperature:	70 °C
Minimum installation temperature:	5 °C
Minimum bending radius of the heating mat:	R 10 mm
Material:	PET film with carbon fibres and fillers
Connection cable:	2.5 mm ²
Secondary cable between power supply unit and heating mat:	2.5 mm ² max. 10 m long 6.0 mm ² max. length 25 m
Max. heat transfer resistance for flooring:	0.15 m ² K/W

Features

- > Ultra-thin, diffusion-open and fleece-laminated
- > Perforated for optimised adhesion
- > Good heat conduction, fast heating, Pleasant radiant heat
- > Wall heating mats with electrical power 132 W/lm (220 W/m²), Floor heating foils with electrical power 66 W/lm (110 W/m²)
- > For versatile use in walls and floors
- > Operate with 36 V [SELV (safety extra-low voltage)]

Product description

BLANKE ELOTOP CARBON is a 0.4 mm ultra-thin heating mat, which can be operated at 220 W/m² (electrical power) for walls and at 110 W/m² (electrical power) for floors. In combination with two different power supply units (230 V/300 W or 230 V/800 W), the different heating mats are operated with 36 V (SELV) safety extra-low voltage.

Substrate/application areas

Installation must be carried out on a smooth, load-bearing substrate, which is temperature-resistant up to 70 °C. Recommendation: Existing or newly installed insulation underneath the heating mat increases efficiency and thus the amount of heat emitted by the heating mats. The heated surfaces must not be obstructed as this would impair heat radiation.

Installation

Mix the thin-bed mortar (C2/S1) and apply using a spreader comb with 6 mm teeth. Lay the heating mat with the copper strip facing down, smooth with a plastic trowel and cover with a 1-2 mm layer of levelling compound. Avoid wrinkling and folds on the heating mat. Also avoid covering movement joints. In the case of electrical floor heating, a floor sensor is prescribed in accordance with EN 50559:2013-12. Mark the position of the floor sensor and corrugated tube in the centre under a heating mat and install in the substrate. Friction-lock the heating mat and twin connecting cables to the power supply unit with CRIMPS (crimp connectors) using a crimping tool and then shrink-fit with a hot air gun. Connect the (if necessary, shortened) connecting cables of the heating mat, insert in the slots provided and fill with levelling compound.

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System accessories:

- > POWER SUPPLY UNIT 300 W; with rated voltage 230V AC 50/60 Hz; 16 A fuse
Art. no. 921-900-300
- > POWER SUPPLY UNIT 800 W with rated voltage 230V AC 50/60 Hz; 16 A fuse
Art. no. 921-900-800
- > WIFI ROOM THERMOSTAT; 100-240V and 16 A fuse
Art. no. 726-900
with floor sensor
- > BLANKE ELOTOP CARBON SWITCHING RELAY for WIFI THERMOSTAT
Art. no. 922-900 (only required for POWER SUPPLY UNIT 300W)
- > FLOOR SENSOR CONNECTION SET; plastic corrugated tube and aluminium floor sensor sleeve
Art. no. 725-900
- > TWIN CONNECTING CABLE 2 x 2.5 mm²; length 10 m
Art. no. 919-900-2510
- > TWIN CONNECTING CABLE 2 x 6.0 mm²; length 25 m
Art. no. 919-900-6025
- > BLANKE ELOTOP CARBON CRIMP 2.5mm²; bag = 5 pcs
Art. no. 920-900-25
- > BLANKE ELOTOP CARBON CRIMP 6.0 mm²; bag = 20 pcs
Art. no. 920-900-60

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Installation area	Dimensions in mm (L x B x H)	Contacted on the Width 590	Electrical Rating in W/m ²	Electrical Rating in W/m	Electrical Rating/ Heating mat
Wall	2000 x 590 x 0,4	on one side	220	132	264 W
Wall	2200 x 590 x 0,4	on both sides	220	132	290 W
Wall	3000 x 590 x 0,4	on both sides	220	132	396 W
Floor	1000 x 590 x 0,4	on one side	110	66	66 W
Floor	4500 x 590 x 0,4	on both sides	110	66	396 W

Resistances and ratings depend on the Length of floor heating mat

Length	Resistance	Rating
0,1 m	199,06 Ω	7 W
0,2 m	99,53 Ω	13 W
0,3 m	66,35 Ω	20 W
0,4 m	49,77 Ω	26 W
0,5 m	39,81 Ω	33 W
0,6 m	33,18 Ω	39 W
0,7 m	28,44 Ω	46 W
0,8 m	24,88 Ω	52 W
0,9 m	22,12 Ω	59 W
1,0 m	19,91 Ω	65 W
1,1 m	18,10 Ω	72 W
1,2 m	16,59 Ω	78 W
1,3 m	15,31 Ω	85 W
1,4 m	14,22 Ω	91 W
1,5 m	13,27 Ω	98 W
1,6 m	12,44 Ω	104 W
1,7 m	11,71 Ω	111 W
1,8 m	11,06 Ω	117 W
1,9 m	10,48 Ω	124 W
2,0 m	9,95 Ω	130 W
2,1 m	9,48 Ω	137 W
2,2 m	9,05 Ω	143 W
2,3 m	8,65 Ω	150 W
2,4 m	8,29 Ω	156 W
2,5 m	7,96 Ω	163 W
2,6 m	7,66 Ω	169 W
2,7 m	7,37 Ω	176 W
2,8 m	7,11 Ω	182 W
2,9 m	6,86 Ω	189 W
3,0 m	6,64 Ω	195 W

Length	Resistance	Rating
3,1 m	6,42 Ω	202 W
3,2 m	6,22 Ω	208 W
3,3 m	6,03 Ω	215 W
3,4 m	5,85 Ω	221 W
3,5 m	5,69 Ω	228 W
3,6 m	5,53 Ω	234 W
3,7 m	5,38 Ω	241 W
3,8 m	5,24 Ω	247 W
3,9 m	5,10 Ω	254 W
4,0 m	4,98 Ω	260 W
4,1 m	4,86 Ω	267 W
4,2 m	4,74 Ω	273 W
4,3 m	4,63 Ω	280 W
4,4 m	4,52 Ω	286 W
4,5 m	4,42 Ω	293 W
4,6 m	4,33 Ω	299 W
4,7 m	4,24 Ω	306 W
4,8 m	4,15 Ω	313 W
4,9 m	4,06 Ω	319 W
5,0 m	3,98 Ω	326 W
5,1 m	3,90 Ω	332 W
5,2 m	3,83 Ω	339 W
5,3 m	3,76 Ω	345 W
5,4 m	3,69 Ω	352 W
5,5 m	3,62 Ω	358 W
5,6 m	3,55 Ω	365 W
5,7 m	3,49 Ω	371 W
5,8 m	3,43 Ω	378 W
5,9 m	3,37 Ω	384 W
6,0 m	3,32 Ω	391 W

Resistances and ratings depend on the length of the wall heating mat

Length	Resistance	Rating
0,1 m	99,53 Ω	13 W
0,2 m	49,77 Ω	26 W
0,3 m	33,18 Ω	39 W
0,4 m	24,88 Ω	52 W
0,5 m	19,91 Ω	65 W
0,6 m	16,59 Ω	78 W
0,7 m	14,22 Ω	91 W
0,8 m	12,44 Ω	104 W
0,9 m	11,06 Ω	117 W
1,0 m	9,95 Ω	130 W
1,1 m	9,05 Ω	143 W
1,2 m	8,29 Ω	156 W
1,3 m	7,66 Ω	169 W
1,4 m	7,11 Ω	182 W
1,5 m	6,64 Ω	195 W

Length	Resistance	Rating
1,6 m	6,22 Ω	208 W
1,7 m	5,85 Ω	221 W
1,8 m	5,53 Ω	234 W
1,9 m	5,24 Ω	247 W
2,0 m	4,98 Ω	260 W
2,1 m	4,74 Ω	273 W
2,2 m	4,52 Ω	286 W
2,3 m	4,33 Ω	299 W
2,4 m	4,15 Ω	313 W
2,5 m	3,98 Ω	326 W
2,6 m	3,83 Ω	339 W
2,7 m	3,69 Ω	352 W
2,8 m	3,55 Ω	365 W
2,9 m	3,43 Ω	378 W
3,0 m	3,32 Ω	391 W

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