Technical Product Information

WEM EL Climate Panel

Article no. 16401-3

Description

The WEM® EL Climate Panel is a 25-mm-thick clay panel with integrated electrical heating cables. This heating panel is suitable for dry-wall installation on wall and ceiling surfaces.

Scope of application

Electrical wall heating. The electrical Climate Panels can be used as an exclusive source of heating or to support the existing heating system. As they do not contain water as a heating medium (no risk of freezing), they are particularly suitable for temporarily occupied rooms such as event rooms or holiday cottages.

Benefits

The Panel is ecological, permeable to vapour and capillary conductive. In addition, it provides good sound protection due to the high bulk density.

The special heat conductors generate only very low alternating electric and magnetic fields, which the Standard of Building Biology Testing Methods (SBM) of the Institute of Building Biology + Sustainability (IBN) classifies as producing "no anomaly" or "slight anomaly".

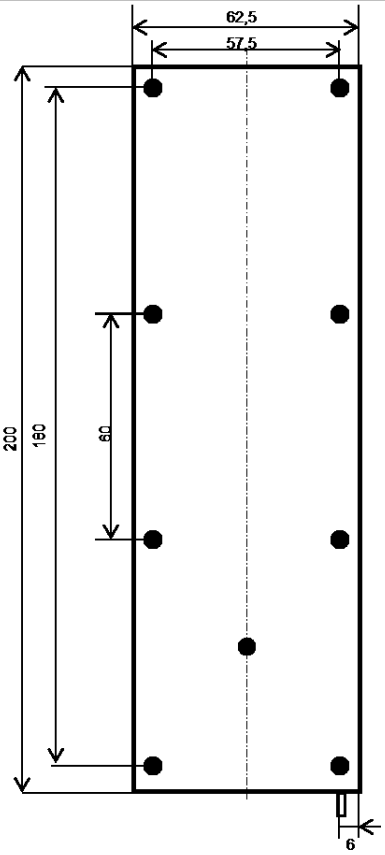
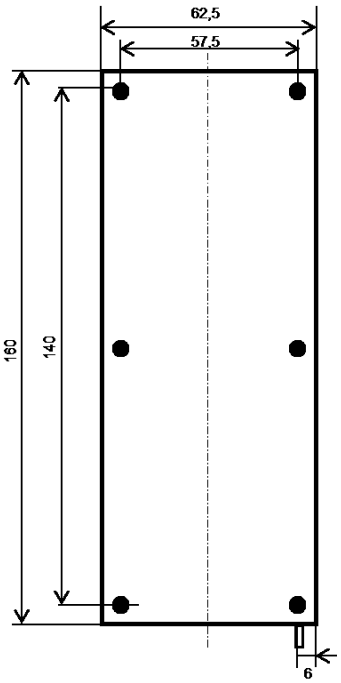
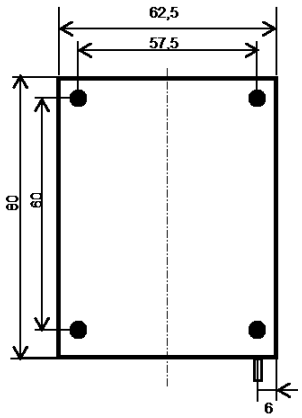
Due to the dry-wall installation only little moisture is brought into the building structure in comparison to other methods that require the application of thick plaster coats. This reduces drying times and optimises the progress of work.

Materials	Panel	Milled construction loam, plant fibres, broken sand,
	Reinforcement	Glass-fibre fabric

Technical data	Bulk density	1400 kg/m³
	Compressive resistance σ_d	> 2.5 N/mm²
	Thermal conductivity λ	0.59 W/mK
	Specific thermal capacity C_p	1.0 kJ/kgK
	Vapour diffusion resistance μ	5 to 10
	Material class	A2 (non-combustible) as per DIN EN 13501-1
	Edge shape	Blunt
	Heating cable	230 V a.c.
	Automatic control system	Room thermostat with external wall sensors (overheating protection)
	Fastener	Screws, ∅ 4.5 to 6 mm, cramps
	To be ensured on site	Protect against moisture, store in dry location, installation temperature ≥ 5°C

Noise protection	Solid structure	Reduction: 2.8 dB
	Solid timber	Reduction: 8.5 dB
	Timber frame	Reduction: 10.6 dB

	Climate Panel EL 200	**Climate Panel EL 160**	**Climate Panel EL 80**
Dimensions	200 x 62.5 x 2.5 cm	160 x 62.5 x 2.5 cm	80 x 62.5 x 2.5 cm
Heating surface	1.25 m²	1.0 m²	0.5 m²
Heating power	275 W	220 W	130 W
Weight	approx. 43 kg	approx. 35 kg	approx. 18 kg

Climate Panel EL 200	Climate Panel EL 160	Climate Panel EL 80
		

Alternating magnetic and electric fields	Distance to the heating area	30 cm	100 cm
	Alternating magnetic fields, low frequency (SBM A 2)	2 to 4 nT	1 to 3 nT

Alternating electric fields, low frequency (SBM A 1)	30 cm	100 cm
Zero potential	1.2 V/m	0.8 V/m
Earth potential	1 to 3 V/m	0 to 0.2 V/m
Measurement in accordance with TCO standard against the earth	5 V/m	
Body voltage - test person "insulated"		110 mV

Noise protection

A master thesis at the University of Koblenz, examined the influence of WEM Clay Panels 25 mm (LP) and Climate Panels on three typical wall structures:

Solid structure: 175 mm lime-sand bricks covered with cement plaster coat of 10 mm

Solid timber: 170 mm solid construction timber (Holz 100)

Timber frame: Timber frames 6/12 cm with 12 cm wood fibres, planked on both sides with diagonal boarding (2.5 cm)

	Solid structure	**Solid timber**	**Timber frame**
Without planking	55.0 dB	39.3 dB	35.0 dB
1 x Clay Panel + 8 mm clay finish coat	57.8 dB *Reduction: 2.8 dB*	47.8 dB *Reduction: 8.5 dB*	45.6 dB *Reduction: 10.6 dB*
2 x Clay Panel + 16 mm clay finish coat	58.5 dB *Reduction: 3.5 dB*	56.9 dB *Reduction: 17.2 dB*	47.7 dB *Reduction: 10.6 dB*
80 mm wood fibres + Clay Panel + 8 mm clay finish coat	64.2 dB *Reduction: 9.2 dB*	60.2 dB *Reduction: 20.9 dB*	58.9 dB *Reduction: 23.9 dB*

Flush-Mounting EL Room Thermostat Article no. 16410

Automatic control

The heating is controlled via the programmable Flush-Mounting El Room Thermostat. In addition to controlling the indoor temperature, the device allows the setting of limit temperatures for the heating surface via an external sensor that is integrated in the heating surface. A max. temperature (overheating protection) and a min. temperature (protection against excessive loss of heat) can be set.

The programming of the limit temperatures as well as of the daily and weekly programmes is simple and can be handled via four keys and the display at the front of the controller. Max. 2.300 W (8.8 to 10 m²) wall heating can be connected to one controller. If this should be insufficient for very large spaces, either install multiple controllers (temperature zones) or interconnect a relay.

Technical data

Adjustable indoor temperatures	10°C to 30°C, increments of 0.5°C
Adjustable surface temperatures	10°C to 40°C, increments of 0.5°C
Dimensions	80.5 x 80.5 x 25 mm
Installation	Flush-mounting box, diam. 60 mm
Electrical data	230 V a.c., 50 Hz, 10 A, max. 2.300 W
Remote sensor	PVC cable, diam. 7.8 mm, length 4 m, extensible to 50 m
Program options	Max. 9 switch times per day, holiday feature with date (from - to), energy consumption indication (power-on period x costs), tool tips for self-evident manipulation. Large backlit display, pre-set adjustable time programs, anti-freezing feature.