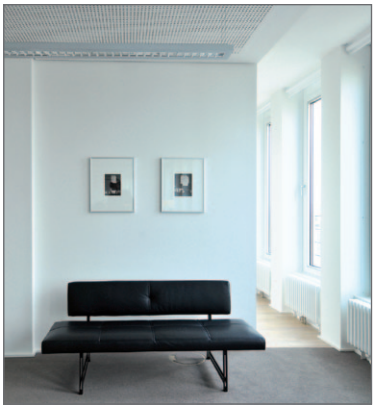
# *clima***BOARD**® *ppl*

perforated acoustic plasterboard cooling ceiling
with synthetic capillary tubes



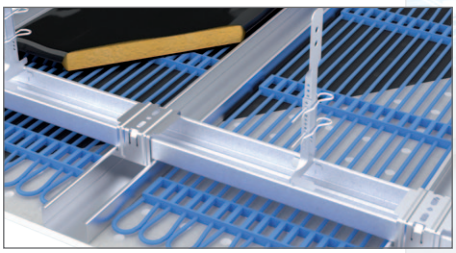


Photo credit: Stephan Pusch, Thomas Schneider

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## The System

The product *clima***BOARD**® *ppl* is a perforated plasterboard ceiling with a seamless finish. Heat load removal takes place by means of approximately 70 % radiation and 30 % convection. The average sound absorption rate is a = 0.55 (L) in accordance with DIN EN 11654. The perforated surface makes a variety of visual effects possible which can be highlighted through the use of individual colour schemes. The surface exhibits a quality level of Q2.

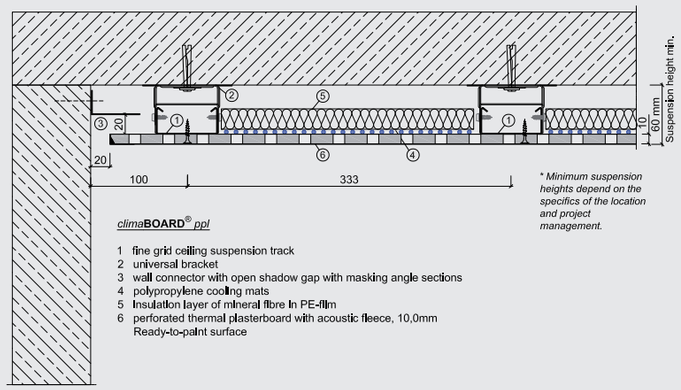
The cooling system is created by a series of mats made of capillary tubes running parallel to one another. All tubes are integrated into the storage battery and are connected to the flow line and return flow in an alternating pattern. Keeping the individual capillary tubes parallel and at the correct interval is accomplished through the use of spacer bars. Water is supplied by the internal network of tubes, which are welded into place. Supply lines and mat stems are laid in the intermediate ceiling. Special distance sleeves ensure the exact fitting of the flexible mats on the grid of the ceiling suspension tracks in order to allow for the use of large mats.
The capillary tube mats must be filled and pressure checked before closing the ceiling. The sound absorption layer is made of mineral fibres and serves a twofold purpose: it not only offers stronger sound absorption, but also improves the contacting to the plasterboard.

The substructure has a coarse grid with CD profiles (60/27) and from here the system can be suspended onto a raw concrete ceiling. Below that, at a 90° angle, the fine grid is mounted, resulting in a draft and pressure-proof substructure onto which active components and GK plates can be secured.

The surface layer consists of sound absorbing, perforated thermal plasterboard (10 mm thick) which is specially fastened to the metal substructure in intervals of a maximum of 170 mm. Joints and screws are filled and sanded for a seamless appearance. Acoustic fleece is glued to the structure for sound absorption.

To clean and maintain the cooling ceiling, dust that has accumulated can be carefully removed with a vacuum cleaner.

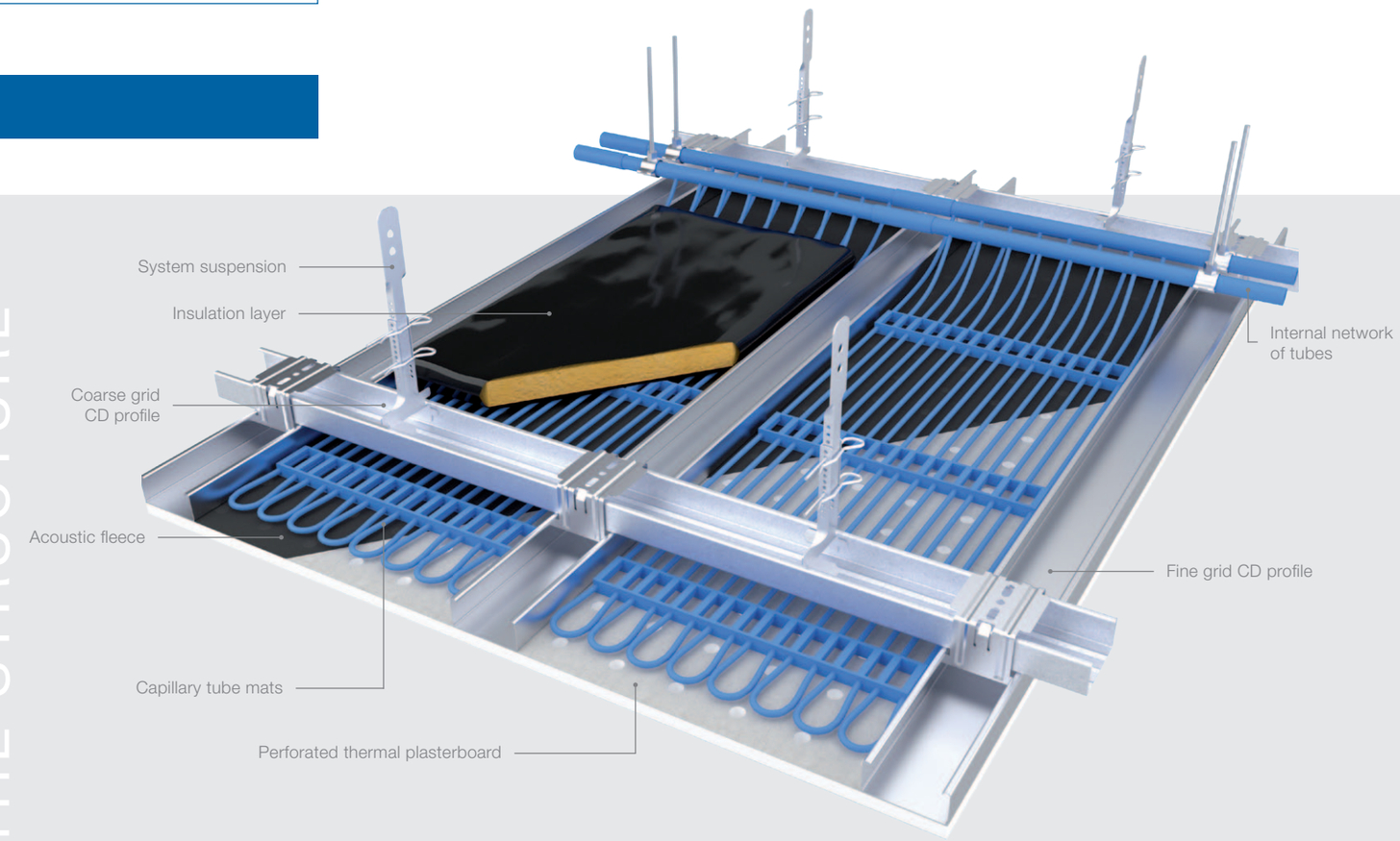
THE SYSTEM




*clima***BOARD**® *ppl*

1 fine grid ceiling suspension track
2 universal bracket
3 wall connector with open shadow gap with masking angle sections
4 polypropylene cooling mats
5 Insulation layer of mineral fibre in PE-film
6 perforated thermal plasterboard with acoustic fleece, 10,0mm Ready-to-paint surface

THE STRUCTURE



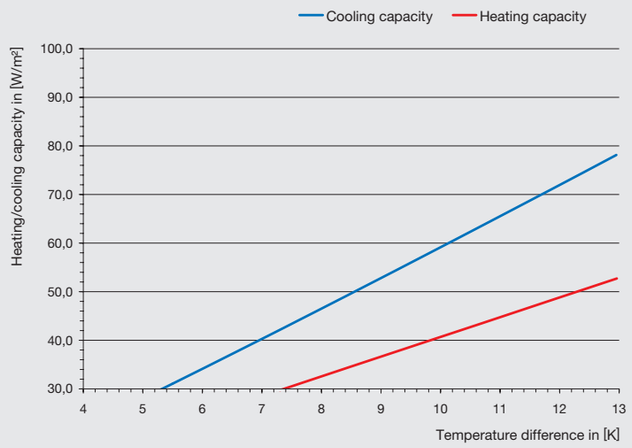

## Cooling capacity

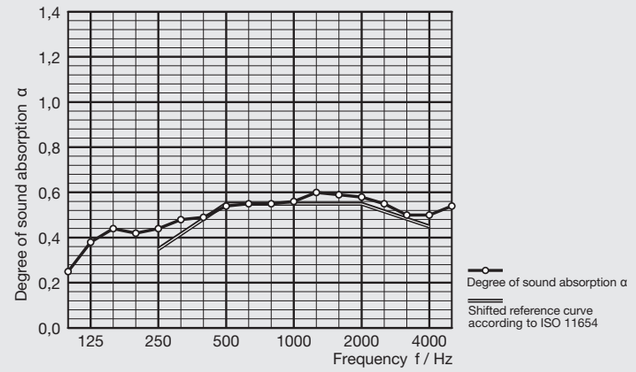
The given cooling and heating capacities have been test certified by accredited institutions in accordance with DIN EN 14240.

## Acoustics

The given sound absorption values have been determined using active ceiling elements (including cooling batteries) and have been test certified by accredited institutions in accordance with DIN EN 11654.

PERFORMANCE




# TECHNICAL DETAILS

## General

| | |
|---|---|
| Product: | *clima***BOARD**® *ppl* |
| Model: | capillary tube mats |
| Cooling capacity as per DIN EN 14240*: | 59.1 W/m² |
| Audit report: | KF2002_P1003 |
| Insulation: | 30 mm mineral fibre insulation in PE film |
| Substructure: | construction of CD profiles |
| Suspension: | minimum 100 mm |
| Weight: | about 15.4 kg/m² |
| Sound absorption: | 55 % |

## Surface

| | |
|---|---|
| Material: | thermal plasterboard (10 mm) |
| Perforation type: | 15/30 R |
| Free cross-section: | about 30 % |

## Surface Finish

| | |
|---|---|
| Type: | uncoated |
| Surface: | smooth, with perforation |
| Surface quality: | Q2 |

## Cooling System

| | |
|---|---|
| Material: | PP Random Copolymer |
| Modul width: | 333 mm |
| Modul length: | 500–6 500 mm |
| Main tube: | 20 × 2.0 mm |
| Capillary tube: | 3.4 × 0.55 mm |
| Capillary tube interval: | 10 mm |
| Test pressure: | 10 bar |

* Details regarding the cooling capacity are based on system temperatures with a flow line at 15° C, return flow at 17° C, and an operating room temperature of 26° C

Recommended Uses: We recommend using *clima***BOARD**® *ppl* in spaces with particular sound absorption requirements (open floor offices) and other spaces where much conversation takes place (meeting and conference rooms, call centres, etc). Here a well-defined sound absorption method is essential in order to create a user friendly environment. As the assessment of both the cooling capacity and acoustics depends on a number of factors and is likely to vary, we advise receiving a quotation specific to your project. We collaborate with a building physicist to determine the most feasible solution for your project's acoustic requirements. In addition, we are able to perform an assessment of your individual acoustic needs in cooperation with our partner MÜLLER BBM in Planegg/Munich. We also offer reference and test measuring services under DIN conditions in our own testing and development laboratory.

Service and maintenance of the cooling ceiling and its components should take place once a year according to the general maintenance guidelines. Renovation or repair of damage to the system may only be performed by trained specialists (see Technical Requirements and FAQ for further information).