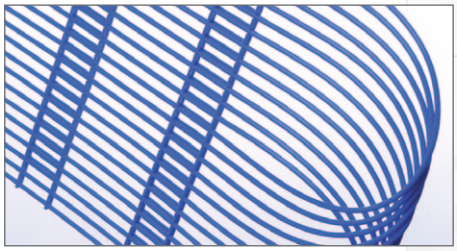
*clima*MINERAL® *pp*

plasterboard ceiling with plastic capillary tubing
and a smooth surface



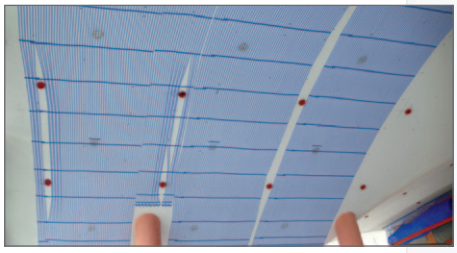


Photo credit: ICS, Stephan Pusch

*clima***MINERAL**® *pp*

The System

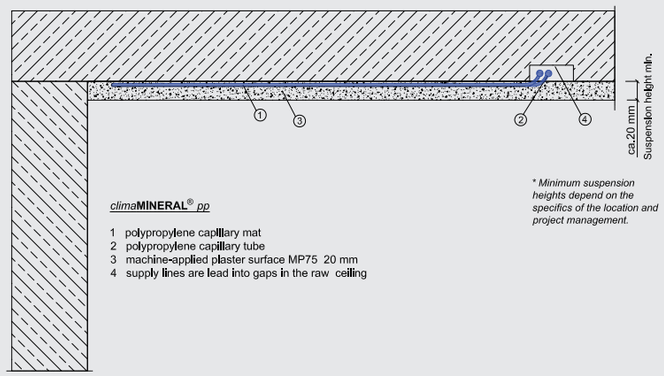
*clima***MINERAL**® *pp* is a cooling ceiling with a closed radiation system and high quality aesthetics. Heat load removal takes place by means of approximately 70 % radiation and 30 % convection. The surface is smooth.

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. As part of the plaster surfacing, the flexible mats are laid into the wet plaster (this layer is ca. 20 mm thick) and then covered for a smooth surface. Supply lines and mat stems are lead into either spaces at the side of the room or into the corridor.
The system must be filled and ventilated before plastering the ceiling. Finally, a pressure check according to company standards must be completed. Throughout the plastering work the system must be kept at a pressure of 4.5 bar.

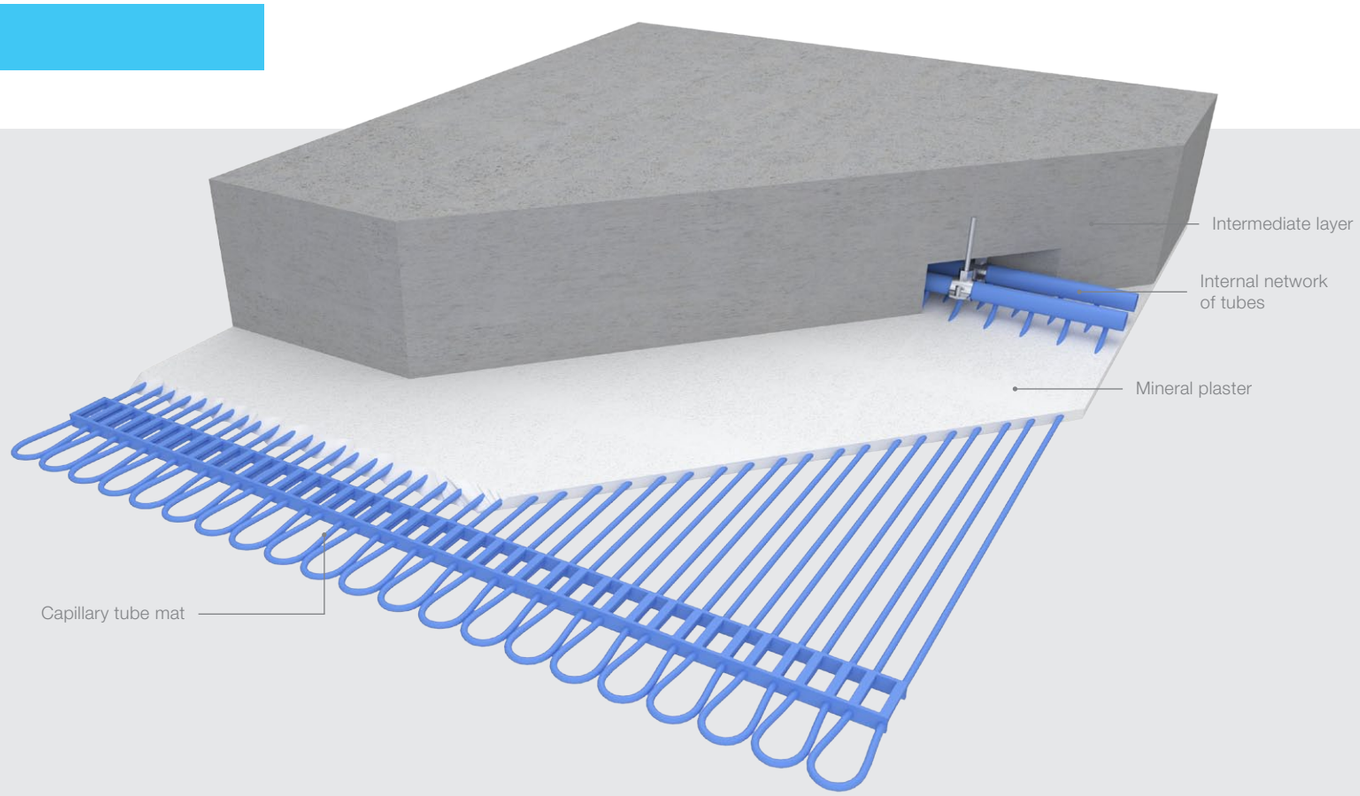
The surface layer consists of an intermediate layer covered by 15–20mm of MP75 mineral machine-applied plaster with a quality of Q2 or Q3. The capillary tube system is embedded in this plaster layer.

To clean and maintain the cooling ceiling, dust that has accumulated can be carefully removed with a soft brush. Depending on how wipe resistant the finish is, dust and dirt can be washed off.

THE SYSTEM



THE STRUCTURE



Picture display *clima***MINERAL**® under a cement ceiling

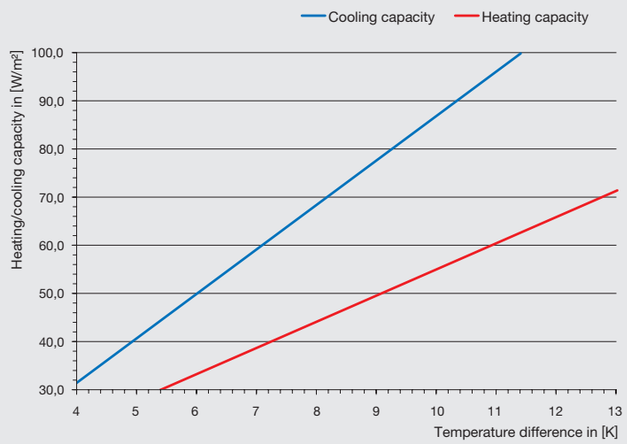
Cooling capacity

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

Acoustics

The system *clima***MINERAL**® *pp* does not have any sound absorbing properties. Should you have acoustic requirements, systems such as *clima***MINERAL**® *pp acoustic fine* are recommended.

PERFORMANCE



TECHNICAL DETAILS

General

Typ:	*clima***MINERAL**® *pp*
Model:	capillary tube mats
Cooling capacity as per DIN 4715*:	86 W/m²
Audit report:	interpolated from VR95 K29.1134
Suspension:	minimum 20 mm
Sound absorption:	0 %

Surface

Material:	machine-applied plaster
Perforation type:	closed

Surface Finish

Type:	uncoated
Surface:	smooth
Surface thickness:	ca. 20 mm
Colour:	natural white
Surface quality:	Q2, Q3–Q4 optional

Cooling System

Material:	PP Random Copolymer
Modul width:	tailored to meet your requirements
Modul length:	up to 6500 mm
Main tube:	20 × 2.0 mm
Capillary tube:	4.3 × 0.8 mm
Capillary tube interval:	20 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***MINERAL**® *pp* in spaces that do not allow for much height, but where a high cooling capacity is necessary.

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).

As the cooling capacity may vary based on installation conditions, we advise receiving a quotation specific to your project. We will then recommend the most feasible solution. We also offer reference and test measuring services under DIN conditions in our own testing and development laboratory.