

ACOUSTIC PLASTER CEILING BASWA Cool

Multi-layer system with integrated capillary tube mat ORIMAT G 10.00



System description



ROLEX LEARNING CENTER LAUSANNE © CLINA HEIZ- UND KÜHLELEMENTE GMBH

SYSTEM DESCRIPTION

Design

The BASWA Cool multi-layer system is a system solution in cooperation with BASWA acoustic. BASWA Cool acoustic panels are fastened underneath a concrete ceiling or a suspended gypsum board ceiling with appropriate adhesive. Clina capillary tube mats are fixed to these BASWA Cool panels, tightened and then plastered with a few millimetres of a special mineral acoustic plaster. On the visible side, there is a jointless acoustic plaster ceiling for the dissipation or supply of sensitive heat loads. The water circulates noiselessly in the capillary tube mats and regulates the room temperature largely by radiation, partly by convection.

BASWA Cool panel

The BASWA Cool acoustic panels are available in four different thicknesses (21, 31, 41, 61 mm). This results in the total thickness of the BASWA Cool System variations of 30, 40, 50 or 70 mm.

Length & Width

The capillary tube mats are custom-made in length and width for each project. On the construction site the mat distributor pipes are connected to each other by heating element socket welding.

This is a secure, non-detachable connection.

Hydraulic connection

Mat distributor pipes and supply lines are installed or accommodated on the raw ceiling within the BASWA Cool multi-layer system, and in the case of a **suspended gypsum board ceiling**, also in the ceiling void. The capillary tube mats welded together to form a hydraulic circuit are connected to the supply and return lines.

Of course, the ceiling void can also be used for further installations.

Mounting

Clina capillary tube mats are fixed tightly to the BASWA Cool panel and embedded in the acoustic plaster.

Processing

The **capillary tube mats** can be installed by experienced installation companies. **BASWA Cool panels** can only be processed by companies which have been trained by BASWA acoustic AG and hold a BASWA Cool certificate.

Lamps & Ventilation

Larger openings must be considered in the planning phase. Up to approx. 100 mm, openings can also be realised during the construction phase by simply pulling the capillary tubes apart.

Plaster

Mineral BASWA acoustic plaster is applied in a multi-layer finish.

Regulation

The system can be regulated room-by-room.

Fields of application

Suitable for the modern interior design of rooms with special acoustic requirements, such as office buildings or public buildings, whether new construction or renovation.

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STRUCTURE

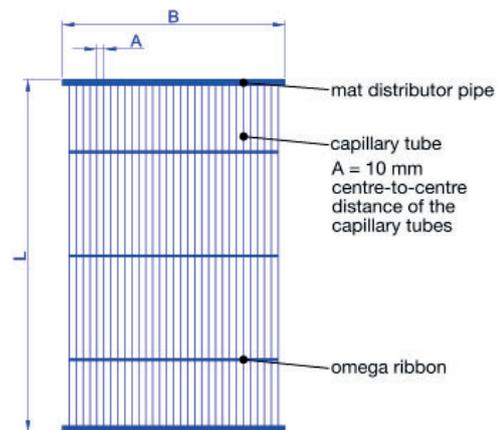


- BASWA Cool acoustic panels are glued and grouted to the concrete ceiling or the suspended gypsum board ceiling in the area of the active surfaces.
- Capillary tube mats (mat distributor pipes) are fixed and tightened underneath the acoustic panel.
- The capillary tube mats, welded together to form a hydraulic circuit, are connected to the supply and return lines by heating element socket welding.
- BASWA Phon acoustic panels are added and grouted in the edge area as well as in the riser zones.
- Filling layer with BASWA Base or BASWA Base Cool of approx. 4-5 mm is sprayed onto the capillary tube mats so that the capillary tube mats are „embedded“.
- A top coat/base coat of 0,7 mm with BASWA Base or BASWA Base Cool is applied.
- A final coat is applied either BASWA Base with 0,7 mm, BASWA Fine with 0,5 mm or BASWA Top with 0,3 mm.

RECOMMENDED CAPILLARY TUBE MAT

On site, the Clina capillary tube mat ORIMAT G 10 is integrated into the BASWA Cool multi-layer system.

The ORIMAT G 10 consists of 2 round mat distributor pipes (20 x 2,0 mm) and capillary tubes (3,4 x 0,55 mm). The distance between the capillary tubes (centre-to-centre distance) is 10 mm.



GENERAL INFORMATION ON CAPILLARY TUBE SYSTEMS

Clina capillary tube mats are used very successfully worldwide for heating and cooling various buildings.

The capillary tube system is extremely **comfortable**:

- noiseless temperature control
- draught-free
- even when heating, the surface temperature of the ceiling is always below the body temperature of the user (high thermal comfort)
- fast reaction

Advantages compared to classic single-pipe systems:

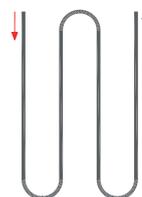
- low pressure loss
- very even temperature distribution and transmission
- larger exchange surface
- ideal for the use of environmental energy due to very small temperature differences between system and room temperature
- in combination with the heat pump, best COP values can be achieved

Capillary tube mats are **safe & durable**

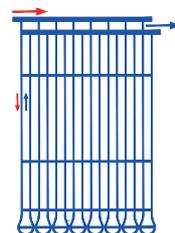
Each individual Clina capillary tube mat is subjected to a leak test before dispatch. The test pressure is 20 bar - which corresponds to approximately 10 times the operating pressure.

A 15-year extended warranty applies to all Clina mats. The expected service life is more than 50 years under normal conditions of use. All Clina capillary tube mats are produced with high-tech machines & equipment in our manufacturing plant in Berlin-Brandenburg.

Single-pipe system



capillary tube system



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ADVANTAGES

Cooling and heating with one system

In most buildings, the heat requirement to be covered is so low due to the well-insulated building envelope that capillary tube mats invisibly integrated into the acoustic plaster ceiling not only provide excellent cooling in the summer, but can also be used to heat very comfortably and energy-efficiently in the cold season.

Excellent performance values

Excellent broadband sound absorption as well as high heating/cooling capacity thanks to low mineral acoustic plaster coverage with good thermal conductivity and close to the surface position of the capillary tubes.

Acoustic and thermal function

High-quality combination for maximum room comfort.

Suitable for many architectural designs

Suitable for horizontal, inclined, vertical surfaces and simple vaults made of concrete or gypsum board.

Jointless up to 500 m²

Up to 500 m² on plane jointless concrete surfaces or 150 m² on gypsum board.

Individual room control

The temperature can be regulated room-by-room.

VALUES



HEATING CAPACITY

according to DIN EN 14037/2

117,7 W/m²

ΔT = 15 K, active mat surface



COOLING CAPACITY

according to DIN EN 14240

100,8 W/m²

ΔT = 10 K, active mat surface



ACOUSTICS

weighted sound absorption coefficient

up to **α_w = 0,65** (Class C)

INSTALLATION HEIGHT:

depending on type of BASWA Cool panel

30, 40, 50 or 70 mm

SYSTEM WEIGHT:

(filled with water)

depending on type of BASWA Cool panel

24 kg/m² up to 28 kg/m²
(240 N/m² up to 280 N/m²)

BUILDING MATERIAL CLASS:

B-s1-d0 (according to DIN EN 13501-1)

PRESSURE STAGE:

PN 10

REFERENCES

Please note the following documents for further information:

- Acoustic plaster ceiling BASWA COOL with integrated capillary tube mat System data sheet
- ORIMAT G 10 Product data sheet
- Acoustic plaster ceiling BASWA COOL with integrated capillary tube mat Performance values
- Website : www.clina.de
- Website: www.baswa.com/en/product/baswa-cool/

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