

GYPSUM BOARD CEILING TILE - PERFORATED & UNPERFORATED

with integrated capillary tube mat OVAMAT GB 18 / GB 15



System description



System partner



SYSTEM DESCRIPTION

Design

The prefabricated gypsum board tile with integrated capillary tube mat is a joint development with our system partner Vogl Deckensysteme. The gypsum board tiles are inserted into commercially available T-rails. On the visible side, there is a perforated or unperforated gypsum board grid ceiling for the removal 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.

Gypsum board ceiling tile & Capillary tube mat

The gypsum board ceiling tile, surface finished in white, consists of a 12,5 mm unperforated or perforated gypsum board tile with 8/18 R perforation from our system partner Vogl (other hole patterns are available) and the Clina capillary tube mat OVAMAT GB 15/GB 18.

Length & Width & Panel thickness

The gypsum board ceiling tiles are available in the dimensions 1.250 x 625 mm, 1.200 x 600 mm, 625 x 625 mm and 600 x 600 mm.

The ceiling tile thickness is 12,5 mm.

Hydraulic connection

The connections of the gypsum board ceiling tiles to each other as well as the connection to the supply and return lines/ceiling sub-distributors are made on site using a proven push-lock system with flexible hoses. Pipes and sub-distributors are accommodated in the void of the suspended ceiling.

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

Mounting

The prefabricated gypsum board ceiling tiles are inserted into standard T-rails T15/T24.

Processing

According to the common rules of dry construction. Processing of inactive surfaces with 12,5 mm gypsum board ceiling tiles.

Lamps & Ventilation

Openings can be freely repositioned within the ceiling grid or by using inactive ceiling tiles.

Regulation

The system can be regulated room-by-room.

Fields of application

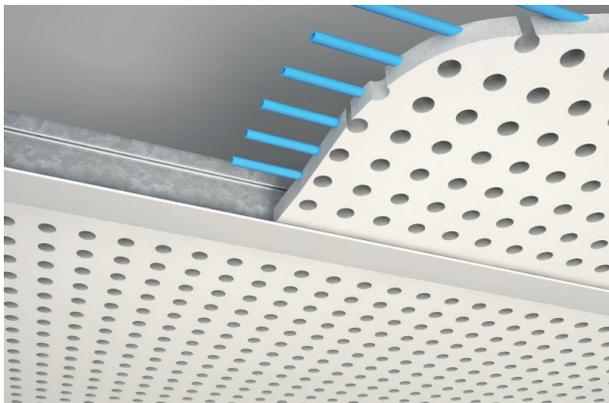
Suitable for the modern interior design of rooms with special acoustic requirements, such as office buildings or public buildings, whether new construction or renovation.

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STRUCTURE



The prefabricated gypsum board ceiling tiles are inserted into standard T-rails T15/T24. It is **important** to wear fabric gloves when inserting the ceiling tiles, as the surface is coated white at the factory. The ceiling tiles are reversible.

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The ceiling void can be used for further installations.

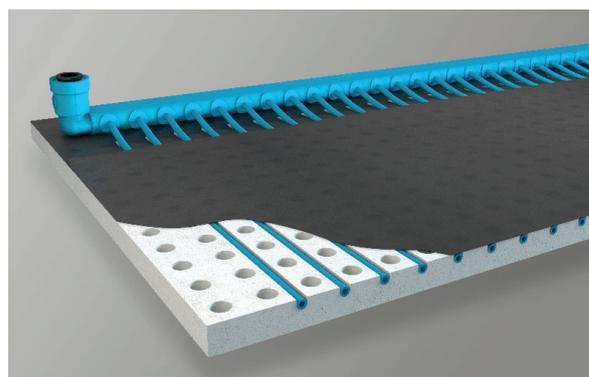
PREFABRICATED PRODUCT

Parallel slots are milled into the rear side of a 12,5 mm gypsum board tile. With the perforated version 8/18 R at a distance of 18 mm and with the unperforated version at a distance of 15 mm.

The capillaries of the capillary tube mat OVAMAT GB 18 or GB 15, consisting of an **oval** mat distributor pipe (20 x 12 x 2,0 mm) and capillary tubes (4,3 x 0,8 mm), are inserted in these slots.

The distance between the capillary tubes is 18 mm or 15 mm.

A black acoustic fleece is glued to the back of the perforated version over the entire surface, while the unperforated version has a cover paper.



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:

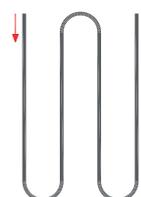
- low pressure loss
- very even temperature distribution and transmission
- larger exchange surface
- ideal for the use of environmental energy due to very small temperature differences between system and room temperature
- in combination with the heat pump, best COP values can be achieved

Capillary tube mats are **safe & durable**

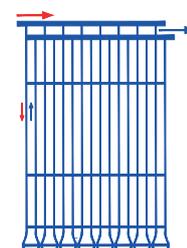
Each individual Clina capillary tube mat is subjected to a leak test before dispatch. The test pressure is 20 bar - which corresponds to approximately 10 times the operating pressure.

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 gypsum board 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.

High degree of prefabrication

Factory prefabrication ensures quality, function and thermal performance.

Optimised acoustics

This ceiling design enables optimised room acoustics, as the acoustic values of the perforated gypsum board ceiling tiles remain unchanged.

Easy retrofitting

The gypsum board ceiling tiles can be inserted into an existing T-rail construction. The hydraulic connection is located in the ceiling void.

Simple combination of active and inactive ceiling tiles is possible. The grid ceiling is reversible.

Quick and easy installation

The hydraulic connection is made using a proven push-lock system.

The gypsum board ceiling tiles can completely be installed in the drywall work.

Insert, connect, ready!

Individual room control

The temperature can be controlled room-by-room.

VALUES



HEATING CAPACITY

according to DIN EN 14037/5

85,1 W/m²

ΔT = 15 K, active mat surface

77,4 W/m²

ΔT = 15 K, total ceiling tile surface
600 x 600 mm

71,5 W/m²

ΔT = 15 K, total ceiling tile surface
625 x 625 mm



COOLING CAPACITY

according to DIN EN 14240

71,8 W/m²

ΔT = 10 K, active mat surface

65,3 W/m²

ΔT = 10 K, total ceiling tile surface
600 x 600 mm

60,3 W/m²

ΔT = 10 K, total ceiling tile surface
625 x 625 mm



ACOUSTICS

(applies only to perforated version)

weighted sound absorption
coefficient

up to **α_w = 0,7** (Class C)

INSTALLATION HEIGHT:

depending on substructure
plus **12,5 mm** GB-ceiling tile

SYSTEM WEIGHT:

GB-ceiling tile (filled with water)
10 kg/m² plus substructure

PRESSURE STAGE:

PN 10

REFERENCES

Please note the following documents for further information:

- Gypsum board ceiling tile System data sheet
- Gypsum board ceiling tile Product data sheet
- Gypsum ceiling tiles Performance values
- Gypsum board ceiling tile Installation guideline
- Website: www.clina.de

CONTACT

Clina Heiz- und Kühlelemente GmbH
Eichhorster Weg 80 | 13435 Berlin

Fon: + 49 30 402054 – 0
Fax: + 49 30 402054 – 19

www.clina.de
info@clina.de