

# INSTALLATION GUIDELINE

## HEATING/COOLING CEILING PLASTER ON GYPSUMBOARD WITH APPLIED CAPILLARY TUBE MAT



Issued in cooperation with the company Knauf

The capillary tube mats are plastered underneath a suspended gypsum board ceiling. On the visible side, a closed, jointless plaster ceiling is created for the dissipation or supply of sensitive heat loads, largely by radiation, partly by convection.

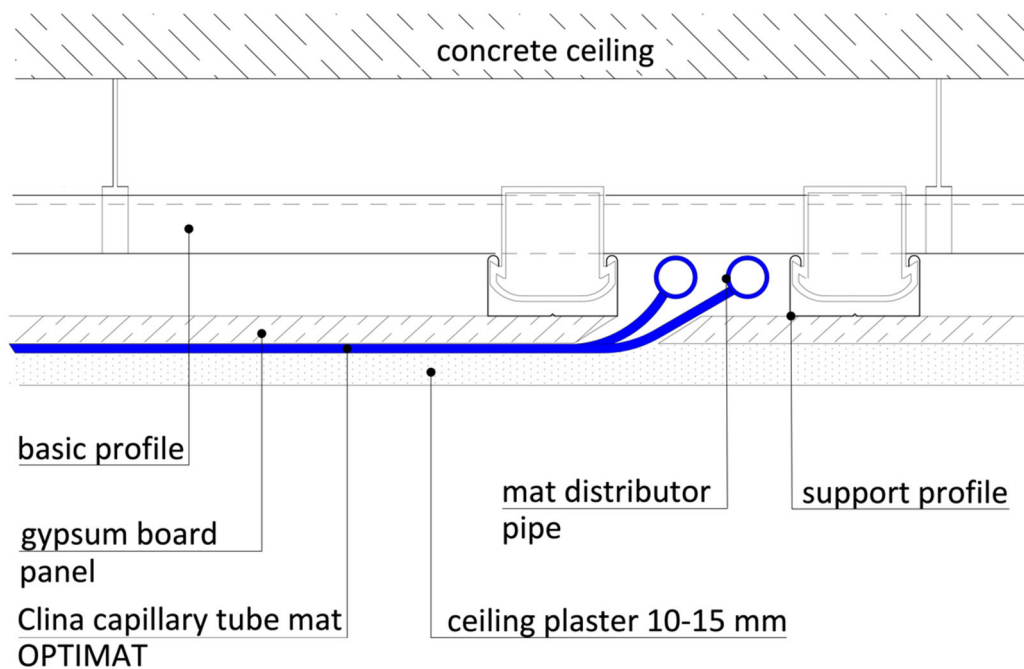


Fig.: ceiling structure section view

### Dry construction

1. Assembly of the substructure, installation distance of the support profiles at approx. 320 mm. The substructure must be designed for the additional load of wet plaster. Centre distances of the substructure according to load class  $0,30 < p \leq 0,50 \text{ kN/m}^2$ .

### Plant engineering

2. Mounting the supply and return lines for Clina capillary tube mats in the ceiling void.
3. Professional fixation of the two mat distributor pipes of the capillary tube mat, which is still rolled up, to the profiles of the substructure and connection of the mat distributor pipes to the supply and return lines
  - a. under plaster only by means of heating element socket welding connection or
  - b. in voids also by using push-lock connections.
4. Leak test according to Clina guideline CR02 with compressed air and water. During further work the system remains filled with water under a test pressure of 10 bar, in order to immediately detect any damage.

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### Dry construction

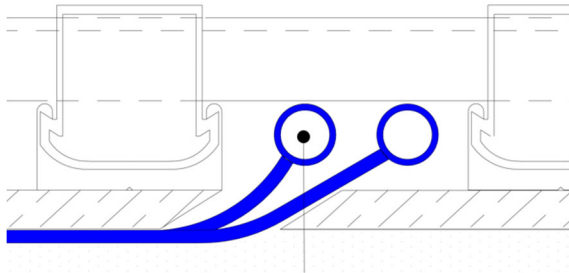
### Plant engineering

5. Planking of the substructure with standard drywall panels of 12,5 mm thickness. Fixing panels joint to joint. Setting screws according to the standard at a distance of  $\leq 170$  mm. Filling joints according to manufacturer's instructions.



Countersink (insert) the screws flush with the surface and do not break through the paper/board with the screw head!

Leave an approx. 20 mm wide slot at a slight angle below the already installed mat distributor pipes of the capillary tube mat, with edges bevelled at a 45° angle, for the capillary tubes of the capillary tube mat, which are still rolled up below the ceiling level.



6. Full-surface and uniform application of the primer coat not more than 48 hours before plastering according to the manufacturer's instructions.



After application of the primer, dust-generating activities such as drilling and the like should be avoided if possible; the subsequent plastering should be carried out promptly.

7. Roll out the mat and fix it to the underside of the gypsum board panel over the entire surface. Fasten it tightly and without overlapping only at the spacers (omega bands) running at right angles to the capillary tubes (outer diameter = 4,3 mm) using stainless steel or galvanized staples.



Do not bent the capillary tubes at the 45°-edge of the slots! Never staple the capillary tubes!

8. Recesses (openings) for lamps and ventilation grilles are possible up to a diameter of approx. 150 mm by pulling the capillary tubes apart.

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Dry construction

Plant engineering

9. Professional plastering with a slim consistence according to the manufacturer's specifications plaster thickness approx. 10 mm to 15 mm.  
The plastered surfaces must be properly separated from the adjacent (nearby) building components.



Do not use sharp-edged tools. Risk of damage to the capillary tubes!  
Ensure that the capillary tubes are completely covered by the plaster!

**The heating/cooling system may only be put into operation after the plastered ceiling has completely dried out.**