

## VoglThermal Tiles



# Simple and *Modular*

A cooling and heating system for accessible ceiling tiles



Our system partner

## The modular Thermal Tile for modern interior design

Modern ceiling design entails complex tasks in terms of form, colour and performance. Accessibility in conjunction with integrated cooling and heating function is a frequent issue.

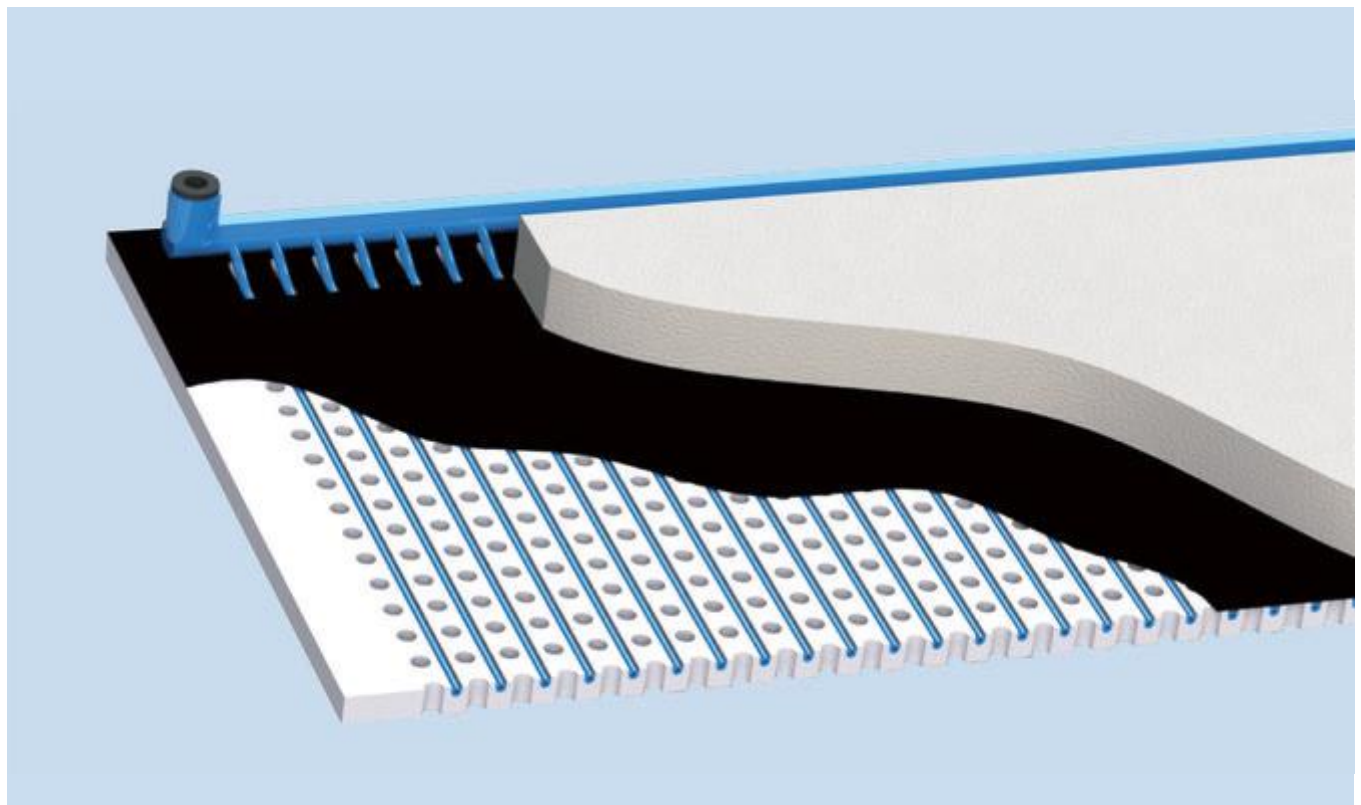
Together with our system partner, Clina Heiz- und Kühlelemente, we have developed a cooling and heating ceiling system that meets these requirements: VoglThermal Tiles.

This product scores not only for its multiple design possibilities, but also for combining a high level of thermal comfort with excellent sound absorption values.



### Benefits of VoglThermal Tiles:

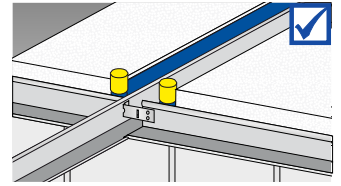
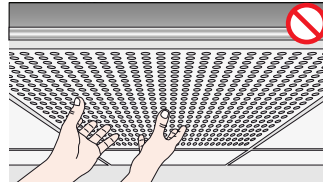
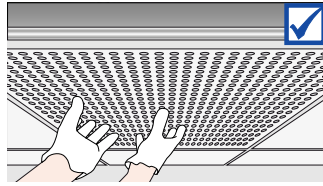
- High cooling and heating performance
- Excellent sound absorption values
- Easy-to-install system with plug hoses (included)
- Prefab ceiling manifolds with plug couplings
- Including high-quality acoustic fleece and insulating material lining
- Factory-applied white surface finish
- Various perforation patterns in round and square perforation to choose from
- Also ideal for renovation projects



Insert active Thermal Tiles into the T-profile structure.

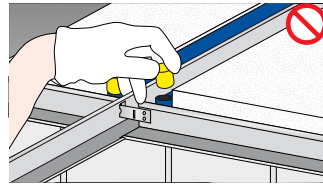
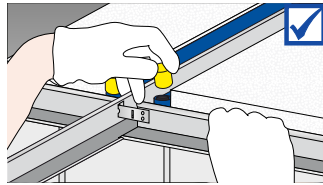
Important: Wear clean fabric gloves!

Connections of capillary tube mats must be side by side.

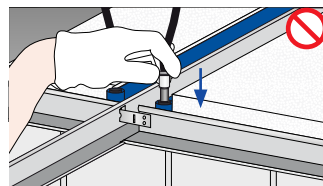
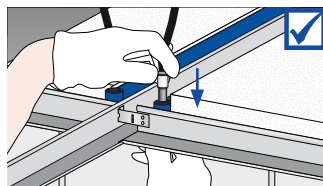


Remove yellow protective cap from capillary tube mats.

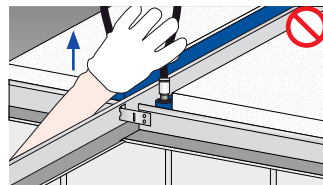
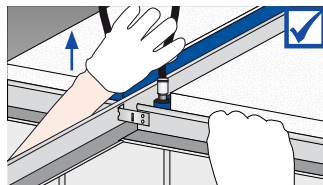
To do so, push down tile by hand at T-profile structure.



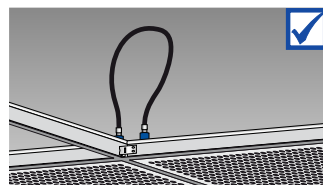
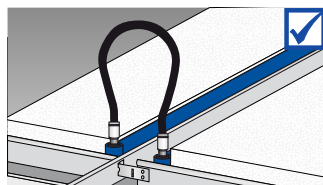
Plug in connection hoses applying counterpressure with other hand from below (wearing fabric gloves).



Check connection hoses for proper plug-in depth and grip. To do so, push down tile at T-profile and try pulling hose back a little.

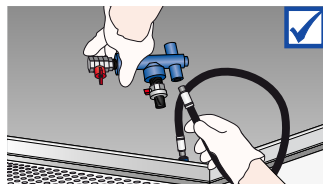


Connection hoses must come to lie in ceiling void neatly, without kinking or twisting.



Hook up to ceiling manifold using flexible hose which can be freely positioned within ceiling void.

Following a pressure test, close ceiling completely using inactive end tiles.

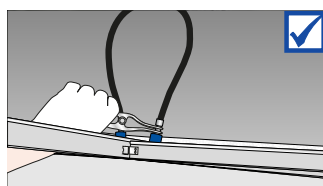


**Technical data of capillary tube mats:**

Material:	PP-Random-Copolymerisat, colour: blue
Capillary tubes:	4.3 x 0.8 mm; capillary tube spaced 18 or 25 mm apart
Water volume:	approx. 0.4 l/m <sup>2</sup> mat surface
Test pressure:	20 bar (factory set)

If hoses need to be detached, use special detachment pliers to avoid damage.

Important: Drain entire ceiling section beforehand.

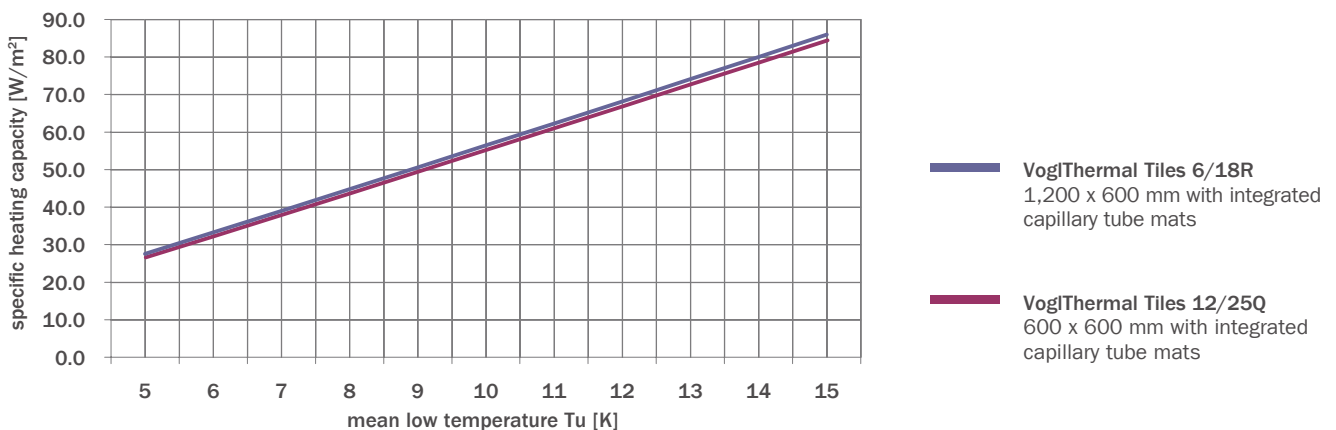
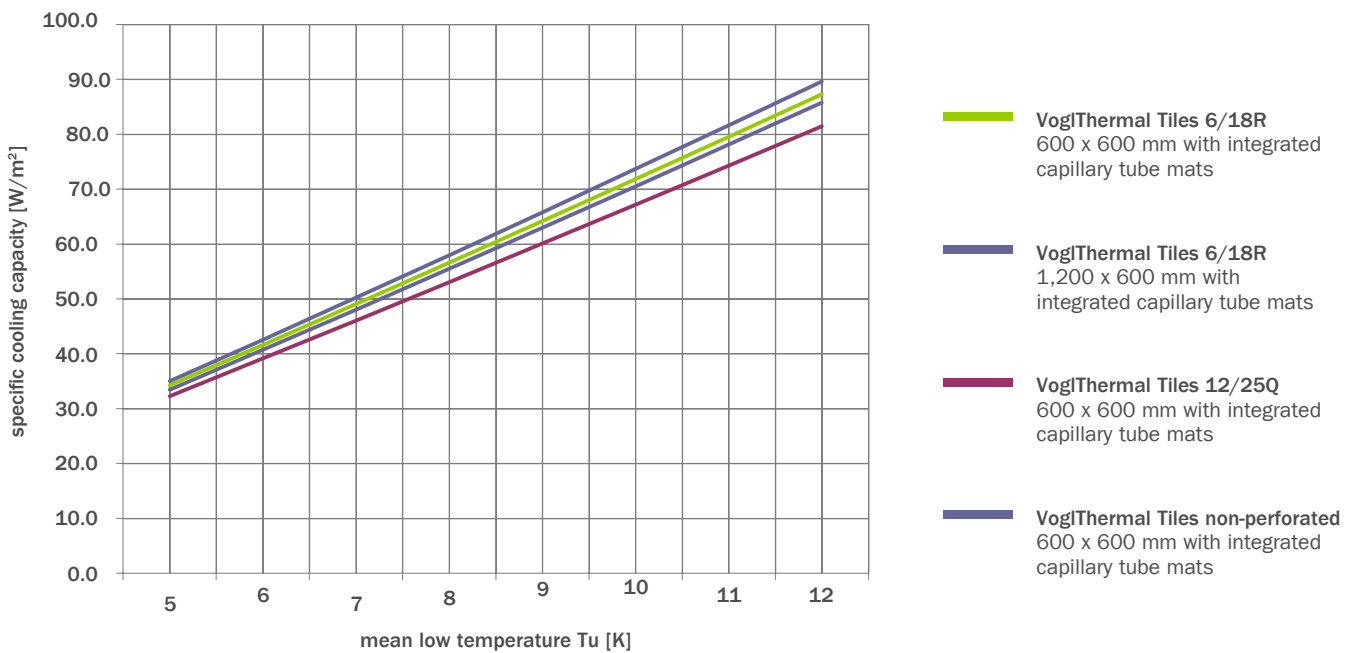


**Pressure test requirements:**

Conduct pressure test with compressed air (3 bar) observing Clina manufacturer's guidelines, incl. required test report. Further information is available upon request.

**Framework (T-profile system):**  
 Please observe permissible suspended bracket spacing for mass per unit area of ceiling tiles.  
 We recommend rigid suspension in vernier system.

	Measurement in compliance with DIN EN 14240		Measurement following DIN EN 13045 - 5 (draft)
	Cooling performance q standard = 8 K with regard to active surface	Cooling performance q standard = 10 K with regard to active surface	Heating performance q standard = 15 K with regard to active surface
<b>VoglThermal Tiles perforated 6/18R</b> 600 x 600 mm with integrated capillary tube mats	56.6	71.8	85.1
<b>VoglThermal Tiles perforated 6/18R</b> 1,200 x 600 mm with integrated capillary tube mats	55.5	70.5	-
<b>VoglThermal Tiles perforated 12/25Q</b> 600 x 600 mm with integrated capillary tube mats	53.0	67.2	-
<b>VoglThermal Tiles non-perforated</b> 600 x 600 mm with integrated capillary tube mats	58.0	73.7	85.5





**System - VoglThermal Tiles**

Closed heating/cooling radiation surface in optically sophisticated design for supply/discharge of sensitive thermal load, approx. 60 % through radiation and approx. 40 % through convection, as suspended ceiling tiles in basic system with heating and cooling function, accessible, for insertion mounting in exposed, stove-enamelled metal framework, with factory-mounted insulating material lining layer according to building physics requirements, installation in accordance with manufacturer's instructions, shall be furnished and installed.

VoglThermal Tiles are perforated plasterboards precision manufactured in compliance with EN 14190, th = 12.5 mm, with sharp edges, backed with sound-absorbing fleece and insulating material lining 30 mm (WLG 040), exposed side with factory-applied white finishing coat.

Clina PP capillary tube mats with plug connections for hooking up flexible hoses are factory-integrated into Thermal Tiles invisibly. Owing to their small inner diameter, capillary tubes are self-ventilating. Required, uniform pressure loss within active area must be ensured.

**Framework:**

Metal framework made of T 15/T 24 rails as main and cross profiles shall be hung from structural soffit with flush and horizontally aligned suspended brackets and installed using fixing materials approved by the building authorities. Install wall connection profile at the perimeter walls flush and horizontally aligned following the ceiling line.

Framework as per DIN EN 13964

Profiles: T 15/T 24 rails as main and cross profiles.

**Wall connection profile:**

- L-angle, approx. 25/20 mm\*
- Step angle, approx. 33/30/15 mm\*

**Suspended brackets:**

- Mount to structural soffit in vernier system
- Use fixing materials approved by relevant building authorities

**Profile coating:**

Exposed surfaces are factory stove-enamelled. Colour: white

**Thermal Tiles consisting of:**

**Perforated plasterboard**

Processed plasterboard as per EN 14190

Dimensions: 600 x 600 mm / 625 x 625 mm / 1,200 x 600 mm / 1,250 x 625 mm\*

Perforation: 6/18R, 8/18R, 12/25R, 12/25Q\*

Thickness of inlaid tiles: 12.5 mm

Backed with acoustic fleece: black

Surface: white finishing coat

**Capillary tube mat**

Material: PP-Random-Copolymerisat,

colour: blue

Capillary tubes: 4.3 x 0.8 mm

Capillary tube spacing: 18 mm / 25 mm

Water volume: approx. 0.4 l/m<sup>2</sup> mat surface

Test pressure, factory set: 20 bar

Before completely closing the ceiling, the client shall conduct an initial pressure test (preliminary test) with 3 bar compressed air in accordance with the relevant Clina guideline and prepare a test report.

The main test with 10 bar liquid system medium in compliance with the relevant Clina guideline will be carried out by the system engineering discipline (covered in separate specifications) following the filling and bleeding of the system through the system engineer.

**Technical data:**

Specific cooling capacity to the room as per DIN:	65 W/m <sup>2</sup> system panel (delta T 10K)
Specific cooling capacity under design conditions:	58 W/m <sup>2</sup>
Perceived room temperature:	26 °C
Cooling water supply:	16 °C
Cooling water return:	18 °C
Specific heating capacity to the room as per DIN:	76 W/m <sup>2</sup> system panel (delta T 15K)
Specific heating capacity under design conditions:	71 W/m <sup>2</sup>
Perceived room temperature:	20 °C
Heating water supply:	35 °C
Heating water return:	33 °C

Active proportion of entire ceiling: Approx. .... %

Type:	VoglThermal Tile with integrated Clina capillary tube mat
Length in mm:	600 625 1,200 1,250*
Width in mm:	600 625 600 625*

Room-side connection, incl. hydraulic hook-up of cooling elements, shall be furnished and installed.

Depending on the pressure loss, flexible plug hoses DN10 l = 800 mm, (type SNY10.800) shall be used for the connection of several tiles in a row to sections. By means of plug connections, these sections will then be hooked up to the Clina ceiling manifolds DN 15 via two equally long connection hoses DN10 l = 5,000 mm (type SNY10.5000) which have to be laid in the ceiling void prior to inserting the ceiling tiles.

Clina ceiling manifolds consist of a main control valve (DN 15), an FE valve and 3 to 7 plug connections for flexible hoses mentioned above.

**The following additional services are included:**

- Entering tile arrangement in ceiling plan
- Connection to Clina ceiling manifold
- Pressure test with compressed air (3 bar) observing Clina manufacturer's guidelines, incl. required test report
- Closing inactive perimeter areas
- Monitoring system pressure during further drywall work
- Instructing operating personnel
- Inspection documents, documentation of location of active system tiles



\* Delete as applicable

