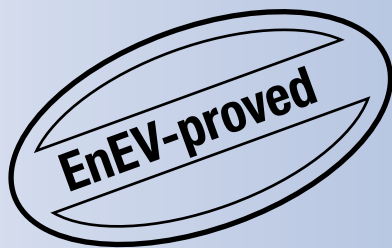


MERO Hollow Floor Combi T Thermo

Innovative solutions from one source

Development
Consulting
Planning
Manufacturing
Installation

Access Floor
Hollow Floor
Floor covering and
Installation
Services



MERO  **TSK**
MERO-TSK International GmbH & Co. KG

Floor Systems

System floor



For economic and ecological reasons, rooms today are more and more heated and cooled by activated spaces. The larger the heated part of the space, the lower the energy required. This reduces the cost of heating and cooling. The MERO Combi T Thermo is a dry hollow floor with a floor heating and cooling system.

Fields of application

The MERO Combi T Thermo can be used in almost all areas, whether it concerns new buildings or the refurbishment of old buildings. In principle, all floor coverings suitable for floor heating can be installed on MERO Combi T Thermo:

- stone and ceramic tiles
- textile floor coverings
- dimensionally stable elastic floor coverings
- different types of parquet

Advantages

- **Especially suitable for low temperature plants according to EnEV**
- Extremely short construction time
- Maximum system safety due to tightness test according to DIN Uponor PE-Xa tube
- Combi T Thermo is proved as heating and cooling system acc. to DIN and certified acc. to DIN Certco
- Various grids and variable construction heights are possible
- Very good structural-physical characteristics
- Favourable cooling, especially with groundwater heat pumps
- Healthy indoor climate through radiant heat

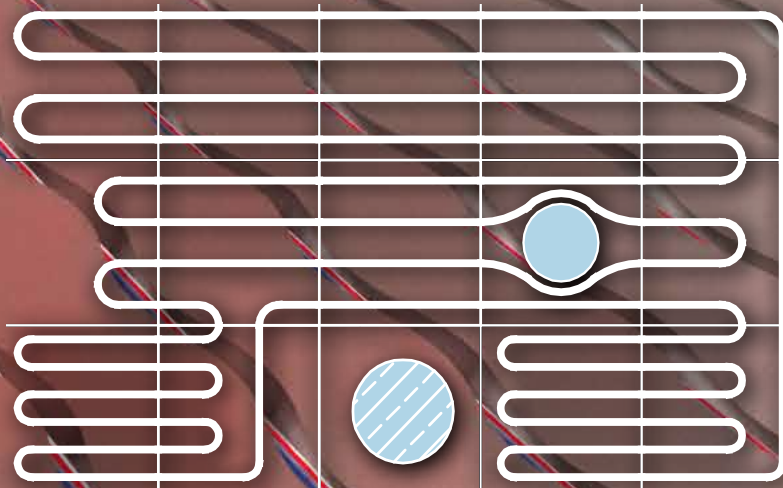


Construction principle

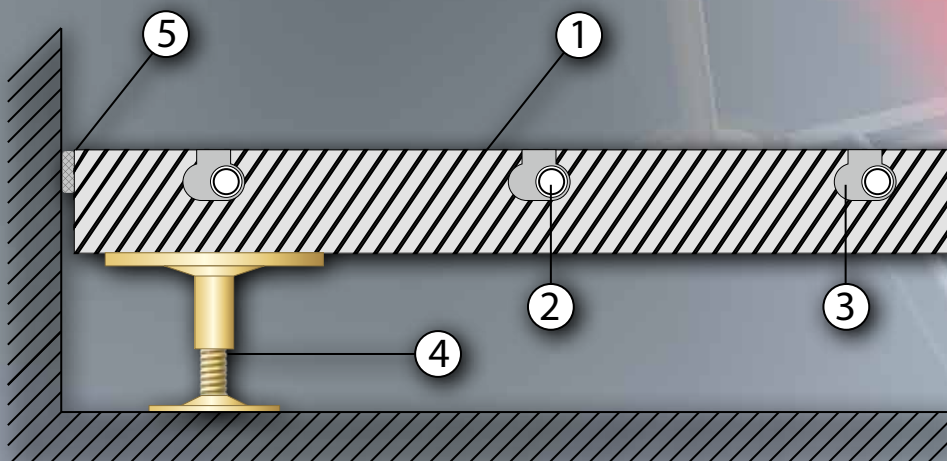
The supporting panels consist of incombustible fiber-reinforced calcium sulphate, which guarantee an optimal heat transmission. Special milled grooves for the installation and fixing of the pipework integrate the floor heating into the floor panel.

After the installation of the heating pipe, the grooves are filled with body filler flush with the surface.

Thermally insulated connecting pipes ensure an optimal energy supply. Due to the dew point control the accumulation of condensed water can be avoided.



We use plastic pipes consisting of highly cross-linked polyethylene. The pipe structure has an oxygen barrier which exceeds by far the standard requirements regarding oxygen tightness. The substructure consists of steel pedestals. Their height can be exactly adjusted. All pedestals are protected against corrosion by galvanization and passivation. The pedestal base plates are glued to the raw subfloor. Depending on the requirements, various panel types are available.



1. Supporting panel with grooves for the heating pipes
2. Heating pipe
3. Body filler
4. Pedestal
5. Perimeter strip

Construction process



The MERO dry hollow floor with pre-fabricated grooves for the heating pipes is installed according to the layout drawing.



The plastic pipe is placed into the grooves.

Planning instructions

The planning and setting of the heating and cooling circuits is carried out together with the TGA planner. On request, the calculation of the pipe network can be done by MERO. The MERO Combi T Thermo can also be operated along the method of Tichelmann. With a few standard panels we meet all structural requirements.



The cutouts are prefabricated (e.g. for electric underfloor tanks which are installed on site)



Prior to the grouting of the body filler, all pipes are tested for leaks.



The protruding body filler will be removed from the supporting panel.



After the operational heating the MERO Combi T Thermo is ready for the application of the floor covering.

Technical data*: Combi T Thermo

Accessories:

Drilling is done at factory or on site for:
Power supply and twist-air outlets
Expansion joints / construction joints / joints
Revision openings
Access floor ducts
Cutouts
Special wall connections
Fascia
Bridging
Additional insulation (heat, impact sound)
Stairs, ramps
Floor coverings as stone, parquet etc.

***For further detailed technical data**
please ask for our product data sheets.

Bearing layer:

Dimensions:	600 x 600
System weight:	56 kg/m ² to 66 kg/m ²
Panel material:	Calcium sulphate panel (fiber-reinforced calcium sulphate)
Adhesive:	High quality solvent-free adhesive for the adhesion of the toothing

Substruction

Module:	600 x 600 mm
Pedestal material:	Galvanized steel
Construction height:	From 50 mm
Pedestal bonding:	Normally glued with the subfloor and the panel; continuously adjustable to height

Floor coverings

Textile und elastic floor coverings, parquet, natural stone, artificial stone, liquid coating

Load values

Point load:	3.000 – 5.000 N
Valued acc. to DIN EN 13213:	Class 2 – 5
Ultimate load:	> 6.000 – 10.000 N

Fire protection

Building material class bearing panel	
Acc. to EN 13501 T1:	A1
Fire resistance class acc. to DIN 4102 T2:	F30 possible

Acoustic values

	(depending on system and floor covering)	New denomination according to DIN EN
Sound reduction index $R_{L,w,P}$	39 – 54 dB	Normalized flank level difference $D_{n,f,w,P}$
Normalized impact sound pressure level $L_{n,w,P}$	42 – 91 dB	Normalized flank impact sound pressure $L_{n,f,w,P}$
Improvement of sound pressure level $\Delta L_{w,P}$	10 – 29 dB	Improvement of sound pressure level $L_{w,P}$

Heating and cooling

An adequate temperature is important for a comfortable indoor climate and a good place to work. A further advantage in offices is the invisible installation of supply lines.

The MERO hollow floor Combi T Thermo combines these two characteristics. The MERO Combi T Thermo can be used in almost all areas, whether it

concerns new buildings or the refurbishment of old buildings. The system does not require any specific heating circuit connections. All floor coverings suitable for underfloor heating as stone and ceramic tiles, textile floor coverings, dimensionally stable floor coverings and different types of parquet can be applied on MERO Combi T Thermo.



Hollow Floor Combi T Thermo

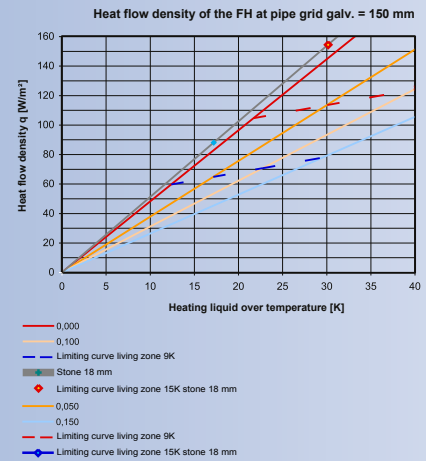
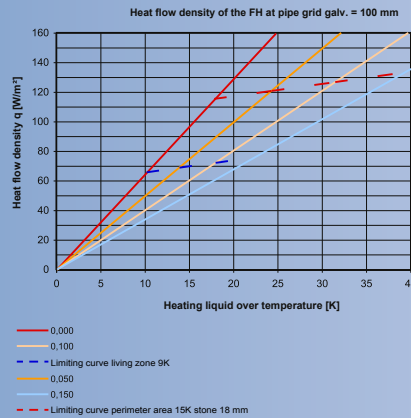
Heating

Pipe grid 100

Pipe grid 150

Heat flow density q_G acc. to DIN EN 1264-2 (without covering, $R_{\lambda}=0,00 \text{ m}^2\text{K/W}$)	77 W/m ²
at standard heating liquid overtemperature $\Delta\theta_H$	12 K
Heat flow density q_G acc. to DIN EN 1264-2 (with covering, $R=0,15 \text{ m}^2\text{K/W}$)	89 W/m ²
at standard heating liquid overtemperature $\Delta\theta_H$	26 K
$R_{\lambda,B}$ carpet	0,07 – 0,23 m ² K/W
$R_{\lambda,B}$ ceramic tile / stone	0,02 m ² K/W
$R_{\lambda,B}$ PVC	0,01 m ² K/W

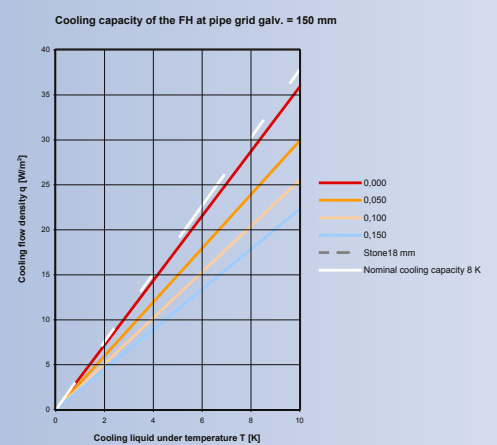
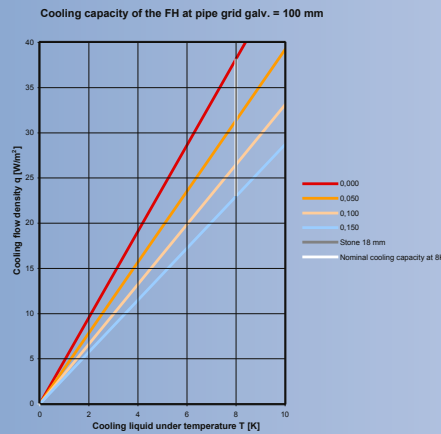
60 W/m ²
12 K
78 W/m ²
29 K
0,07 – 0,23 m ² K/W
0,02 m ² K/W
0,01 m ² K/W



Cooling

Specific cooling capacity acc. to DIN EN 1264-5	38,2 W/m ²
Cooling liquid temperature $\Delta\theta_H$	8 K

28,7 W/m ²
8 K



Our co-operation partner:



TÜV certified since 1997



The MERO hollow floor Combi T Thermo is tested acc. to DIN EN 1264-2/3/4 no. 7F249-F and 7F250-F and certified by independent institutes.

Head office:
MERO-TSK International GmbH & Co. KG
 Max-Mengeringhausen-Str. 5
 97084 Würzburg, Germany

Postal address:
MERO-TSK International GmbH & Co. KG

Product Division Floor Systems
 Lauber Straße 11
 97357 Prichsenstadt, Germany
 Phone.: +49 (0) 93 83 203-603
 Fax: +49 (0) 93 83 203-629
 E-mail: bodensysteme@mero.de
 Internet: www.mero.de