PBS Hollow Floor Thermo



Innovative solutions from one source

Development Consulting Planning Manufacturing Installation Access Floor Hollow Floor Floor covering and Installation Services



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 PBS Thermo is a dry hollow floor with a floor heating and cooling system.

Fields of application

The PBS Thermo can be used in almost all area's, whether it concerns new buildings or the refurbishment of old buildings. In principle, all floor coverings suitable for floor heating can be installed on PBS 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
- Thermo is proved as heating and cooling system acc. to DIN and certified

- 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 PBS 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 PBS. The PBS 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 PBS Thermo is ready for the application of the floor covering

Technical data: 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.

Bearing layer:

Dimensions: System weight: Panel material: Adhesive:

Substruction

Module: Pedestal material: Construction height: Pedestal bonding:

Floor coverings

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

Load values

Point load: Valued acc. to DIN EN 13213: Ultimate load:

Fire protection

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

Acoustic values

Sound reduction index R L,w,P Normalized impact sound pressure level L $_{n,w,P}$ 42 – 91 dB Improvement of sound pressure level $\Delta L_{w,P}$ 10 – 29 dB

600 x 600 56 kg/m² to 66 kg/m² Calcium sulphate panel (fiber-reinforced calcium sulphate) High quality solvent-free adhesive for the adhesion of the toothing

600 x 600 mm Galvanized steel From 50 mm Normally glued with the subfloor and the panel; continuously adjustable to height

3.000 - 5.000 N Class 2-5 > 6.000 - 10.000 N

F30 possible

1.

39 - 54 dB

(depending on system and floor covering) New denomination according to DIN EN Normalized flank level difference D n,f,w,P Normalized flank impact sound pressure L n.f.w.P Improvement of sound pressure level $L_{w,P}$

建稳于 非非常非

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 PBS hollow floor Thermo combines these two characteristics. The PBS Thermo can be used in almost every area, whether is

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





Our co-operation partner:

nouda









The PBS hollow foor Thermo is tested acc. to

DIN EN 1264-2/3/4 no.

certifed by independent

institutes.

7F249-F and 7F250-F and



PBS HOLLAND BV

Griekenweg 6-8,

5342 PZ, Oss

Phone .:

E-mail:

Internet:

Fax:

Product Division Floor Systems

+31 (0) 412 65 33 00

+31 (0) 412 63 25 95

info@pbsholland.com

www.pbsholland.com