

Technical Specification**Design Data****Description**

Pavatherm Floor NK is a wooden fibreboard to DIN 68755 Part 1: Fibreboards for building constructions; Insulation material for thermal protection. The board does not contain any glue nor wood preservers.

Pavatherm Floor NK is quality monitored by the FMPA Stuttgart and the Institute for Structural Biology, Rosenheim (IBR).

Pavatherm Floor NK is an insulating fibreboard. Pavatherm Floor NK is applied in roof constructions (inter beam and over beam constructions) and in wall constructions.

Boards are supplied in standard size of 1020 mm x 600 mm (thicknesses of 40, 60mm), Typical density is 180 kg/m³.

Tests on the finished products are carried out to determine:

Compression test at 10% compression
Thermal conductivity
Swelling in thickness
Water penetration
Bending strength
Density
Internal bond

Delivery and site handling

The boards are delivered to site wrapped in polythene. Each pack bears the manufacturer's trade name, the DIN 68755 Part 1 identification, its properties according to DIN 68755 Part 1, the identification symbol of the quality monitoring FMPA Stuttgart and of the Institute for Structural Biology, Rosenheim (IBR).

The product must be stored dry and flat at the site. The boards must be applied dry. Care must be taken to avoid contact with solvents and fresh wood preservers.

The boards must not be exposed to open flame or other ignition sources.

General

Pavatherm Floor NK is effective in reducing the U value (thermal transmittance), in improving acoustic sound protection and summer heat protection (phase postponement). Pavatherm Floor NK guarantees an active breathing housing. Pavatherm Floor NK can be used in new and renovation buildings.

Pavatherm Floor NK is applied in over beam and inter beam insulations as well as in timber construction walls. Pavatherm Floor NK is not water-resistant. Therefore it must be protected with a water-resistant layer as Isolair "L" or a rigid underlay.

Properties in relation to fire

The boards do not prejudice the fire resistance properties of the roof nor of the wall.

When properly installed the boards will not add significantly to any existing fire hazard. The boards will not present a toxic hazard.

According to DIN 4102 Pavatherm Floor NK belongs to the material class B2.

Moisture penetration

Moisture can penetrate the board. The board is not water-repellent.

Water vapour penetration

Pavatherm Floor NK is a fibreboard with a very low vapour resistance factor $\mu = 5$. It is therefore no barrier for water vapour and it is diffusion open.

Thermal insulation

The λ value (thermal conductivity) of the boards when measured to DIN 52612 - 1 and DIN V 4108 - 4 is 0.044 Wm⁻¹K⁻¹ at a density of 160 kgm⁻³.

Loadings

The compression resistance at 10% compression is 30 kPa. In constructions where loads have to be beard (over beam insulation) the fixing happens with Twice Threaded Screws to lead the load directly into the beam.

Durability

The boards are not rot-proof. They are dimensionally stable and, when installed properly, will remain effective as insulating material for the life of the building in which they are incorporated.

Installation

General

Typical methods of installations are shown besides.

Pavatherm Floor NK is generally used in roof and wall constructions.

Figure 1 shows a roof with an over beam insulation. The Pavatherm Floor NK insulation boards are applied on the massive panels. The boards are applied with shifted joints. Pavatherm Floor NK insulation boards can be applied in several layers without being fixed. The weather protection happens with the Isolair "L" that is placed on top of it. The fixing of the insulation boards happens with the fixing of the counterbattons. The counterbattons are fixed with Twice Threaded Screws to lead the roof loading into the beams instead of loading the Pavatherm Floor NK insulation boards. The construction is tested to DIN 4102 to fire resistance.

Figure 2 shows a roof with an inter beam insulation. The Pavatherm Floor NK insulation boards are placed between on the beams. The fixing happens squeezing the boards between the beams. The construction is tested to DIN 4102 to fire resistance.

Figure 3 shows a wall in timber construction with a ventilated facade. Pavatherm Floor NK effects good thermal insulation, good sound protection against airborne noise and a high summer heat protection. Pavatherm Floor NK exists as board and as insert coin. With the insert coin different distances can easily be realised. The construction is tested to DIN 4102 to fire resistance.

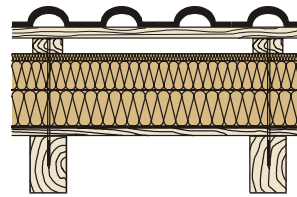


Figure 1

Tiles
30 mm Counterbattons
40 mm Battens
22 mm ISOLAIR L 22 Underlay
180 mm PAVATHERM-overbeam insulation
PAVAFLEX DSB 2 -covering paper
≥19 mm Massive panels or plywood
Beams visible

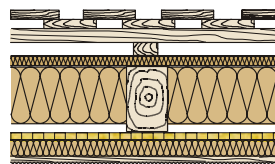


Figure 2

Tiles
30 mm Counterbattons
40 mm Battens
22 mm ISOLAIR L 22 Underlay
160 mm PAVATHERM / 160 x 95 mm Beams
PAVAFLEX DB 3.5 -vapour barrier
40 mm PAVATHERM-NK Under beam insulation
30 mm slats/ airgap (not ventilated)
12 mm Plaster boards



Figure 3



18 mm Facade
30 mm Slats
30 mm Slats/ Ventilated Airgap
22 mm ISOLAIR "L"
100 mm PAVATHERM Insert Coins
between 120 mm slabs
20 mm Airgap
15 mm Plywood
30 mm PAVATHERM Insulation Board
between 40 mm slats
10 mm Airgap
12 mm Plaster boards



Incorporation of services

The maximum continuous working temperature of the boards is 80°C. The product must not be used in direct contact with electrical heating cables or hot water pipes.

The maximum short time working temperature of the boards is 120°C.

Technical Information

The following is a summary of the technical investigations carried out on Pavatherm Floor NK.

Tests

Tests were carried out to determine:

- Compressive strength at 10% compression
- Density
- Dimensions
- Thermal conductivity
- Dimensional stability
- Swelling in thickness
- Material class
- Bending strength
- Internal bond

Other investigations

Twice a year the properties of Isolair "L" are monitored by the FMPA Stuttgart.

During the production process the laboratory monitors the quality currently.

Every two years the products are monitored by the Institute for Structural Biology, Rosenheim (IBR)

Conditions of Certification**Conditions**

The quality of materials and the method of manufacture have been examined by the FMPA Stuttgart and have been found satisfactory. These certificates will remain valid for an unlimited period provided that

- (a) the specifications of the product is unchanged; and
- (b) the manufacturer continues to have the product monitored by the FMPA

Where reference is made in this Certificate to any Act of Parliament, Regulation made thereunder, Statutory Instrument, Code of Practice, German Standard, European Standard, manufacturer's instruction or similar publication, it shall be construed as reference

to such publication in the form in which it is in force at the date of this certificate.

It should be noted that any recommendations relating to the safe use of this product which are contained or referred to in this certificate are the minimum standards required to be met when the product is used. They do not purport in any way to re-state the requirements of the Health and Safety at Work, etc. or of any other statutory or Common Law duties of care, or of any duty of care which may in the future exist; nor is conformity with such recommendations to be taken as satisfying the requirements of any other present or future statutory or Common Law duties of care. In granting this certificate Pavatex does not accept responsibility to any person or body for any loss or damage incurred in respect of personal injury arising as a direct or indirect result of the use of this product.