PAVATHERM

Universal Wood Fibre Insulation for Internal Use on Walls, Roofs, Floors and Ceilings

pavatex

Construct. Insulate. Relax.

Pavatherm Characteristics

Produced According to EN 13171

Pavatherm wood fibre thermal insulation rigid panels have a variety of interior uses, for example they can be used flush against rafters, walls and floors, as well as insulating the cavity between the rafters, studs and floor joists. Thanks to their high density they also improve the acoustic insulation of walls, floors, ceilings and roofs. When the Pavatherm insulation panels are fixed flush to studs or rafters they will significantly reduce thermal bridging through the timber elements and so will save on energy costs.

Pavatherm boards are natural, breathable rigid insulation boards with a high thermal mass and a long thermal lag time. This means they keep buildings warmer in winter and cooler in summer in all climates. Pavatherm has a specific heat capacity of 2100 J/kgK which is very favourable compared to mineral wool (800 J/kgK approx) or expanded polystyrene insulation (1400 J/kgK approx). It is very important to take summer heat protection into account particularly if the attic space of a house is to be used as a living or working space or if the property has a lot of south facing glazing which often contributes to excess solar gain during the warm weather. The building will remain at a more ambient, comfortable temperature all year round, because the excess heat will be stored in the wood fibre, and released slowly as the temperature drops.

Pavatherm insulation boards, with a vapour diffusion factor of $\mu = 3$, are open to diffusion and ensure effective water vapour transmission through the structure, to provide a comfortable, healthy living space. The condensation will not get trapped in the middle of the structure which could cause mould growth, wet rot or dry rot.

The CE marked Pavatex wood fibre insulation panels are made from new timber off-cuts sourced from local sawmills. In turn this timber is sourced from sustainable FSC and PEFC certified forests and the wood fibre boards are made almost entirely from natural raw materials and so will not emit any toxic chemicals into the interior environment as denoted by their Natureplus certification. The wood fibre boards are carbon neutral, which means that during their lifetime, they will not release any extra carbon dioxide into the atmosphere than the trees absorbed during their growing period.

Pavatherm

Thickness (mm)	Weight (kg / m²)	Board Size (cm)	No. Boards Per Pallet	M² per Pallet	KG per Pallet	Edge Profile
40	4.6	102 x 60	112	68.54	333	Square Edge
60	6.9	102 x 60	72	44.06	322	Square Edge
80	9.2	102 x 60	48	29.38	288	Square Edge
100	11.5	102 x 60	40	24.48	300	Square Edge
120	13.8	102 x 60	32	19.58	288	Square Edge
140	16.1	102 x 60	32	19.58	333	Shiplap
160	18.4	102 x 60	28	17.14	333	Shipap

Technical Details	Pavatherm
Density (kg / m³)	110
Declared Thermal Conductivity λ D (W/mK)	0.038
Vapour Diffusion Factor μ	3
Specific Heat Capacity - C (J/kgK)	2100
Tensile Strength Perpendicular to Plane of Board (kPa)	2.5
Compression Strength at 10% (kPa)	50
Fire Behaviour (EN 13501-1)	Class E
Building Material Class (DIN 4102-1)	B2
Waste Code According to European Waste Catalogue	030105 - 170604
Identification Code	WF-EN13171-T4-CS(10/Y)50-TR2.5-WS2,0-MU5-AF100

Application

Insulating Roofs

Pavatherm can be installed below the roof rafters in renovation projects to very effectively reduce the risk of thermal bridging. It can also be placed in between the rafters if cut carefully to ensure a tight fit. If insulating above the rafters with Isolair or Pavatherm-Plus sarking boards, Pavatherm can be placed on top of the rafters first and then the water resistant Isolair or Pavatherm-Plus boards can overlay the Pavatherm, to provide rain protection during construction. This will give greater thermal efficiency if required. The underside of the rafters should be sealed with an airtight membrane. Pavatherm wood fibre will protect the property from overheating during summer-time which is particularly critical in buildings where the attic space is used for living accommodation and in dormer bungalows, as well as in buildings with lots of south facing windows.

Insulating Walls

Pavatherm is suitable for interior timber stud or cavity masonry wall insulation and can be even used externally behind a ventilated façade so long as it is protected by the more water resistant Isolair or Pavatherm-Plus products. However it is not suitable for direct plastering so must be finished with plasterboard or other similar wall board. The wood fibre boards can also be inserted in between the stud cavity, but it is much easier to use the flexible wood fibre batts, Pavaflex, to ensure a tight fit. A cavity should not be left between the wall and the Pavatherm insulation because this will cause interstitial condensation. Masonry walls must be dry and flat before insulating so if the wall is uneven it must be re-plastered first with a breathable plaster. If insulating solid walls, we recommend using Pavadentro or Pavadry which are specifically made for this purpose as they control the passage of water through the structure, due to their integral mineral layer.

Breathable insulation is particularly important when insulating solid walls (SWI) on historic or heritage properties because these walls were built to be vapour-open structures. Covering these walls with a waterproof material will affect the building physics of the wall structure and may cause untold damage to the wall. The optimum solution for solid wall insulation is to use Diffutherm externally or Pavadentro or Pavadry internally along with lime plaster or render, as this is very vapour open, and mould does not grow on it due to it being alkaline. Pavatherm wood fibre boards have a high vapour permeability which means that they absorb and desorb moisture efficiently, as relative humidity changes. This avoids interstitial condensation, mould growth, dust mite populations and humidity in buildings, so a pleasant living environment will be created. As well as significantly improving the thermal efficiency and mass, it will also enhance the sound insulation.

Insulating Floors

Pavatherm can be used to insulate both solid and timber joist floors and it will also reduce both impact and airborne noise transmission through floors. Because of its reasonable compression strength (50 kPa), Pavatherm is recommended as a thermal insulator as well as an impact sound insulator under screed floors, so long as there will be no excessive loading on the floor. Pavaboard offers greater compression strength if there will be heavy loading on the floor. Pavatherm can also be inserted in between the timber floor joists if cut carefully to avoid air gaps. A very effective thermal and acoustic insulation result will be achieved if the Pavatherm panels are laid floating on top of a timber sub-deck which can then be covered with timber flooring.

Cutting and Storing the Wood Fibre Softboards

The panels can be cut with normal timber cutting tools e.g. a jigsaw with Pavatex blades, a circular saw or reciprocating saw. It is recommended to use suction equipment to minimize dust. If a hole or gap occurs in the wood fibre due to a construction error, ensure that it is filled in with wood fibre pieces. Keep the boards dry when in storage and protect from damage. Do not stack any more than 4 pallets on top of each other.

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