

PAVATHERM-PLUS

Roof Sarking Board and External Wall Insulation Board behind a Ventilated Façade



Construct. Insulate. Relax.



Pavatherm-Plus Characteristics

Produced According to EN 13171

Pavatherm-Plus boards are water resistant, but breathable or vapour-open, sarking insulation boards with high thermal mass. They are suitable for externally insulating roofs and walls which are finished with ventilated tiles or cladding, including brick cladding, and are BBA certified. Because Pavatherm-Plus boards have a high heat capacity and a long thermal lag time they keep buildings warmer in winter and cooler in summer in all climates, with relatively little energy use. When comparing Pavatex wood fibre insulation with conventional insulation products which have the same thermal conductivity value, the wood fibre will work much more effectively. 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 into the building as the temperature drops between 10 and 12 hours later. This will reduce the internal temperature by at least 4°C in the summer.

The high compression strength of Pavatherm-Plus boards makes them ideal for use in roof constructions above the rafters or in external wall insulation constructions behind a ventilated façade. They also enhance airborne and impact sound insulation through the building structure. Thermal bridges are greatly diminished due to the entire structure being insulated, including all the junctions. This greatly helps towards meeting the current, stricter Building Regulation requirements, especially when Y-values for thermal bridging are taken into account.

Pavatherm-Plus boards are water resistant so do not need to be protected with a vapour control membrane. They can be left exposed on roofs or walls for up to three months (except during heavy snow loads) without compromising the integrity of the thermal insulation product so long as all square edged edges are taped, such as at penetrations and perimeter edges. The boards are installed so that the side with the Pavatex branding faces the inside of the building, and the tongues are nearest the external side. Pavatherm-Plus can be plastered internally, if required, but only on the side with the Pavatex branding. Due to its very favourable Vapour Diffusion Factor, Pavatherm-Plus allows water vapour to be safely drawn away from inside to outside as well as protecting the structure from external moisture. The condensation will not get trapped in the middle of the structure which could cause mould growth, wet rot or dry rot.

Due to Pavatherm-Plus wood fibre boards having higher thermal mass properties than other insulation products, they complement lower thermal capacity insulation (e.g. Pavaflex flexible wood fibre, sheep wool, mineral wool) when this is located between the rafters or studs. This system will help to stabilise interior temperatures because the high thermal mass will enable the building to respond naturally to fluctuating temperatures. This is critical on external walls in lightweight buildings e.g. timber or metal frame constructions, but also on all roofs which do not have high thermal mass, especially when the attic space is to be used as living accommodation and in dormer bungalows. Pavatherm-Plus safely seals and protects the roof construction when fitted above the rafters, ensuring a dry building for the construction work to continue.

Pavatherm-Plus

Thickness (mm)	Weight (kg / m ²)	Overall Board Size (cm)	Coverage Area (cm)	Number of Boards	M ² per Pallet - Coverage	KG per Pallet	Edge Profile
60	12.0	180 x 58	178 x 56	36	35.88	476	Tongue & Groove
80	11.7	180 x 58	178 x 56	28	27.91	481	Tongue & Groove
100	14.0	180 x 58	178 x 56	22	21.93	466	Tongue & Groove
120*	16.3	180 x 58	178 x 56	18	17.94	453	Tongue & Groove
140*	18.6	180 x 58	178 x 56	16	15.95	467	Tongue & Groove
160*	21.0	180 x 58	178 x 56	14	13.96	465	Tongue & Groove

* Available in full pallets only and allow 2-3 weeks for delivery

Technical Details	Pavatherm-Plus
Density (kg / m ³)	190
Declared Thermal Conductivity λ D (W/mK)	0.043
Vapour Diffusion Factor μ	5
Specific Heat Capacity - C (J/kgK)	2100
Tensile Strength Perpendicular to Plane of Board (kPa)	4
Compressive Stress at 10% Compressive Deformation (kPa)	100
Fire Behaviour (EN 13501-1)	Class E

IsorooF Sarking Boards – Water resistant: 20 and 35mm thick
Pavatherm-Combi Sarking Boards – Not very water resistant: 40, 60 and 80mm thick
Isolair Sarking Boards – Water resistant: 100, 120, 140, 160, 180 and 200mm thick
Pavatherm-Plus Sarking Boards – Water resistant: 60, 80, 100, 120, 140 and 160mm thick

Roof Insulation Panels

Pavatherm-Plus safely seals and protects the roof construction when it is laid down above the rafters, ensuring a dry building for the construction work to continue. Pavatherm-Plus can be used on both new build and renovation projects. There is no requirement to use a vapour control membrane but an airtightness membrane or airtight OSB board should be placed internally under the roof. For water tightness, seal all cut or exposed Pavatherm-Plus board edges, penetrations, ridges and corners with Pavatex Primer and Pavatape.

On roof pitches $\geq 18^\circ$, there is no need to tape over tongue and groove joints, as these will be weathertight.

On roof pitches $\geq 10^\circ$ and $< 18^\circ$, a bead of Pavatex System Glue must be applied onto the upper face of each tongue before it is inserted into the next board.

On roof pitches $\geq 5^\circ$ and $< 10^\circ$, the complete roof surface must be covered with a sealed breather membrane.

Do NOT use Pavatherm-Plus on roofs with pitches of less than 5° .

External Wall Insulation

Pavatherm-Plus is used in timber frame constructions as an external wall sarking board behind a ventilated façade. The boards cannot be rendered to directly. The panels provide water resistance for the timber construction with excellent vapour permeability. However Pavatherm-Plus cannot be fixed below the Damp Proof Course level so waterproof insulation such as XPS should be used in this area. An airtightness membrane or racking board incorporating an airtightness detail should be inserted on the internal side of the timber frame.

If Pavatherm-Plus insulation is being used behind ventilated cladding on a masonry wall, the wall must be dry and reasonably flat so if it consists of large protruding stone, it should be rendered first with Baunit MP69 PLUS to smooth out the hollows. If the wall is already rendered with a high cement containing render, this must be removed because it is not very vapour-open so will trap water in the wall.

Installation

Pavatherm-Plus panels should be fixed directly to the rafters or studs with the tongue facing upwards towards the apex. The Pavatex branded side should face the internal side of the building. The cut-off piece at the end of one row should be used as the first piece on the next row so that the joints are in a brickwork formation. This will increase the structural strength. The Pavatherm-Plus boards are fixed to the structure using insulation screw fixings, as advised. All openings, corners and penetrations should be primed and taped with Pavatex Primer and aluminium butyl Pavatape to ensure the integrity of the wood fibre insulation. On roofs, securely fix through the battens and the Pavatherm-Plus panels into the timber rafters. Then fit counter-battens and the roof covering above this. When working on the roof, only walk above the rafters rather than between the rafters. Vertical battens are secured to walls to create a ventilated façade.

Fixing into Timber Frame and Masonry Constructions

Please seek our advice regarding suitable fixings for the required application. Fixings are inserted through the batten, the Pavatherm-Plus board and into the timber structure so that it is anchored into the timber by at least 40 mm. Generally 6 fixings are required per m². On masonry walls, fixings are typically embedded by at least 50 mm, and again there are generally 6 fixings per m².

Cutting and Storing the Wood Fibre Softboards

The panels can be cut with normal timber cutting tools e.g. a jigsaw with Pavatex blades or a circular saw. If a hole or gap occurs in the wood fibre due to a construction error, ensure that it is filled in with wood fibre offcuts and prime and tape this area to prevent water ingress. 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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