

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 breathable or vapour-open sarking insulation boards with high thermal mass for roofs and walls which have a high heat capacity and a long thermal lag time. This means 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 and below the roof covering 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.

Pavatherm-Plus is a combination of two wood fibre products to achieve the benefits of both – Pavatherm boards which have extremely good insulation properties are bonded to the water resistant Pavatex Isolair boards. The safe and easy to install Pavatherm-Plus boards save valuable and expensive labour time, as the sandwiched panels are only laid once. 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 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.

The Isolair side of the Pavatherm-Plus product can be left exposed on roofs for up to two months without compromising the integrity of the thermal insulation product (except during heavy snow loads).

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	15.6	180 x 58	178 x 56	26	25.92	448	Tongue & Groove
100	19.2	180 x 58	178 x 56	22	21.93	446	Tongue & Groove
120	22.8	180 x 58	178 x 56	18	17.94	453	Tongue & Groove
140	26.5	180 x 58	178 x 56	16	15.95	467	Tongue & Groove
160	30.1	180 x 58	178 x 56	14	13.96	465	Tongue & Groove

These boards are loaded in 2 stacks on a separable pallet

Technical Details	Pavatherm-Plus
Density (kg / m ³)	180
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
Compression Strength at 10% (kPa)	100
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-T5-CS(10/Y)90-TR2.5-WS1,0-MU5-AF100

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, but the boards cannot be rendered to directly. The panels provide water resistance for the timber construction behind the ventilated cladding façade, 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 is being used as a sarking board behind ventilated cladding on a masonry wall, the wall must be dry and flat. If it is uneven by 8mm or more, the masonry wall must first be levelled out with a Pavatex lime parge coat, so as to avoid interstitial condensation in the little air gaps. If the existing render has broken away in parts or is in poor condition it needs to be removed and rendered with new vapour-open render. The same applies if the existing render has a high cement content which is not vapour-open.

Installation

Pavatherm-Plus panels should be fixed directly to the rafters or studs with the tongue facing upwards towards the apex. 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, battens and counter-battens are then fixed securely over the Pavatherm-Plus panels and the roof covering is fixed to these. 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 counter batten and 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 50mm, 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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