

# PAVAFLEX

## Flexible Wood Fibre Insulation Batts for between Studs, Rafters and Joists



Construct. Insulate. Relax.



### Pavaflex Characteristics

Produced According to EN 13171

**Pavaflex** flexible wood fibre insulation is a natural product, which comes from renewable and sustainable FSC and PEFC certified timber off-cuts. These off-cuts are sourced from local sawmills and only new timber is used. Because the CE marked wood fibre insulation significantly reduces heat loss from buildings, carbon emissions into the atmosphere are greatly reduced from the cradle to the grave. Due to Pavaflex's density of 40 or 55 kg/m<sup>3</sup> it is very slump resistant and easy to install between studs, rafters and floor joists. It also absorbs airborne noise within cavities.

Pavaflex is both hygroscopic and vapour permeable due to its fibrous content. This means that it can absorb water vapour from the internal atmosphere and this will then travel through the building fabric so that it can be released to the outside by evaporation. This provides a drier, healthier and more comfortable internal micro-climate and significantly reduces any possibility of mould growth and condensation on the internal surfaces. Breathable insulation is particularly critical to keep timbers dry so as to prevent decay and rot. A dry structure is both warmer and healthier.

Pavaflex insulation provides excellent thermal resistance – it has a thermal conductivity figure of 0.038 W/mK which is very similar to most common man-made insulation materials. Because it is denser than most other flexible insulation materials it very snugly fits within vertical cavities without sagging or falling out. Sagging would cause significant heat to escape which would waste energy. If even lower U-value figures are required or a reduction in thermal bridging, it can be combined with various Pavatex wood fibre rigid insulation softboards.

Pavaflex flexible wood fibre batts have a high Specific Heat Capacity and a long thermal lag time which means that it stores heat during the warmest times of the day and then releases it as the building cools. This high thermal mass quality means wood fibre keeps buildings warm in winter and cool in summer, creating an ambient, comfortable temperature all year round. This is particularly critical in lightweight buildings such as timber frame structures. Airborne noise will also be reduced in these buildings.

### Pavaflex

Thickness (mm)	Weight (kg / m <sup>2</sup> )	Batt Size (cm)	No. Batts per Pack	M <sup>2</sup> per Pack	No. Batts Per Pallet	M <sup>2</sup> per Pallet	KG per Pallet	Edge Profile
50	2.74	57.5 x 135	9	6.99	90	69.86	157	Square Edge
80	4.39	57.5 x 135	4	3.10	56	43.47	156	Square Edge
100	5.49	57.5 x 135	3	2.33	42	32.60	147	Square Edge
140	7.68	57.5 x 135	2	1.55	32	24.84	156	Square Edge
50	2.74	37.5 x 135	6	3.04	126	63.78	200	Square Edge
80	4.39	37.5 x 135	4	2.03	84	42.53	208	Square Edge
100	5.49	37.5 x 135	3	1.52	63	31.89	200	Square Edge
140	7.68	37.5 x 135	2	1.01	48	24.30	208	Square Edge

Technical Details	Pavaflex	
Density (kg / m <sup>3</sup> )	575mm Wide – 40kg / m <sup>3</sup>	375mm Wide – 55kg / m <sup>3</sup>
Declared Thermal Conductivity $\lambda$ D (W/mK)	0.038	
Vapour Diffusion Factor $\mu$	2	
Specific Heat Capacity - C (J/kgK)	2100	
Tensile Strength Perpendicular to Plane of Board (kPa)	-	
Compressive Stress at 10% Compressive Deformation (kPa)	-	
Fire Behaviour (EN 13501-1)	Class E	

## Application

### Roofs

Pavaflex is easily and safely installed between the rafters in the roof construction because it is a flexible insulation which is very slump resistant due to its relatively high density for a flexible material. This will ensure a good fit without gaps, and therefore the avoidance of thermal leakage. It comes in a selection of thicknesses to further enhance the simplicity of the fitting process. It fits snugly between rafters at 400mm or 600mm centres. Pavaflex insulation has a low thermal conductivity of 0.038 W/mK and a high Specific Heat Capacity of 2100 J/kgK so when it is installed into roof constructions along with Pavatex wood fibre sarking boards, it will keep loft areas warmer in winter and cooler in summer, meaning much more comfortable living conditions. In a new build or major renovation, it is preferable if Pavatex sarking boards such as Isorooft, Pavatherm-Combi, Isolair or Pavatherm-Plus are laid on top of the rafters as then the rafter space can be fully filled with Pavaflex wood fibre insulation. This reduces thermal bridging through the rafters and provides a watertight roof covering before the tiles are fitted. External noise such as rain or traffic noise will also be reduced within the roof area. If insulating an existing roof without removing the tiles, a 45mm minimum ventilation space must be maintained between the insulation and the roof felt and tiles. Also the upper surface of the Pavaflex must be protected with either the Pavatex ADB Vapour Control Membrane or a water resistant sarking board such as Isorooft. This will prevent too much rain or vapour getting into the Pavaflex.

### Walls

External walls are another major area of heat loss within buildings. Pavaflex is suitable for insulating between the studs of timber and metal framed walls at 400mm or 600mm centres, giving very good thermal insulation results. This will provide a breathable and vapour permeable wall solution so that air moisture within the property will be regulated which will create a drier and more comfortable internal environment. For optimal results, the external frame of the house should be insulated with Pavatex wood fibre sarking boards such as Isorooft, Pavatherm-Combi, Isolair or Pavatherm-Plus. This will provide a water resistant covering and will also greatly reduce thermal bridging through the frame. These improved Y-values for the thermal bridging will help towards meeting Building Regulation requirements. If a sarking board cannot be used then the Pavatex ADB Vapour Control Membrane must protect both the frame and Pavaflex. Pavaflex is not suitable for using on the inside of solid masonry walls as it is not dense enough to hold all the water vapour that will be present both in the internal air and in the wall.

Some common man-made insulation materials are very vapour open such as mineral wool, but they have poor hygroscopic and capillarity characteristics which mean that if they do get damp from condensation, they will not be good at releasing this water and so will take a long time to dry out. This wet mineral wool etc tends to sag downwards with the weight of the water, so that it leaves gaps around the edges of the insulation allowing heat to escape, and therefore resulting in condensation on the walls.

### Floors

Pavaflex is laid snugly between the joists in suspended timber floor structures to reduce cold coming up through the floor. For optimal results it is best used with rigid wood fibre boards on top of the floorboards to reduce thermal bridging through the joists. It is critical though that there is adequate ventilation in the cavity under the floor. Pavaflex cannot sit directly on concrete floors. If used in the cavity of intermediate floors, Pavaflex will absorb some airborne noise (e.g. talking noise) and will reduce reverberation within the cavity.

### Cutting and Storing Pavaflex

Pavaflex is easily cut with a Pavatex insulation knife. It can also be cut with a reciprocating saw with a serrated blade. A bandsaw can be used too and this method is almost dust-free but the small saw table and narrow width of cut may be limiting factors. A hand-held circular saw is also suitable for cutting Pavaflex, but it is recommended to wear a dust mask for protection when cutting the insulation batts. Pavaflex will not irritate normal skin unlike many popular man-made flexible insulation products and so protective clothing is not required when fitting the insulation. Keep the slabs dry when in storage and protect from damage. Do not stack the pallets.



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