



# Jabfloor High Performance (HP) 70

## Floor insulation – Suspended timber floor

Jabfloor HP is a closed cell expanded polystyrene (EPS) insulation board for use in all floor constructions.

When used between timber joists Jabfloor is not required to take any load, therefore the lowest grade available – Jabfloor HP 70 - is suitable for all applications.

Jabfloor HP is easily cut with a sharp knife or fine toothed saw to fit between the joists. Any gaps may be filled with a proprietary expanding foam gap filler.

Jabfloor HP is grey in colour due to the carbon additive which acts within the boards to disperse and reflect heat radiation. This gives the boards an improvement in thermal performance compared to white EPS.

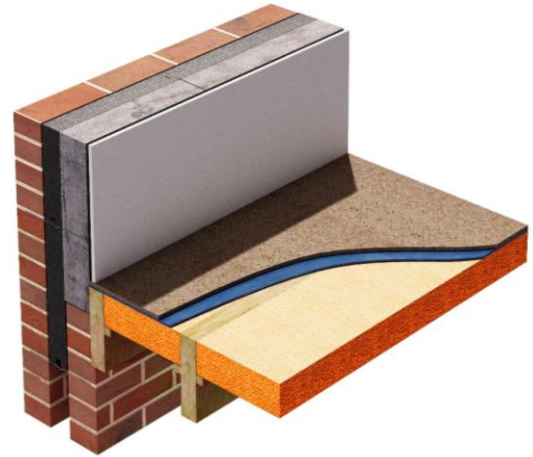
The use of Jabfloor HP within a suspended timber ground floor does not have an adverse effect on the fire performance of the floor.

Jabfloor HP may be used between the timber joists of an upper floor provided adequate fire protection is provided. This is usually in the form of 12.5mm plasterboard fixed below the joists to give 30 minute fire protection in a normal domestic application.

Jabfloor HP does not degrade when placed in high moisture areas and is resistant to the effects of freeze thaw. Jabfloor HP will remain an effective insulation for the life of the building

Jabfloor HP can be used in temperatures up to 80°C. It is therefore suitable for use with underfloor heating systems.

Jabfloor HP is lightweight and easy to install. There are no requirements for special PPE when installing or cutting Jabfloor HP. (full installation details are shown later)



### Dimensions

<b>Standard Size</b>	2400 x1200mm
<b>Standard Thickness</b>	25, 30, 40, 50, 60, 75, 100, 120, 150 and 200mm (Other thicknesses available to order)

### Properties :

Grade	Thermal Conductivity (Lambda) (W/mK)	Design load at 1% nominal compression (kPa)	Design load at 10% nominal compression (kPa)
Jabfloor HP 70	0.032	20	70

More detailed physical properties are shown on our EPS Datasheet.





**Application :** Jabfloor HP is not load bearing when placed between timber joists therefore our lowest Grade 70 is suitable for all applications

Grade	Application
Jabfloor HP 70	All building types

**Accreditation :**

<b>CE marking</b>	Jablite have taken the responsibility of CE marking the product in accordance with harmonised European Standard BS EN 13163 : 2012.  Declaration of Performance is available on Request.
<b>Quality</b>	All Jablite products are manufactured in production facilities which are certified to ISO 9001 Quality Management
<b>Environmental Responsibility</b>	All Jablite manufacturing facilities are ISO 14001 certified. We operate an Environmental Management System which includes our supply chain (see BREEAM section for more information)
<b>Compliance</b>	Jabfloor HP conforms to the required properties as defined in BS EN 13163:2012 – Thermal insulation products for buildings – Factory made expanded polystyrene (EPS) products – Specification. This includes compliance with BS 3837 Part 1.
<b>Fire</b>	Suspended timber ground floors are not required to provide fire resistance. When properly installed Jabfloor HP is fully protected by the timber floor boarding over the joists and will have no adverse effect on the fire performance of the building into which it is installed.  Jabfloor is supplied as non-flame retardant material as standard.  Euroclass E, flame-retardant material is available to order.





## Environment and Sustainability :

<b>A+</b>	Jabfloor HP insulation is manufactured from EPS (expanded polystyrene) which achieves an A+ rating in the BRE Green Guide to Specification.
<b>Climate Change</b>	Jabfloor HP insulation has an ozone depletion potential (ODP) of zero and a global warming potential (GWP) of less than 5.  EPS does not create any known risk to the environment
<b>100%</b>	Jabfloor HP insulation is 100% recyclable.
<b>BREEAM</b>	<p><b>Responsible Sourcing.</b></p> <p>Jablite insulation products are manufactured in factories which are ISO 14001 and ISO 9001 certified Jablite purchases raw material from suppliers who are ISO 14001 certified. The ISO certificate are in the Technical Resource Centre on the Jablite website <a href="http://www.Jablite.co.uk">www.Jablite.co.uk</a></p> <p><b>Key Process (Insulation Manufacture)</b> ISO 14001: Certificate Number EMS 559414</p> <p><b>Supply Chain Processes (supply of materials for end products)</b> ISO 14001: Certificate Number NL 015213-1</p> <p><b>Embodied Impact</b> Jablite EPS is manufactured using low energy processes.</p> <p>The calculation of embodied impact relative to thermal performance is a function of the material volume (for each build), its BRE Green Guide Rating and its thermal conductivity.</p> <p>The thermal conductivity of our products is available on both the product packaging and this datasheet</p>
<b>Biological Properties</b>	Jabfloor HP EPS insulation is non-toxic and non-biodegradable.  Jabfloor HP will not sustain mould growth and has no nutrient value to insects or vermin.





## INSTALLATION

### Jabfloor

Jabfloor HP should be cut to fit snugly between the joists and should be pushed into position, with the ends of adjacent boards tightly butted.

Jabfloor HP is easily cut with a sharp knife or fine toothed saw to fit.

Any gaps between the Jabfloor HP and the timber joists must be filled to prevent draughts or areas of cold bridging which may lead to condensation on the floor surface. A proprietary expanding foam type gap filler may be used to seal these areas.

The cavity wall insulation must overlap the floor insulation by at least 150mm to reduce the risks associated with thermal bridging.

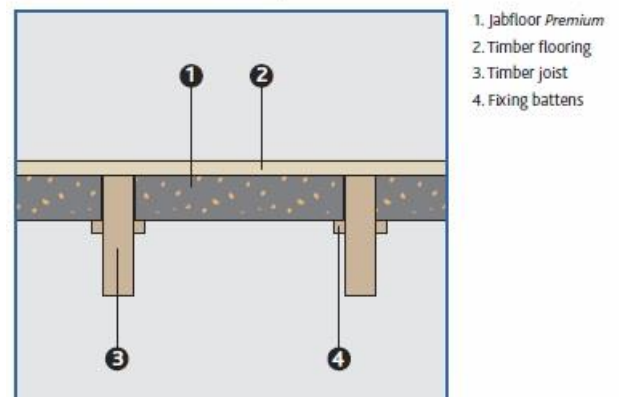
### Support

To ensure Jabfloor HP remains in place the insulation boards should be adequately supported.

Good building practice recommends supporting the insulation on timber battens nailed to the sides of the joists (see diagram). This also helps to seal any edge gaps.

A space (at least 10mm) should be left above the insulation, this will prevent Jabfloor HP and the timber floor finish rubbing against each other.

Insulation beneath suspended timber floor



### Protection from moisture

A suitable DPM such as 250 $\mu$  (1000 gauge) polythene must be installed over the compacted ground below the timber floor. This is to reduce ground moisture and resist plant growth below the floor.

The void below the suspended timber floor must be adequately ventilated in accordance with the guidance provided by Building Regulations Approved Document C Clause 4.

### Chipboard finish

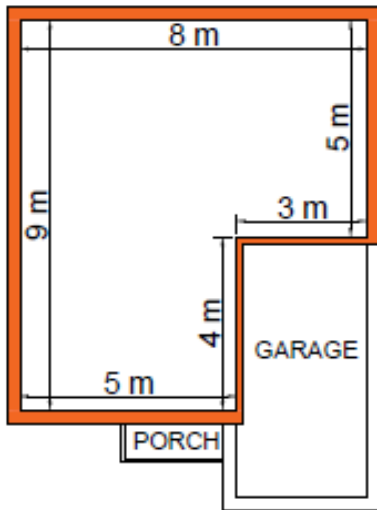
Any suitable timber floor finish may be used over the timber joists.

For guidelines and specification of timber floors supported on joists refer to the appropriate standards: BS EN 312 for chipboards, BS EN 636 for plywood and BS EN 300 for OSB (Oriented Strand Board).



## U VALUES

The calculation of heat loss or U value through a floor is based on the ratio of the external perimeter to the area of the floor (P/A Ratio). Example of how to calculate the P/A ratio is shown below.



The perimeter and area are measured to the internal wall finishes as shown on the diagram.

### Example Detached House

$$\text{Perimeter (P)} = 8 + 5 + 3 + 4 + 5 + 9 = 34$$

$$\text{Area (A)} = (5 \times 4) + (8 \times 5) = 60$$

$$\text{P/A Ratio} = 34 \div 60 = 0.57$$

**Note:** The exposed perimeter includes any edges where heat loss may occur. i.e. external walls and those into an unheated space such as a porch or garage.

The tables below show the required thicknesses of Jabfloor HP 70 to meet U-values of 0.25, 0.22, 0.20, 0.18, 0.15 and 0.10 W/m<sup>2</sup>K.

The calculations have been based on a timber floor comprising joists 47mm wide x 200mm deep placed at 400mm centres with a 22mm chipboard finish. Insulation is placed between the joists with a 10mm air gap above the insulation.

**Table 9.1**

	Thickness (mm) Jabfloor HP 70					
P/A Ratio*	U-values (W/m <sup>2</sup> K)					
	0.25	0.22	0.20	0.18	0.15	0.10
1.00	115	140	160	180	230	355
0.90	110	140	155	180	230	350
0.80	110	130	150	170	220	350
0.70	105	125	145	170	220	345
0.60	105	125	145	165	210	340
0.50	95	120	140	160	200	335
0.40	90	110	130	150	200	325
0.30	75	100	120	140	180	310
0.25	65	90	110	130	170	300
0.20	50	75	95	120	160	290
0.15	30	50	70	95	140	280

NB: Thickness indicated may be obtained using multiple layers of standard thickness product

