



# Jabfloor High Performance (HP) 70 and 100

## Floor insulation – over slab with chipboard finish

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

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.

A range of compressive strengths are available to suit all building types from domestic to commercial.

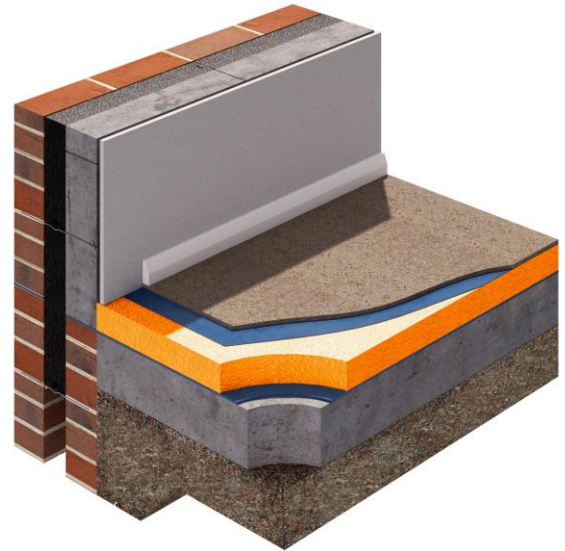
Jabfloor HP insulation has been tested and approved by the British Board of Agrément (BBA) as Jablite Floor Insulation High Performance covering Grades 70 and 100. Certificate number 87/1796 Product Sheet 4.

For domestic applications 18mm thick Type P5 chipboard to BS EN 312 may be used. Further details and information for non-domestic floors are given in our installation information.

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

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 is lightweight and easy to install. There are no requirements for special PPE when installing or cutting Jabfloor. (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
Jabfloor HP 100	0.032	45	100

More detailed physical properties are shown on our EPS Datasheet.





**Application :** This information is provided as guidance only, please refer to the Jabfloor HP compressive strengths table.

Grade	Application
Jabfloor HP 70	Domestic
Jabfloor HP 100	Offices, Special Occupancy Residential (e.g. Care Home)

### Accreditation :

<b>BBA</b>	Jabfloor HP Insulation has been assessed and approved by the British Board of Agrément as Jablite Floor Insulation High Performance for use over slab with a chipboard finish. Certificate number 87/1796 Product Sheet 4. This Certificate covers Grades 70 and 100.
<b>NHBC Approved</b>	NHBC accepts the use of Jablite HP Floor Insulation, provided it is installed, used and maintained in accordance with the BBA Certificate, in relation to NHBC Standards, Chapters 5.1 Substructure and ground bearing floors and 5.2 Suspended ground floors
<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>	<p>Solid ground floors are not required to provide fire resistance. When properly installed Jabfloor is fully protected by the concrete slab and will have no adverse effect on the fire performance of the building into which it is installed.</p> <p>Jabfloor HP is supplied as non-flame retardant material as standard.</p>





## Environment and Sustainability :

<b>A+</b>	Jabfloor insulation is manufactured from EPS (expanded polystyrene) which achieves an A+ rating in the BRE Green Guide to Specification.
<b>Climate Change</b>	Jabfloor 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 insulation is 100% recyclable.
<b>BREEM</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 EPS insulation is non-toxic and non-biodegradable.  Jabfloor will not sustain mould growth and has no nutrient value to insects or vermin.





## INSTALLATION

### Concrete slab

The concrete floor should have a level even surface. A tamped finish is suitable for laying Jabfloor HP.

### Damp-proof membrane

A suitable DPM such as 250 $\mu$  (1000 gauge) polythene must be installed in the floor either above or below the concrete slab, (See diagrams)

If a liquid DPM is used, care should be taken that it is compatible with Jabfloor HP, and that it is completely dry before the insulation is laid.

### Jabfloor

Jabfloor should be loose-laid over the prepared surface with board joints tightly butted. Jabfloor HP is easily cut with a sharp knife or fine toothed saw to fit on site.

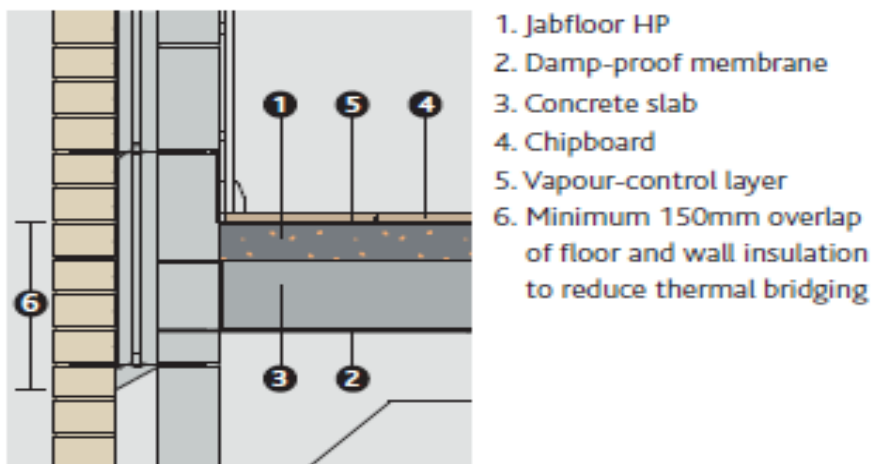
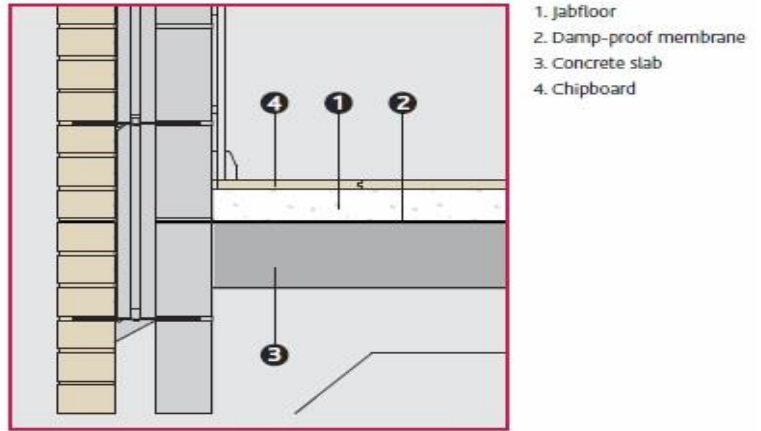
### Thermal Bridges

Jabfloor edge strip is placed vertically around the external perimeter of the insulation.

The edge strip should finish at the top of the screed thickness, isolating the screed from the external masonry wall.

The cavity wall insulation must overlap the floor insulation by at least 150mm (as indicated below)

Damp-proof membrane above concrete slab



Note: Jablite EPS products are compatible with all common building materials. Direct contact with hydrocarbons and strong solvents should be avoided. A suitable membrane such as polythene sheet may be used to separate Jablite EPS from these substances.





## INSTALLATION

### Chipboard finish

For normal domestic floors the chipboard should be Type P5 minimum 18mm thick, with tongued and grooved edges, as described in BS EN 312.

It is important that the recommendations given in BS EN 312 are followed regarding protection of the chipboard from water spillage in bathrooms, kitchens and utility areas.

Laying should proceed from one corner of the room ensuring that a 10-12mm gap is provided at the perimeter to allow for expansion of the chipboard.

Temporary wedges should be placed in expansion gaps during laying to allow the chipboard joints to be tightened; the wedges must be removed after the adhesive has dried.

The boards should be laid with staggered joints, and all edges should be glued as laying proceeds using a PVA-based woodworking adhesive.

In corridors, or wherever there are long uninterrupted runs of flooring, the inclusion of a 20mm expansion gap at 10m centres is required in addition to the 10-12mm perimeter gap. A suitable solid timber batten should be installed beneath the expansion joint to provide support.

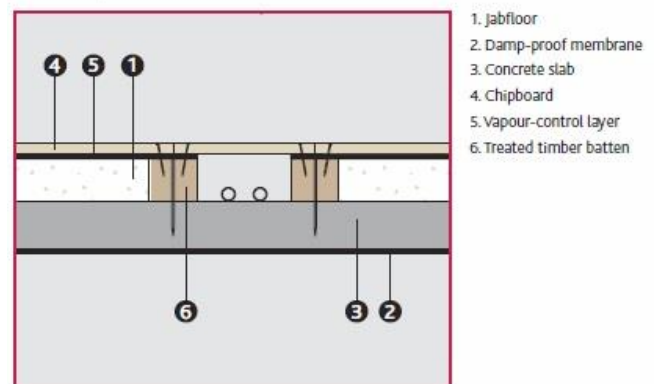
### Services

It is permissible to accommodate the services within the thickness of the insulation providing the pipes etc are securely fixed to the slab.

Jabfloor HP should not be allowed to come into direct contact with PVC-sheathed cable, nor closer than 12mm to hot-water pipes.

Pipes should be haunched with a sand/cement mix or lagged using a proprietary material intended for this purpose.

Access panels



Jabfloor HP may be used in direct contact with underfloor heating pipes. These pipes do not exceed the maximum working temperature of Jabfloor HP.

Where access is required to the services, a removable board should be provided by cutting out an area of chipboard flooring and supporting it on battens (see diagram above).

The battens should be of preservative-treated timber, securely attached to the concrete slab using masonry nails or screws and plugs, and the chipboard screwed to the batten.



## INSTALLATION

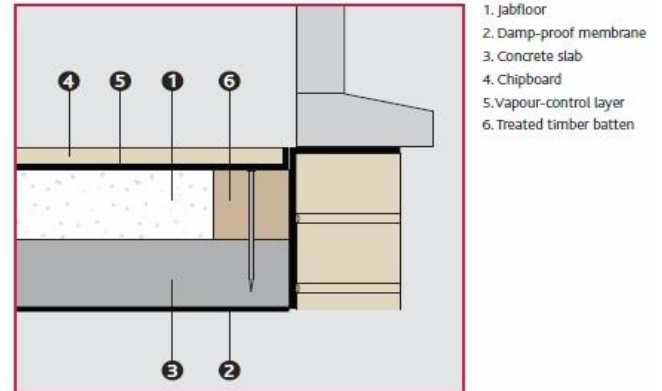
### Doorways

The chipboard should be supported at external doorways by the use of a solid batten spanning at least the width of the door.

The batten should be of preservative-treated timber, securely attached to the concrete slab using masonry nails or screws and plugs.

At internal doorways, if the tongued-and-grooved joint of the chipboard is lost, a batten should be used to provide support as described above for external doorways.

Doorways



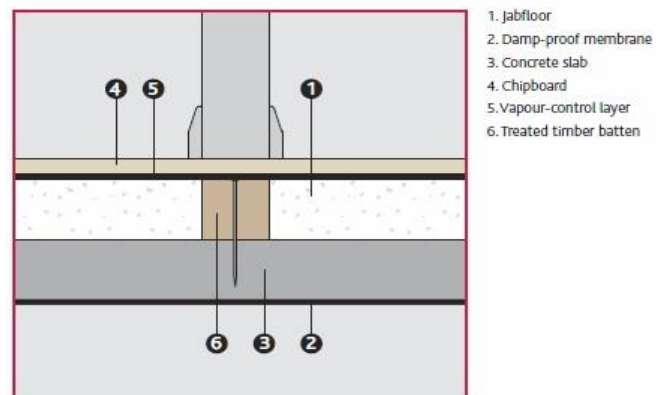
### Partitions etc...

Where masonry partitions or other heavy structures are to be built directly onto the chipboard floor.

The insulation should be interrupted and a solid batten provided along the line of the partition, beneath the chipboard, to provide support.

The batten should be of preservative-treated timber, securely attached to the concrete slab using masonry nails or screws and plugs.

Partitions



### Other timber floor finishes

Timber boards such as plywood or OSB may be used over Jabfloor. Any timber floor board used must have tongued and grooved edges glued together.

The specification for thickness and type of timber finish will vary dependent on the type building and its use.

Please refer to BS EN 312 for specification of chipboards, BS EN 636 for plywood and BS EN 300 for OSB (Oriented Strand Board).

Wood strip flooring and timber laminate floors, even where they have tongued and grooved edges or 'click' together detail must be placed over a solid board such as chipboard, plywood or OSB.

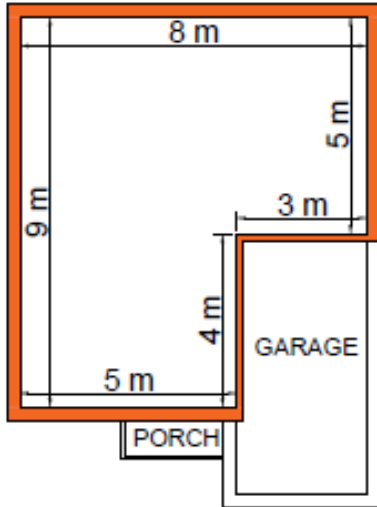
You should seek the advice of the flooring manufacturer regarding any specific requirements, otherwise it may be treated as a normal decorative finish when placed over a standard timber board floor as detailed above.





## 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 table below shows the required thicknesses of Jabfloor HP 70, 100 and 150 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 standard dense concrete floor slab 100mm thick with Jabfloor HP 70 installed over with an 18mm chipboard finish. The calculation has been carried out in accordance with BS EN ISO 13370.

**Table 5.1:**

Thickness (mm) Jabfloor HP						
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	90	105	120	135	170	270
0.90	85	105	120	135	170	270
0.80	85	100	115	130	165	265
0.70	80	100	110	130	160	260
0.60	75	95	105	120	160	255
0.50	70	85	100	120	150	250
0.40	65	80	90	110	140	240
0.30	50	65	80	95	125	225
0.25	40	55	70	85	115	210
0.20	25	40	50	70	100	195
0.15	25	25	30	50	75	170

NB: Thickness indicated may be obtained using one or two layers of standard thickness product

