



# Jabfloor High Performance (HP) 70 and 100

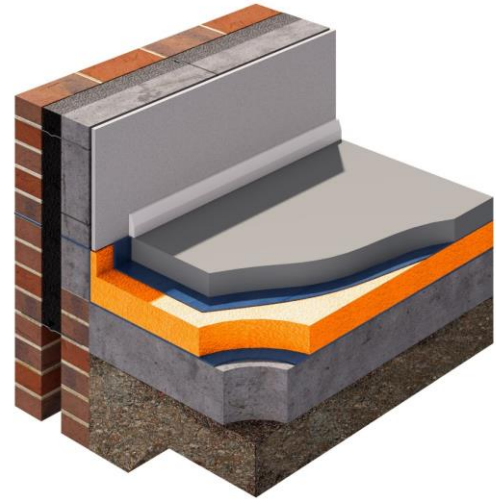
## Floor insulation – over slab with screed finish

Jabfloor HP is a closed cell expanded polystyrene (EPS) insulation board suitable 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 main building types from domestic to commercial.

Approved by BBA as Jablite Floor Insulation High Performance (HP) 70 and 100 - Certificate number 87/1796 Product Sheet 4.



For guidance and recommendation for specification of type and thickness of floor screed laid over insulation materials refer to BS 8204. (see installation details for more 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 HP. (full installation details are shown later)

### Dimensions

<b>Standard Size</b>	2400 x 1200mm
<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 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) HP for use over slab with a screed finish in ground bearing floors. Certificate number 87/1796 – Product Sheet 4. This Certificate covers Grades 70 and 100.
<b>NHBC Approved</b>	NHBC accepts the use of Jablite Floor Insulation HP, 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>	Solid ground floors are not required to provide fire resistance. When properly installed Jabfloor HP is fully protected by the screed floor finish 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.





## 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>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 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

### Concrete slab

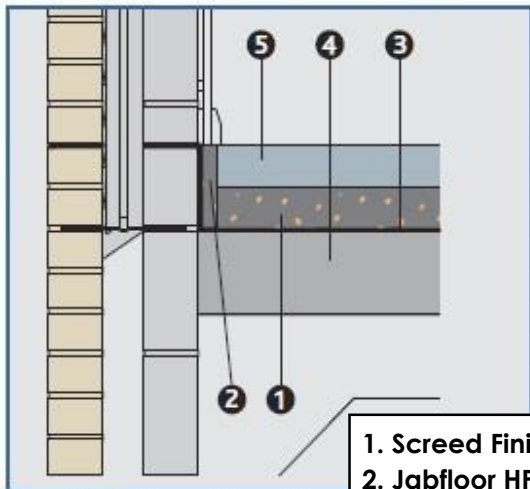
The concrete floor should have a level even surface. A tamped finish is suitable for laying Jabfloor.

### Damp-proof membrane

A suitable DPM such as 250 $\mu$  (1000 gauge) polythene sheet must be included in the floor construction. This may be installed above or below the concrete slab. (see diagrams below)

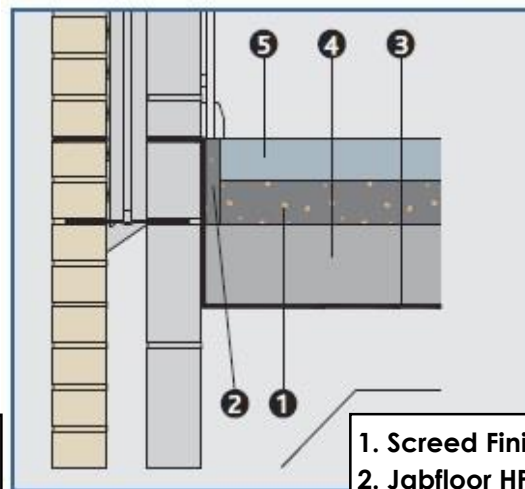
If a liquid DPM is used, please ensure it is compatible with Jabfloor HP. Liquid DPM's must be allowed to dry before laying Jabfloor HP.

Damp-proof membrane below insulation



1. Screed Finish
2. Jabfloor HP
3. Damp-proof membrane
4. Concrete Slab
5. Jabfloor HP Edge Strip

Damp-proof membrane below concrete slab



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### Jabfloor

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

Before laying wet screed the joints of the Jabfloor HP insulation should be taped with 75mm wide masking tape or similar, alternatively a building paper or polythene sheet may be laid over the surface of the insulation.





## INSTALLATION

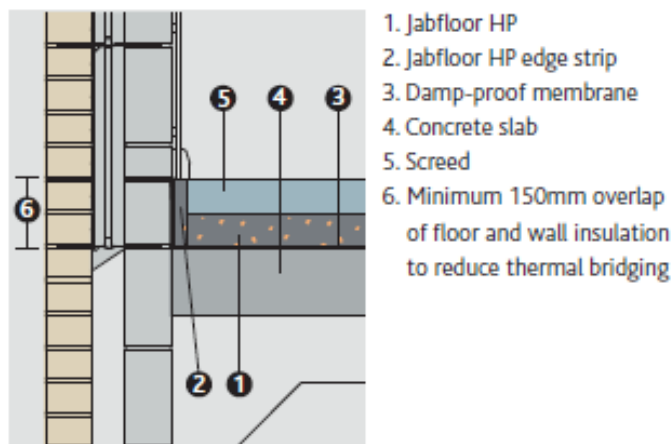
### Thermal Bridges

Jabfloor HP 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 below insulation



### Screed

Sand/cement screeds should be at least 65mm-thick for domestic applications and 75mm-thick for non domestic applications. BS8204 details full specifications and application of screeds.

During screeding operations, the surface of the insulation should be protected from impact damage or excessive trafficking by the use of spreader boards.

### Services

Electrical conduits, gas and water pipes may be accommodated within the Jabfloor HP insulation layer. Pipes etc. should be securely fixed to the concrete slab.

Jabfloor HP should not be allowed to come into direct contact with PVC-sheathed cable, nor closer than 12mm to hot-water pipes (except pipes for underfloor heating systems).

Jabfloor HP can be used in direct contact with underfloor heating pipes as these normally operate below the maximum recommended working temperature for Jabfloor HP which is 80°C.

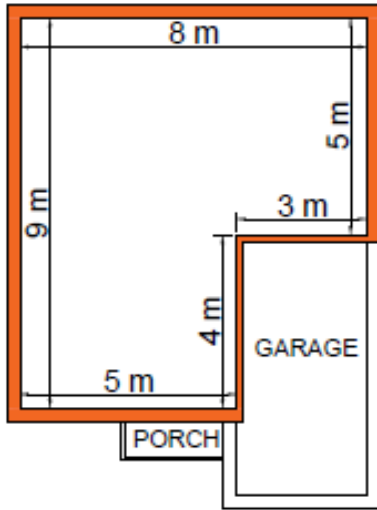
Note: Jablite EPS products are compatible with all common building materials. Direct contact with hydrocarbons and strong solvents should be avoided. A suitable membrane such as polythene sheet may be used to separate Jablite EPS from these substances.





## 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 and Jabfloor 70 HP laid over with 65mm sand and cement screed finish. The calculations have been carried out in accordance with BS EN ISO 13370.

**Table 3.1**

Thickness (mm) Jabfloor HP 70 and 100						
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	110	120	140	175	270
0.90	90	105	120	135	170	270
0.80	85	105	120	135	170	265
0.70	80	100	115	130	165	260
0.60	80	95	110	125	160	260
0.50	70	90	105	120	155	250
0.40	65	80	95	110	145	240
0.30	50	70	80	100	130	225
0.25	40	55	70	85	120	215
0.20	25	40	55	70	105	195
0.15	25	25	30	50	80	170

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

