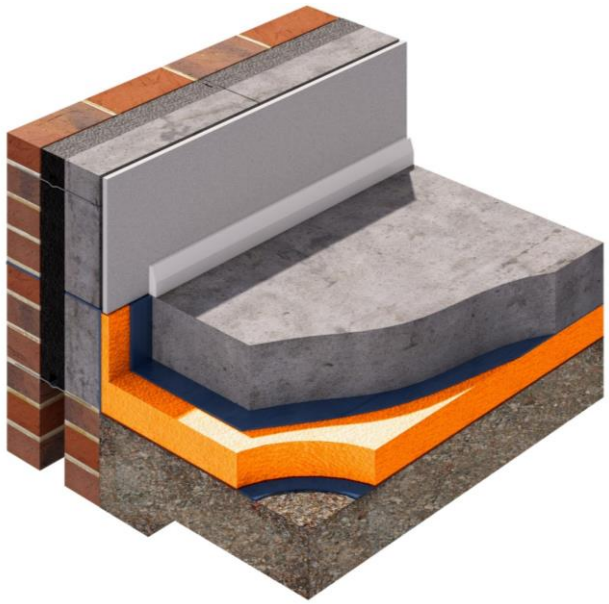
Jabfloor High Performance (HP) 70 and 100

Floor insulation – below ground supported slab

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.

Available in a range of compressive strengths to suit 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.

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

Standard Size	2400 x1200mm
Standard Thickness	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 :

BBA	Jabfloor HP Insulation has been assessed and approved by the British Board of Agrément as Jablite Floor Insulation High Performance for use below slab in solid ground floors. Certificate number 87/1796 Product Sheet 4. This Certificate covers Grades 70 and 100.
NHBC Approved	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
CE marking	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.
Quality	All Jablite products are manufactured in production facilities which are certified to ISO 9001 Quality Management
Environmental Responsibility	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)
Compliance	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
Fire	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. Jabfloor is supplied as non-flame retardant material as standard. Euroclass E, flame-retardant material is available to order.

Environment and Sustainability :

A+	Jabfloor HP insulation is manufactured from EPS (expanded polystyrene) and achieves an A+ rating in the BRE Green Guide to Specification.
Climate Change	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
100%	Jabfloor HP insulation is 100% recyclable.
BREEAM	**Responsible Sourcing.** 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 certificates are in the Technical Resource Centre on the Jablite website www.Jablite.co.uk **Key Process (Insulation Manufacture)** ISO 14001: Certificate Number EMS 559414 **Supply Chain Processes (supply of materials for end products)** ISO 14001: Certificate Number NL 015213-1 **Embodied Impact** Jablite EPS is manufactured using low energy processes. 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. The thermal conductivity of our products is available on both the product packaging and this datasheet
Biological Properties	Jabfloor HP EPS insulation is non-toxic and non-biodegradable. Jabfloor HP will not sustain mould growth and offers no nutrient value to insects or vermin.

INSTALLATION

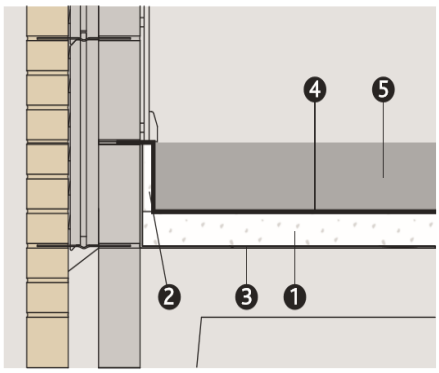
Damp-proof membrane

Good building practice indicates that a DPM is placed below the insulation and a vapour control layer (VCL) is installed on the warm side of the insulation to inhibit the risk of interstitial condensation.

A suitable DPM such as 250µ (1000 gauge) polythene is installed over the prepared ground or blinded hardcore base.

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

Figure 2.4 Damp-proof membrane below insulation



1. Jabfloor
2. Jabfloor edge strip
3. Damp-proof membrane
4. Vapour control layer
5. Concrete slab

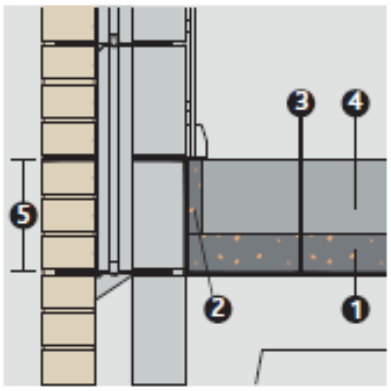
Jabfloor HP

Jabfloor HP is loose-laid over the DPM with all joints tightly butted. The insulation boards are easily cut to fit on site with a sharp knife or fine toothed saw.

Vertical upstands of Jabfloor Edge Strip should be placed around perimeter to prevent cold bridging, as detailed in BRE Report 262.

A suitable VCL such as 125µ (500 gauge) polythene sheet is laid over the Jabfloor HP with all joints lapped and sealed.

If a VCL is not placed over the Jabfloor HP the joints of the insulation must be taped, prior to pouring concrete, using a 75mm masking tape or similar.



1. Jabfloor HP
2. Jabfloor HP edge strip
3. Damp-proof membrane
4. Concrete slab
5. Minimum 150mm overlap of floor and wall insulation to reduce thermal bridging

Concrete Slab

The concrete slab is then poured or pumped over the insulation/VCL to the required thickness.

During these operations the vapour control layer and insulation must be protected from impact damage or excessive trafficking by the use of spreader boards.

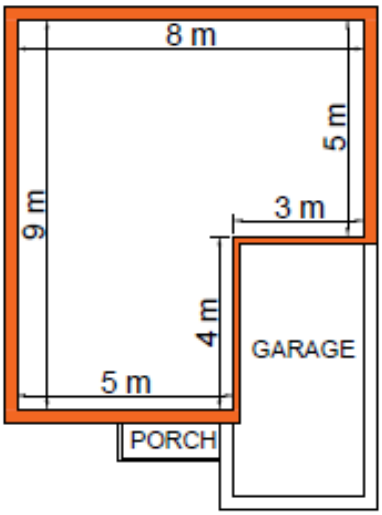
Where structural steel reinforcement is incorporated into the concrete slab this must be placed onto spacer pads sufficient to prevent puncturing the VCL and damaging the insulation.

The concrete slab is then either tamped or power-floated to provide the required finish.

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

Perimeter (P)	= 8 + 5 + 3 + 4 + 5 + 9	=	34
Area (A)	= (5 x 4) + (8 x 5)	=	60
P/A Ratio	= 34 ÷ 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/m²K.

The calculations have been based on a standard dense concrete floor slab 100mm thick and carried out in accordance with BS EN ISO 13370.

Table 1.1:

Thickness (mm) Jabfloor HP 70 AND 100						
P/A Ratio	U-values (W/m²K)					
	0.25	**0.22**	**0.20**	**0.18**	**0.15**	**0.10**
1.00	90	110	120	140	175	275
0.90	90	105	120	140	175	270
0.80	90	105	120	135	170	270
0.70	85	100	115	130	165	265
0.60	80	100	110	125	160	260
0.50	75	90	105	120	155	255
0.40	65	80	100	110	145	245
0.30	55	70	80	100	130	230
0.25	40	60	75	90	120	215
0.20	30	40	55	75	105	195
0.15	25	25	40	50	80	170

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