



# Jabfill High Performance (HP)

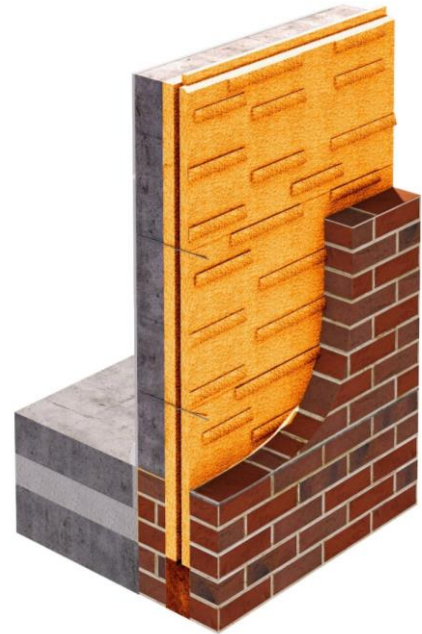
## Wall insulation – full-fill cavity wall insulation

Jabfill High Performance (HP) is a BBA-certified cavity-wall insulation system. It is designed to be installed into new masonry walls\* to meet or exceed U-value requirements.

The insulation boards have a fluted face and a tongued and grooved edge profile which is fully-interlocking; the insulation fills the cavity and does not require special clips or wall ties.

Jabfill HP is supplied as EPS 70 as defined in BS EN 13163 – Reaction to Fire Class E, containing a flame-retardant additive.

*\*Where masonry includes clay and calcium silicate bricks, concrete blocks, natural and reconstituted stone blocks.*



<b>NHBC Approved*</b>	Jabfill HP is approved for use as cavity wall insulation by the NHBC.  <i>*NHBC accepts the use of Jabfill Premium, other than in very severe exposure locations with fair-faced masonry; provided it is installed, used and maintained in accordance with this Certificate, in relation to NHBC Standards, Chapter 6.1 External masonry walls.</i>
<b>CE marking</b>	The Certificate holder has 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>Easy to handle</b>	Manufactured from expanded polystyrene (EPS) which is lightweight, safe to handle without PPE and can be cut to size on site.
<b>Permanent</b>	Flood proof and rot proof, with a guaranteed thermal performance for the lifetime of the building.
<b>Fast</b>	To enable fast installation for external face and vertical orientation are marked clearly. No specialised trades or equipment are needed.
<b>Designed</b>	Flutes are moulded onto the external face to ensure that any moisture that penetrates the external leaf is directed down the outer face of the board and back into the external masonry.
<b>Special Features</b>	Jabfill HP boards are supplied with an angled fillet on the outer face at the bottom edge of each board, this overlaps the proceeded board helping to direct water away from the lateral joints.





## Sustainability

<b>A+</b>	Jabfill HP for cavity wall insulation is manufactured from EPS (expanded polystyrene) which has an A+ rating in the BRE Green Guide to Specification.
<b>100%</b>	Jabfill HP insulation is 100% recyclable and Jablite offers a site collection recycling service.
<b>Bream</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 certificates 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 007629-1</p> <p><b>Embodied Impact</b></p> <p>Jablite insulation products are made from EPS which has been given an A+ rating by the BRE.</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 on relevant product technical datasheets which can be found on this website.</p>

### BBA Certified

Jabfill HP has been assessed and approved by the British Board of Agrément for use in cavity walls up to a 25m in height, in domestic and non-domestic buildings, (additional requirements apply for buildings above 12m in height); Certificate number 96/3215.

### Specification

**Size:** 450 x 1200mm nominal; 476 x 1219mm actual (including tongues and bottom edge detail).

**Thicknesses:** 100, 125 and 150mm





## Designed

tongued and grooved on all four edges. The external face has a series of 5mm moulded flutes, and there is Jabfill HP boards are an angled fillet moulded into the bottom edge.

## Fire

When properly installed, Jabfill HP is fully protected by the masonry and will have no adverse effect on the fire performance of the wall. Reaction to Fire Class E, containing a flame-retardant additive.

## U-values

The table below provides indicative U-values achieved using 100, 125 and 150mm thickness of Jabfill HP. Their calculation complies with the calculation procedures contained in the “conventions for U-value calculations” document accompanying the Building Regulations. This takes into account mortar joints, air gap connections, wall ties and linings as necessary.

The values given are based on a thermal conductivity of 0.032 W/mK for the insulation. For calculation purposes, the flutes on the external face of the boards are ignored giving calculated board thicknesses of 95, 120 and 145mm.

JabFill HP Thickness	102.5mm Brick Outer Leaf	100mm Stone Outer Leaf	102.5mm Brick Outer Leaf	100mm Stone Outer Leaf
	12.5mm Plasterboard on dabs		13mm Lightweight Plaster	
	Inner leaf of 100mm Super Aerated Concrete Block (0.11W/mK)			
	U-values (W/m <sup>2</sup> K)			
100 mm	0.24	0.24	0.25	0.25
125 mm	0.20	0.20	0.21	0.21
150 mm	0.17	0.18	0.18	0.18

**Please note:** U-values for alternative specifications can be calculated using the interactive tool on the Jablite website, [www.Jablite.co.uk](http://www.Jablite.co.uk)



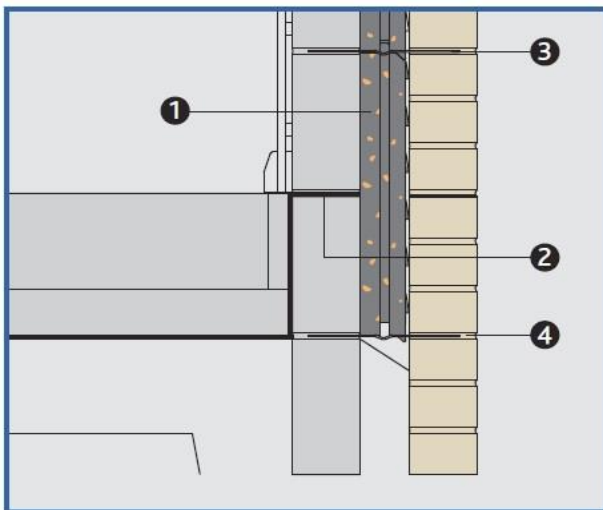


## Thermal resistance

The thermal resistance, R-value for each thickness of Jabfill HP is as follows:

Jabfill HP Thickness	R-values (m <sup>2</sup> K/W)
100 mm	2.95m <sup>2</sup> K/W
125 mm	3.75m <sup>2</sup> K/W
150 mm	4.50m <sup>2</sup> K/W

## Installation



1. Jabfill HP
2. Damp-proof membrane
3. Wall ties
4. First row of wall ties at 600 mm centres

## Damp-proof membrane

For buildings where the floor structure penetrates the external-wall cavity, for example at balcony positions, a horizontal damp-proof tray should be installed immediately above the upper limit of the insulation in order to avoid the transfer of moisture to the inner leaf.





## Construction procedures

The walls are constructed in the normal way but the inner leaf should be advanced to sufficient height, and the mortar cleaned off the cavity face, before installing the insulation boards and continuing construction of the outer leaf.

The first row of wall ties should be positioned at the base of the lowest insulation board but not directly on the DPC; the wall ties should be located at 600mm horizontal centres and should slope down towards the outer leaf.

Subsequent wall ties should be placed at 450mm centres vertically, and at maximum 900mm centres horizontally to suit regulations (see BS EN 1996-2:2006) and the structural requirements for the wall. When the first row of boards needs trimming to height to meet course requirements, this must be carried out on the bottom edge of the boards.

A section of the internal leaf should be built up to a course above the next row of wall ties. The boards are fitted between the upper and lower wall ties, with their edges tightly-butted together; the horizontal tongue should be uppermost, and the fluted face to the outer leaf. Vertical joints in the boards should be staggered.

Care should be taken not to damage the tongues when inserting the wall ties. Construction of the outer leaf should proceed until it reaches the top level of the installed Jabfill HP boards. The bricks or blocks should be laid so that they are in contact with the fluted face of the insulation. Successive sections of wall are constructed in the same way, with the wall ties and insulation boards installed as work proceeds.

After raising each section of the outer leaf, excess mortar should be removed and any mortar droppings cleaned from the top edges of the insulation boards. The use of cavity board is recommended to protect the edges of the insulation during construction and to facilitate cleaning. BS EN 1996-2:2006 gives further information on the protection of work in progress.

Jabfill HP boards should be installed to the highest level in each wall. If this is not possible, the top edge of the boards must be protected by a cavity tray with alternate perpend joints raked out to allow drainage from the tray.

## Reveals

At the reveals of openings additional wall ties are generally introduced at maximum 300mm centres and within 225mm of all openings. However, this method of construction would mean that the Jabfill HP boards must be pierced to accommodate the non-standard tie spacing's and this can introduce an unacceptable risk of water penetration.

A better method of construction is to introduce additional wall ties at each board course (i.e. 450mm) and within 225mm of the opening; this will satisfy the structural requirements of the wall and simplify construction. Door and window reveals should incorporate an approved cavity closer, or other closing method, according to the set-back of the frame. Consult Jablite's technical services department for further information.





## Corner details

Corner details are formed by interlocking the boards, and it is important that the joints are closely butted; this will usually require accurate removal of the tongue. Internal corners require that the flutes be removed where the face of one board abuts the next; this will ensure that the joints can be tightly butted. Both internal and external corner details must incorporate a vertical DPC positioned between the face of the insulation and the external leaf, and returning along each wall face to at least 150mm.

## Pre-formed corners

Damp proofed Jabfill corners that work with Jabfill cavity wall insulation are available to order. Ultra tough, 4-ply waterproof membrane is factory bonded to Jabfill insulation corners; these can be quickly fitted into building external or internal corners. The integrated waterproofing ensures that damp proofing is completed to a high standard. This professional detailing ensures continuous insulation around the whole building envelope and eliminates concerns about errors in the damp proof installation which could allow water penetration into corners.

## Cutting

The insulation boards can be cut with a fine-tooth saw, either to obtain a specific length or to fit around apertures in the brick or block work, and for general cutting to length.

## References

BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry.

BS EN 13163 Thermal insulation products for buildings – Factory made products of expanded (EPS) – Specification.

For further information, please visit [www.Jablite.co.uk](http://www.Jablite.co.uk)





## Jabfill HP on site

A small site overlooking the City of Bath created a challenge for a family-run property developer, H&N Development. Building Control required an improvement in the specified thermal performance of the insulation but increased thickness would have meant lost space inside the homes and H&N would have had to re-apply for planning permission.

The Building Control Officer recommended Jabfill HP full-fill cavity wall insulation to achieve the improved thermal performance without increasing the footprint of the building or diminishing the inside space of the homes.



**Joe Haysler, H & N Developments** said:

*"Jabfill HP insulation is a great solution, it gives us a U-value of .22 with no need for new planning permission. Jabfill HP saved us time and money!"*

