

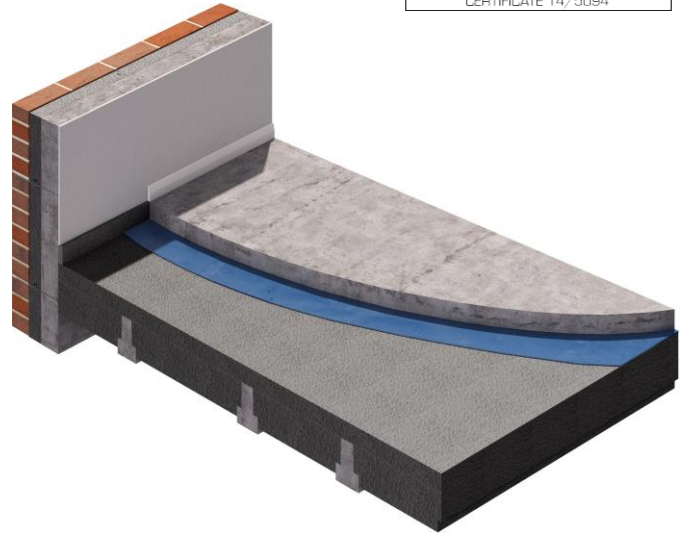


# Jablite Structural Board Thermal Floor System



## Key Benefits

- BBA Certified (14/5094 Product Sheet 4)
- Fast and easy installation achieves specified U-Values
- Outstanding Psi Values assist with Part L Compliance
- Reduces depth of required excavation and spoil removal
- Improves Health & Safety on site
- Zero waste left on site



Jablite Structural Board Thermal Floor System is a structural insulation system with pre-stressed concrete beams and pre-cut insulation panels to guarantee a fast, easy and safe build.

The Jablite Structural Board Thermal Floor System is completed by the installation of 75mm (minimum) structural concrete topping, see table 1 for specifications of structural concrete toppings.

The suspended thermal floor system consists of pre-stressed concrete beams positioned to meet the designed load requirement combined with Jablite infill insulation panels and Jablite structural boards.

Jablite supplies this BBA-certified (14/5094 Product Sheet 4) thermal floor system with beams and insulation supplied pre-cut to fit the beam and designed to meet the specified U-Value requirements.

## Sustainability and Quality

Jablite insulation can be supplied in EPS (expanded polystyrene) or in HP (high performance) EPS to provide the required thermal or thickness performance.

Expanded Polystyrene is A+ rated in the BRE Green Guide to Specification.

Jablite EPS insulation is 100% recyclable and Jablite provides a site collection of clean material cut offs and these are recycled back into insulation boards.

Jablite manufactures to ISO 9001 and ISO14001 certified standards.

## CE Marking

Jablite Structural Board Thermal Floor System is CE marked with DOP available on request.



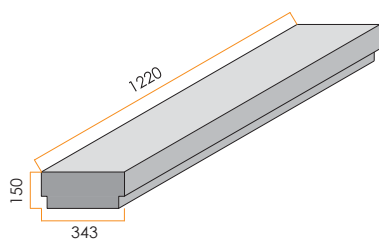


### Specifications of structural concrete toppings

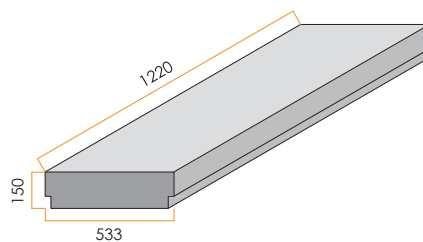
Ref. no.	Reinforcement	Load category		Method of verification
		Single family dwelling	Communal areas in blocks of flats or other similar buildings	
1	One layer of A142 mesh	X	X	calculation to BS EN 1992-1-1 : 2004
2	Durus S400 (macro-polymer fibre)	X	X	Full-scale test
3	Novomesh B&BA ( steel fibre)	X		Calculation to TR34
4	Novomesh B&BA (macro-polymer and micro polyolefin fibre)	X		Calculation to TR34
5	Adfil SF86 (steel fibre)	X		Calculation to TR34
6	Durus Easy finish (macro-polymer fibre)	X		Calculation to TR34
7	Fibrin X-T (monofilament polypropylene micro fibre)	X		Full-scale test
8	Fibrin 23 (polypropylene micro fibre)	X		Full-scale test

Please refer to the BBA certificate 14/5094 for more information.

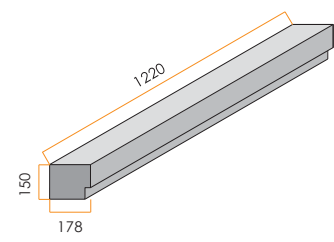
### Jablite Structural Board Thermal Floor System



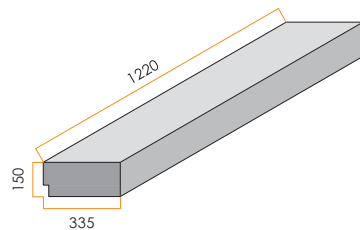
Half panel.



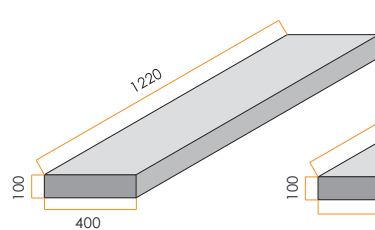
Full panel



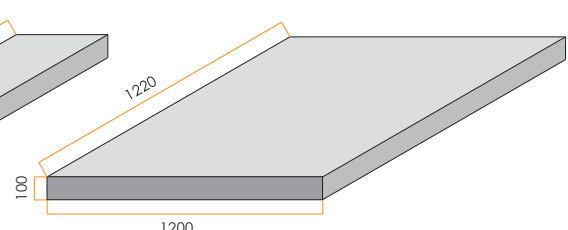
End panel



Start panel



Make up



Structural board





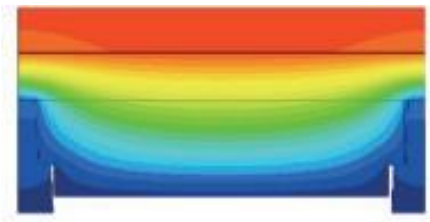
### Permitted loadings

Description	Maximum characteristic loads for single-family dwellings*	Maximum characteristic loads for communal areas in blocks of flats or other suitable buildings**
Imposed uniformly distributed load (UDL) (kN m <sup>-2</sup> )	1.5	3.0
Imposed concentrated load (kN)	2.0	4.0
Line load partition parallel and perpendicular to the beam (kN m <sup>-1</sup> )	1	3.0
Allowance for moveable partition (kN m <sup>-2</sup> )	1.0	1.0
Finishes (kN m <sup>-2</sup> )	0.5	0.5

\* Concrete topping reinforced with micro polymer fibres  
 \*\* Concrete topping reinforced with macro polymer fibres or steel mesh A142  
 Please refer to the BBA 14/5094 certificate for more information.

### U-values: Achieving Part L 2013

Jablite Thermal Floor System provides a simple means to achieving improvements on the overall DER allowing designers to meet and exceed Part L requirements.



### Indicative U-values based on 155 mm beam

P/A	HP Infill Panel 75mm HP Top Sheet		HP Infill Panel 100mm HP Top Sheet		HP Infill Panel 125mm HP Top Sheet		HP Infill Panel 150mm HP Top Sheet		HP Infill Panel 200mm HP Top Sheet	
	A	B	A	B	A	B	A	B	A	B
0.80	0.16	0.17	0.14	0.15	0.13	0.13	0.11	0.12	0.10	0.10
0.70	0.16	0.17	0.14	0.15	0.13	0.13	0.11	0.12	0.10	0.10
0.60	0.16	0.16	0.14	0.14	0.12	0.13	0.11	0.11	0.09	0.10
0.50	0.16	0.16	0.14	0.14	0.12	0.13	0.11	0.11	0.09	0.09
0.40	0.15	0.15	0.13	0.14	0.12	0.12	0.11	0.11	0.09	0.09
0.30	0.14	0.15	0.13	0.13	0.12	0.12	0.10	0.11	0.09	0.09

A = 100 % Full Panel Installation    B = 75 % Full Panel / 25 % Half Panel Installation

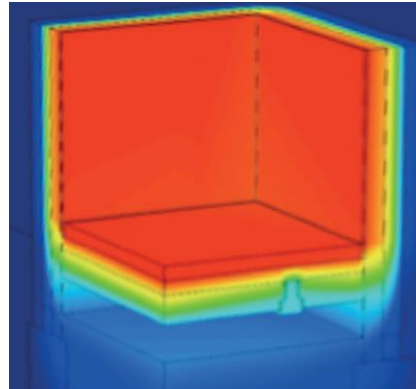




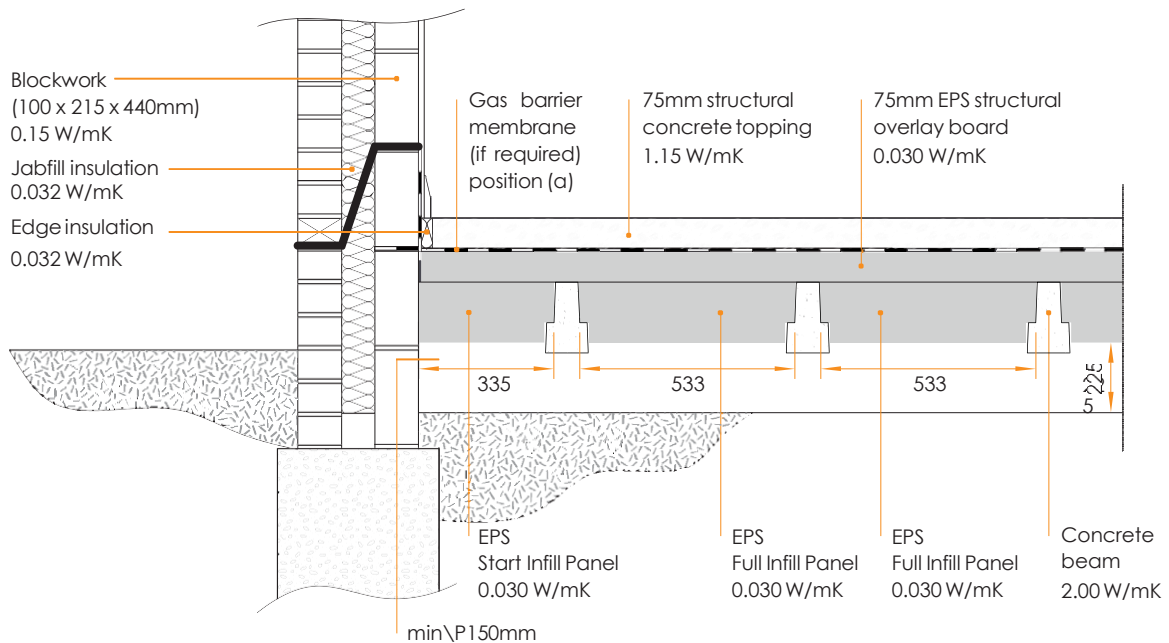
### Psi Values: Achieving Part L 2013

The example below indicates the improved Psi ( $\psi$ ) achieved by using Jablite products.

Junction	Psi ( $\psi$ ) Value (W/mK)
Example using Jablite Thermal Floor System	0.057 *
Accredited Construction Details	0.16 **
Sap Conventions Document Default	0.32 **
Jetfloor example in BBA Certificate	0.07



### Cross section of installation



Construction adjacent to wall

\* Value calculated on the below junction model

\*\*Values taken from Table K1 SAP





## Installation guide

- A DPC is laid on top of the bearing and end walls.
- The pre-cast concrete beams are positioned at approximate locations and centres as shown on the approved drawing.
- Starter panels are attached to the first beam. The beam and panels are then positioned tightly against the wall.
- Accurately position the remaining beams in line with the approved layout drawing using spacer / closure blocks. The spacer / closure blocks are bedded in mortar. Concrete is poured between multiple beams.
- Install the remaining infill panels between the suspended concrete beams.
- The panels can be cut with a handsaw where required. Where a panel has to be cut down, it must be at least 300mm long and located at the edge of the floor. Extra care should be taken to avoid damage and foot traffic. Offcuts greater than 300mm may be used elsewhere in the floor zone.
- Make-up infill panels can be used to accommodate the gaps in non-standard beam spacing's. These are supplied 400mm wide and cut to suit on site as per the approved drawing. Make-up panel should not be installed greater than 400mm wide.
- Finally install the End Panels to complete the infill installation.
- A gas or damp proof membrane can be installed where required, either between the uppermost layers of insulation and the concrete topping or between

the infill and Structural Boards.

- If gas carassing or underfloor heating pipes are also specified, these can be secured to the uppermost surface of the structural board using standard pipe clips. In this situation it's advisable to install any membrane between the infill panels and the structural board. Take care not to puncture the membrane.
- Edge strip insulation, (minimum thermal resistance  $\geq 0.75 \text{ m}^2 \cdot \text{KW}^{-1}$ ), is installed against the perimeter walls.
- If a steel mesh is specified spacers should be positioned over spreader plates, Min four per  $\text{m}^2$  and Min 50mm x 50mm. These should be installed to position the steel mesh at the correct level – mid depth of the concrete topping.
- The EPS panels are cut as appropriate to accommodate service penetrations, e.g. soil vent pipes, and the resulting gaps filled with expanding foam or other insulation to minimise local cold bridging and air infiltration.
- Although they can withstand light foot traffic, care should still be taken not to walk unnecessarily over the installed EPS panels. If a temporary working platform is required, the panels should be covered with a suitably-rigid board. To avoid damage to the panels, the structural concrete topping should be laid as soon as possible after the blocks have been installed.
- Where a membrane is not positioned directly over the uppermost layer of insulation the board joints should be taped with minimum 75mm

wide masking tape prior to installation of the structural concrete topping

- When using a concrete pump, truck or skip, concrete should not be discharged onto the polystyrene units from heights greater than 500mm and concrete heaps must not be formed over 300mm high.
- When wheelbarrows are used, planks must be placed to spread the wheel load to the precast concrete beams. Spot boards must be used when tipping and shovelling.
- The structural concrete topping is placed and compacted. Provision should be made for a suitable concrete finish to be achieved, preferably without standing on the blocks e.g. by use of a self-levelling concrete topping.

## Health and Safety

Jablite Structural Board Thermal Floor System is lightweight and easy-to-handle; it can be cut with a hand saw eliminating the need to use a construction chainsaw. The EPS insulation blocks can be easily slotted into place reducing the risk of injuring hands over traditional block procedures. The lightweight insulation boards can be easily moved around the site with no need for fork lift trucks.

