

ALL-IN-ONE THERMAL FLOOR SYSTEM

Jablite All-in-One Thermal Floor System is our own Jablite-designed structural insulation system consisting of pre-stressed concrete beams and all-in-one insulation boards in an easy-to-install kit.

The All-in-One Thermal Floor System is completed by the installation of 75mm (minimum) structural concrete topping*:

- Concrete with macro-polymer fibres: C25/30 with maximum 10 mm aggregate and 4 Kg/m³ Durus S400, 45 mm long and 0.9 mm in diameter.
- Concrete with micro-polymer fibres: C25/30 with maximum 10 mm aggregate and 0.91 Kg/m³ Fibrin X-T, 13 to 19 mm long and 22 mm in diameter. **
- Concrete reinforced with steel mesh: C25/30 concrete with maximum 10 mm aggregate and A142 steel mesh, ribbed bar to BS 4483:2005 and BS 4449:2005.

- Jablite supplies this BBA-certified system of beams and insulation in a bespoke-designed kit with pre-shaped boards to fit the specified beams.
- The Jablite thermal floor system can be designed to meet any U-value requirements.

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

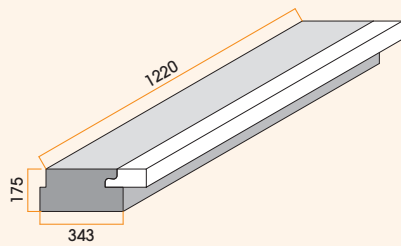
Improves Health & Safety on site

Zero waste left on site

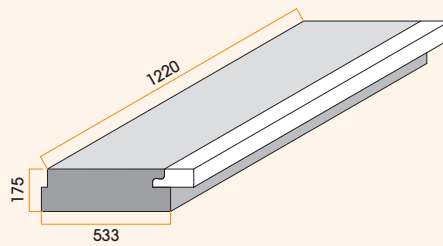
* For further information please refer to the BBA certificate

** NHBC do not accept micro-polymer fibre structural toppings

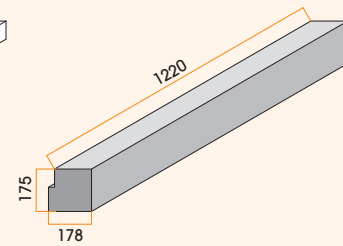
JABLITE ALL-IN-ONE THERMAL FLOOR SYSTEM



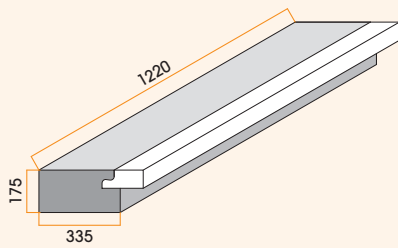
Half panel



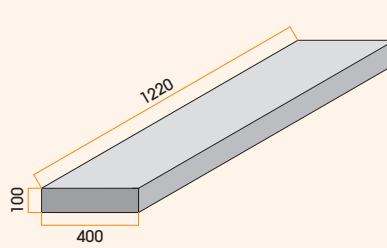
Full panel



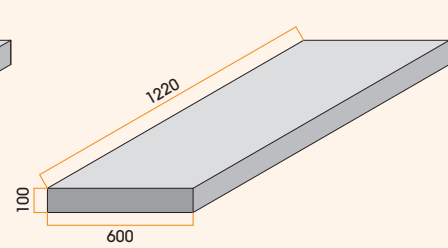
Start panel



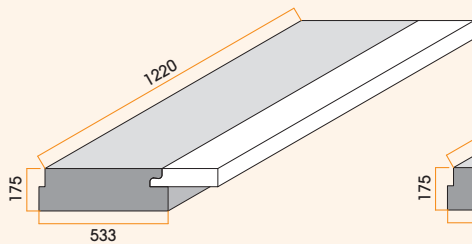
End panel



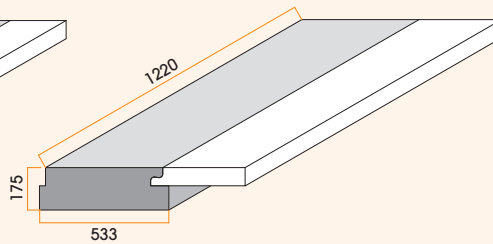
Make up (1)



Make up (2)



Full double beam panel



Full triple beam panel

**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 ISO 14001 certified standards.

CE Marking

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

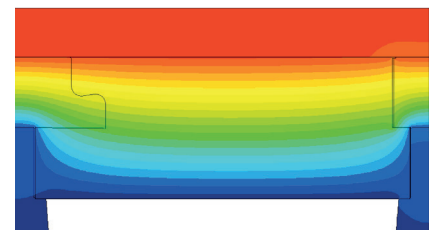
U-values: Achieving Part L 2013

A key element of the Building Regulations relating to insulation is Approved Document L (Part L), which covers the conservation of fuel and power in existing and new build constructions. Part L stipulates minimum performance or backstop fabric element values and aligns the overall building performance and CO₂ emissions targets with notional models.

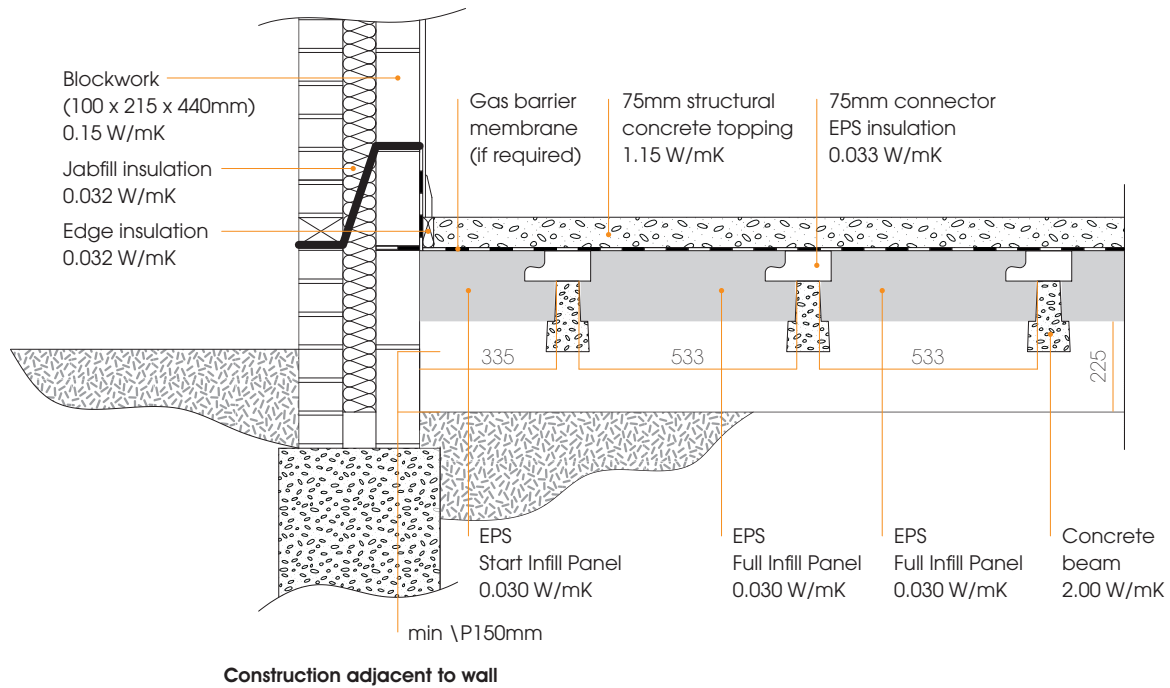
The DER (Dwelling Emission Rate) must be lower than the TER (Target Emission Rate) when calculated in SAP.

Fabric element values are the U-Values obtained by the specified construction types proposed for any particular build. Designers have flexibility under Part L but must ensure they keep below the TER therefore

lower U-Values may be required. Jablite Thermal Floor System provides a simple means to achieving improvements on the overall DER allowing designers to meet and exceed Part L requirements.

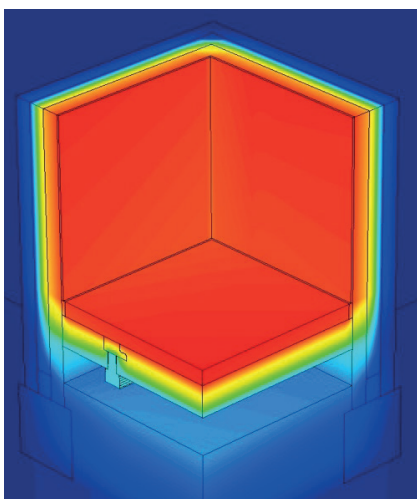


PSI VALUES



Psi Values: Achieving Part L 2013

The design and construction of floor to wall junctions must be considered to limit excessive heat loss and air filtration. Designing superior junctions reduces the impacts of heat loss through thermal bridging, see diagram below.



Thermal bridging is measured by calculating the junction Psi (ψ) Value. Psi (ψ) Values are a measure of the linear thermal transmittance of a thermal bridge and have units of W/mK per linear meter.

Psi Values (W/mK) are used to calculate the Y-Value (W/m²K) for use in the SAP calculator for the effect of non-repeating thermal bridges. To calculate the Y-Value, the length of each thermal bridge is multiplied by the respective Psi (ψ) Value.

In addition to performance uplift, improved Psi (ψ) Values can help create flexibility in design and have the potential to reduce new build costs.

The example on the right indicates the improved Psi (ψ) achieved by using Jablite products.

IMPROVED PSI (ψ)	
Junction	Psi (ψ) Value (W/m ² K)
Example using Jablite Thermal Floor System	0.054*
Accredited Construction Details	0.16**
Sap Conventions Document Default	0.32**
Jeffloor example in BBA Certificate	0.07

* Value calculated on the below junction model

**Values taken from Table K1 SAP

INSTALLATION GUIDE

1. A DPC should be laid on top of the bearing and end walls.
2. The pre-cast concrete beams are positioned at approximate locations and centres shown on the approved drawing. Concrete is poured between multiple beams.
3. Starter panels are attached to the first beam. The beams and blocks are then positioned tightly against the wall.
4. Accurately position the remaining beams in line with the approved layout drawing using the spacer / closure blocks. The spacer / closure blocks are bedded in mortar.
5. The EPS Infill panels are installed working from the start panels and the first beam.
6. 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.
7. Double and triple beam installations are simply covered using the appropriate panels incorporating either doublem or triple connectors.
8. Make - up infill panels can be used to accommodate the gaps in non-standard beam spacing's. These are cut to suit on site as per the approved drawing. Make-up panel 1, (between the beams), not more than 400mm wide with Make-up panel 2 cut to suit over, closing the gap in the uppermost insulation layer.
9. Finally install the End panels to complete the infill installation.
10. A gas or damp proof membrane can be installed where required between the uppermost layers of insulation and the concrete topping.
11. If gas carcassing or underfloor heating pipes are specified, these can be secured to insulation material. If a damp proof or gas membrane is not required, this can be achieved using standard pipe clips secured directly to the insulation. If however a membrane is required pipes should be taped securely in position. Care must be taking not to puncture the membrane.
12. Jabfloor edge strip insulation, (minimum thermal resistance $\geq 0.75 \text{ m}^2 \cdot \text{KW}^{-1}$), are installed against the perimeter walls.
13. If a steel mesh is specified spacers should be positioned over spreader plates, Min four per 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.
14. The EPS panels are cut as appropriate to accommodate service penetrations, eg soil vent pipes, and the resulting gaps filled with expanding foam or other insulation to minimise local cold bridging and air infiltration.
15. Should any other cutting be required, the advice of the Certificate holder should be sought.
16. 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.
17. 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.
18. 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.
19. 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.
20. 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 eg by use of a self-levelling concrete topping.

Health and Safety

Jablite 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.