

Floor Insulation: Suspended Concrete Beam Floors with Chipboard Finish Jablite DS1 panels for Hanson Jetfloor Plus Flooring System

Jablite DS1 moulded EPS panels are insulating structural infill units for use with prestressed-concrete beams to provide an insulated structural suspended ground-floor system which will satisfy the Building Regulations' U-value requirements. The finish is of flooring-grade chipboard.

The panels have been developed by Vencel Resil Ltd for use in the Hanson patented Jetfloor Plus Flooring System.

- **Low thermal transmittance**

Jablite DS1 panels, with an 18mm flooring-grade chipboard finish will typically improve the U-value of a suspended ground floor from 0.6W/m²K for the standard beam-and-block system to 0.25W/m²K.

- **Efficient insulation**

The U-value available with this form of construction far exceeds the Building Regulations' requirements and allows the U-value of the floor to be offset against the performance of other elements in achieving an overall energy target for the building.

- **Rapid construction**

Both the concrete beams and the panels are easily installed and no specialised trades or equipment are required. Each DS1 panel covers an equivalent area to several concrete building blocks.

- **All-dry construction**

The use of Jablite DS1 panels with a chipboard finish provides an all-dry method of construction, saving up to one week in site time compared to a wet screed.

- **Permanent**

Jablite DS1 panels are rot-proof and durable and will remain effective for the life of the building.

- **Cost-effective**

Jablite DS1 panels with a chipboard finish provide a cost-effective solution to floor insulation.

- **Easy to handle**

Jablite DS1 panels are manufactured from expanded polystyrene (EPS), and are lightweight and easy to handle.

MAIN DISTRIBUTOR

Jablite DS1 panels are supplied as part of the Hanson Jetfloor Plus system, available from:

Hanson Concrete Products Ltd,
Hoveringham, Notts NG14 7JX.
Tel: 01636 832 000.
Fax: 01636 830 048.

TYPE

Jablite DS1 is supplied as a moulded profile manufactured from EPS 100 as defined in BS EN 13163 containing a flame-retardant additive.

DIMENSIONS

The panels are sized to suit 150mm-deep beams at 600mm centres; length, 914mm.

U-VALUES

A typical 10 x 6m floor constructed by this method will achieve a U-value of 0.25W/m²K; this compares to a U-value of 0.6W/m²K for a beam and concrete-block infill floor with a screed finish. Further information can be obtained from Hanson Flooring Ltd.

FIRE

Suspended ground floors are not required to provide fire resistance. When properly installed, the EPS insulation is fully protected by the concrete floor screed and will have no adverse effect on the fire performance of the floor.

INSTALLATION

Jablite DS1 panels

Once the floor beams are installed, the Jablite DS1 panels should be placed between the beams with the top flange positioned on the beam top.

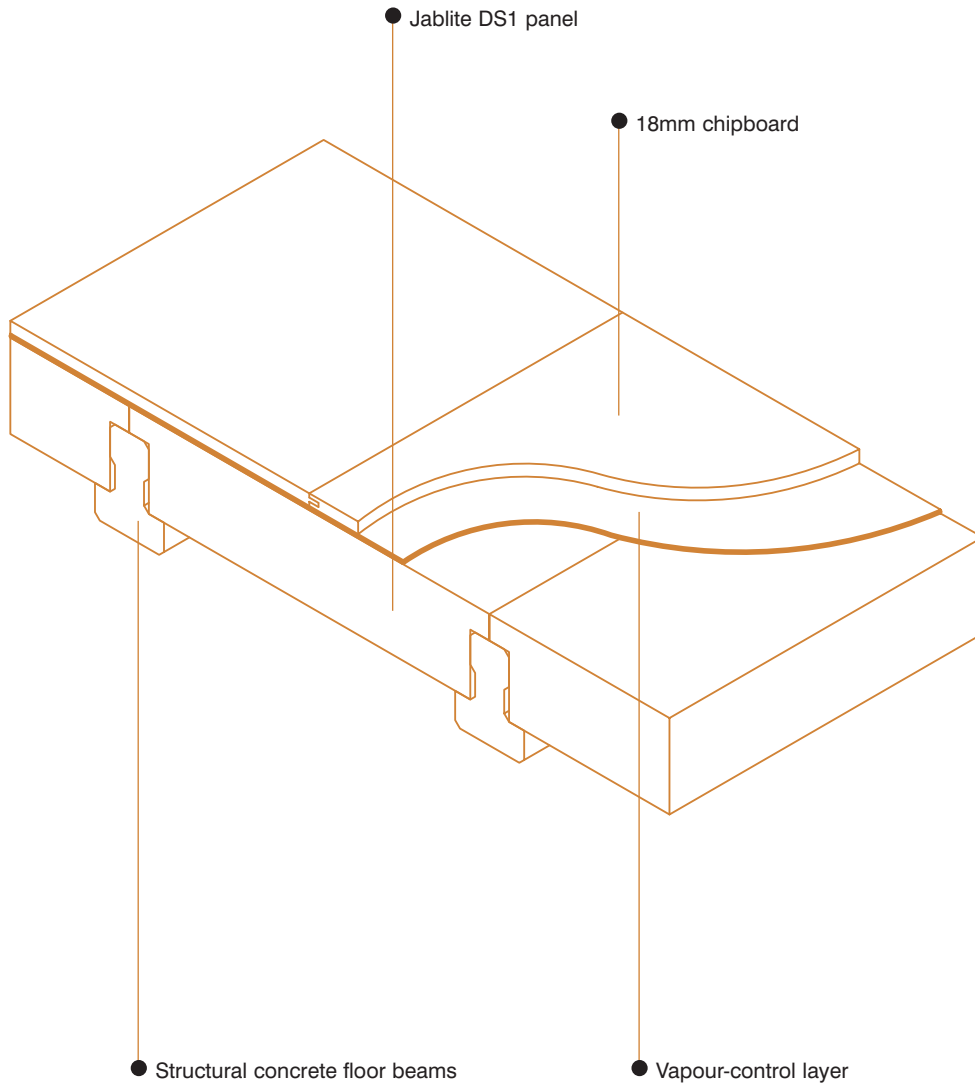
The panels should be cut to fit at the end of each run of beams and should be placed so that their ends are tightly butted.

Vapour-control layer

Jablite DS1 panels should not be regarded as a vapour-control layer, and a suitable vapour control of minimum 1000g polythene should be laid over the insulation; all joints should be lapped by a minimum of 150mm and taped. The polythene should be turned up 100mm at the room edges and fixed behind the skirting.

Floor Insulation: Suspended Concrete Beam Floors with Chipboard Finish Jablite DS1 panels for Hanson Jetfloor Plus Flooring System

Figure 34.



Floor Insulation: Suspended Concrete Beam Floors with Chipboard Finish Jablite DS1 panels for Hanson Jetfloor Plus Flooring System

Services

Providing the work is carried out in accordance with the relevant Byelaws or Regulations, electrical conduits, gas and water pipes can be accommodated beneath the suspended floor.

If this is not possible, it is permissible to accommodate the services within the thickness of the insulation providing pipes etc are securely fixed to the beams. Jablite DS1 panels should not be allowed to come into direct contact with PVC-sheathed cable, nor closer than 12mm to hot-water pipes.

The boards should be cut with a sharp knife to fit accurately around services.

Chipboard finish

The chipboard should be Type P5, with tongued-and-grooved edges, as described in BS EN 312 - Particleboards, Specification.

It is important that the recommendations given in BS EN 312 - Particleboards, Specification are followed regarding protection of the chipboard from water spillage in bathrooms, kitchens and utility areas.

Laying should proceed from one corner of the room ensuring that a 10-12mm gap is provided at the

perimeter to allow for expansion. Temporary wedges should be placed in expansion gaps during laying to allow the chipboard joints to be tightened; the wedges must be removed after the adhesive has dried.

The boards should be laid with staggered cross joints, and all edges should be glued as laying proceeds using a PVA-based woodworking adhesive.

In corridors, or wherever there are long uninterrupted runs of flooring, the inclusion of a 20mm expansion gap at 10m centres is required in addition to the 10-12mm perimeter gap. A suitable solid timber batten should be installed beneath the expansion joint to provide support. The batten should be of preservative-treated timber, securely attached to the concrete slab using masonry nails or screws and plugs.

REFERENCES

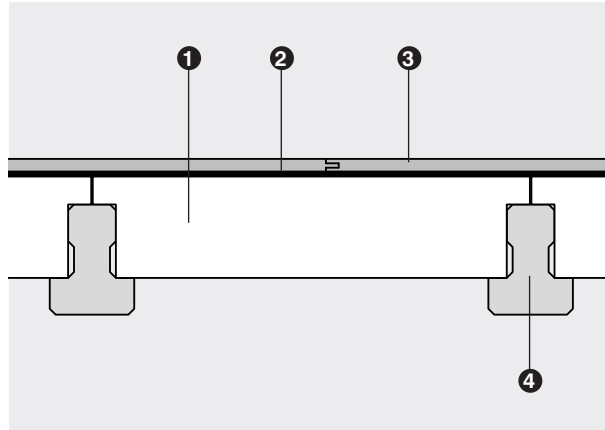
BRE Report 262. Thermal insulation: avoiding risks Third edition 2002.

BS EN 312 - Particleboards, Specification.

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

Floor Insulation: Suspended Concrete Beam Floors with Chipboard Finish Jablite DS1 panels for Hanson Jetfloor Plus Flooring System

Figure 35.
Insulated structural
infill floor on suspended
concrete beams



- 1. Jablite DS1 panel
- 2. Vapour-control layer
- 3. 18mm chipboard
- 4. Structural concrete floor beam