

## Floor Insulation: Suspended Composite Floors

### Jablite WS and WR panels for Hanson Jetfloor Super Flooring System

Jablite WS25 moulded EPS panels have been developed for use in the Hanson Jetfloor Super Flooring System by Vencel Resil Ltd. The panels, which act as both insulation and permanent shuttering, are used in conjunction with 150mm deep concrete beams to provide an insulated composite diaphragm ground floor. Panels are also available in WS20, and for use with radon barriers, WR25 and WR20 designations.

- **Low thermal transmittance**

Jablite WS25 and WR25 panels in conjunction with a concrete structural screed will typically provide a U-value of 0.25W/m<sup>2</sup>K for the completed floor compared to 0.57W/m<sup>2</sup>K for a comparable beam-and-block floor. WS20 and WR20 panels will typically achieve a U-value of 0.20W/m<sup>2</sup>K.

- **Permanent**

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

- **Reduced weight**

Jablite WS and WR panels allow standard concrete beam centres to be increased. Their lightweight nature helps to reduce floor deadloads.

- **Rapid construction**

Both the concrete beams and the panels are easily installed and no specialised trades or equipment are required.

- **Easy to handle**

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

#### MAIN DISTRIBUTOR

Jablite WS and WR panels are supplied as part of the Hanson Jetfloor Super Flooring System, which has been approved by the BBA (88/2059) and is available from:

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

#### TYPE

Jablite WS and WR are 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 600mm beam centres; length, 1220mm.

#### U-VALUES

A typical 8m x 6m floor constructed by this method will achieve the following U-values:

WS25 and WR25 = 0.25W/m<sup>2</sup>K

WS20 and WR20 = 0.20W/m<sup>2</sup>K

Further information can be obtained from Hanson Concrete Products 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

Site preparation should be carried out in the same way as for a beam-and-block floor, incorporating a suitable damp-proof course (DPC), with the beams centred to suit the Jablite WS and WR panels in accordance with the manufacturer's instructions.

#### JABLITE WS AND WR PANELS

Once the floor beams are installed, the Jablite WS and WR panels should be placed to span between the beams, with the lower flange positioned so that it covers the underside of each successive unit; see Figure 33.

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. When the Jablite WS25 & WR20 panels have been positioned, a type A98 steel-mesh reinforcement to BS 4483 should be laid across the joists; the height of the joist above the Jablite WS25 and WR20 panel has been designed to ensure the correct depth of concrete beneath the mesh.

When the Jablite WR25 or WR20 panels have been positioned a Radon Gas protection membrane is laid across the WR panels and beams, contact Hanson Concrete Products Ltd for further information, prior to laying a type A98 steel-mesh reinforcement to BS 4483.

#### Concrete screed

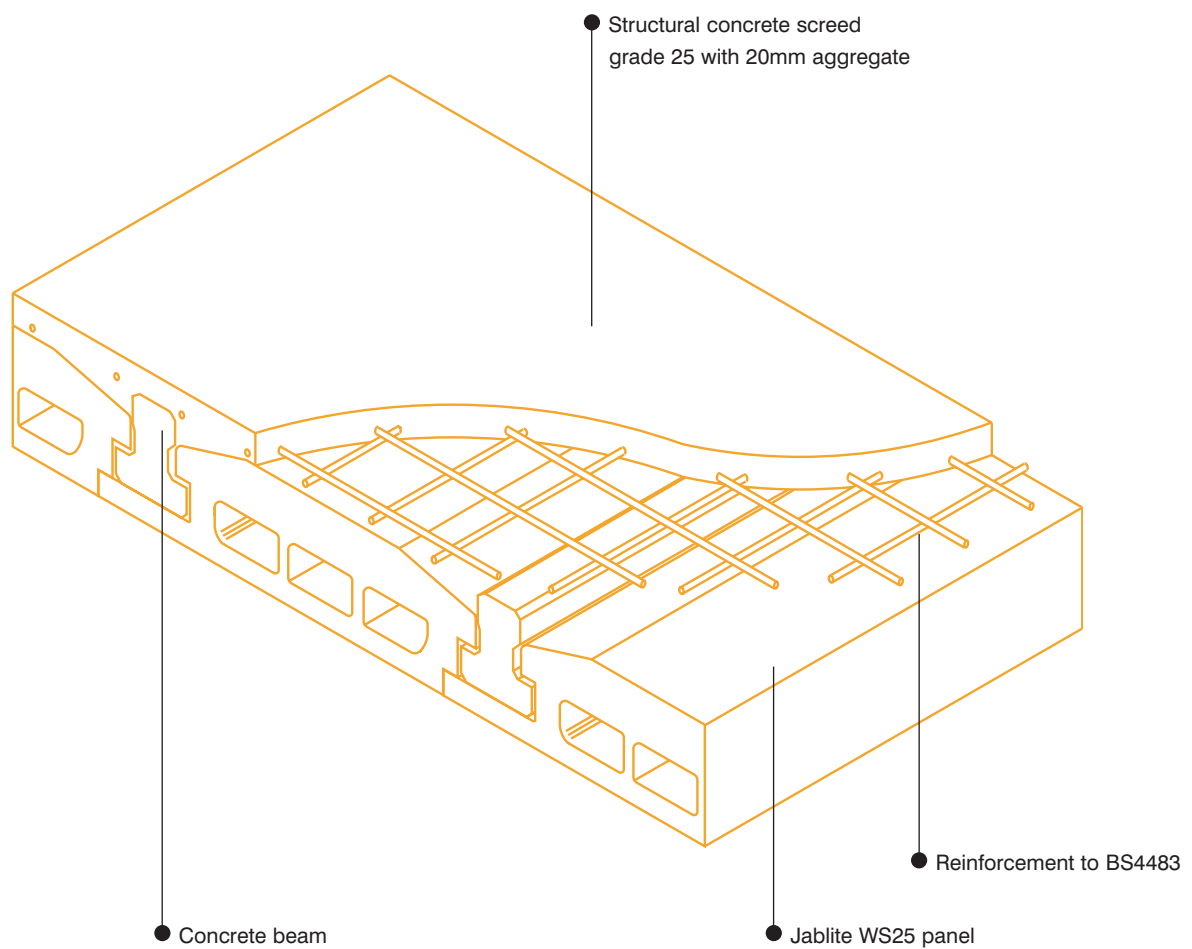
The structural concrete screed should consist of Grade 25 concrete with 20mm aggregate (50mm slump). It should be laid so as to ensure a minimum 50mm cover measured at mid-span above each beam. The screed should be either tamped or power-floated to provide the required finish.

During these operations, the surface of the Jablite WS and WR panels should be protected from impact damage or trafficking by the use of spreader boards.

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### Jablite WS and WR Panels for Hanson Jetfloor Super Flooring System

Figure 32.



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#### REFERENCES

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

BS 4438 Specification for steel fabric  
for the reinforcement of concrete.

BS 8110 Structural use of concrete.

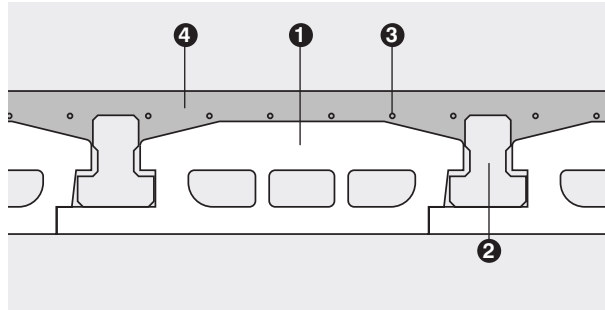
BS EN ISO 13370 Thermal  
performance of buildings – Heat  
transfer via the ground – Calculation  
methods

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

## Floor Insulation: Suspended Composite Floors

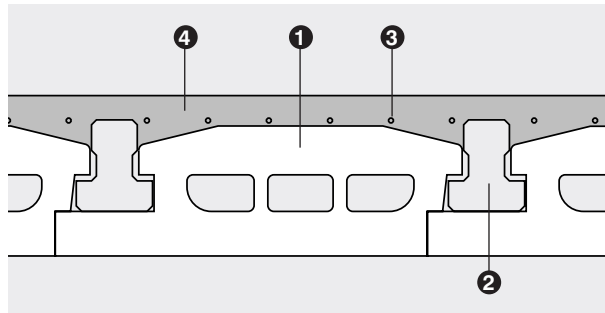
### Jablite WS and WR Panels for Hanson Jetfloor Super Flooring System

Figure 33.  
Insulated suspended  
composite floor



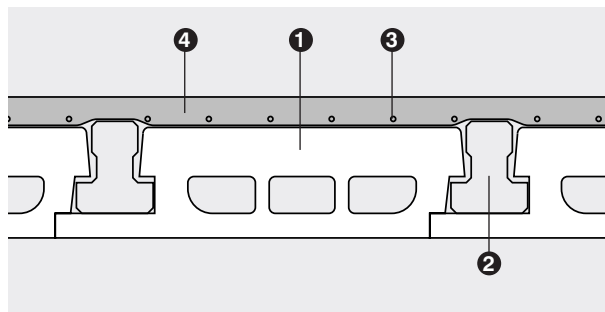
1. Jablite WS25 panel
2. Concrete beam
3. Reinforcement
4. Structural concrete screed

Figure 33a.  
Insulated suspended  
composite floor



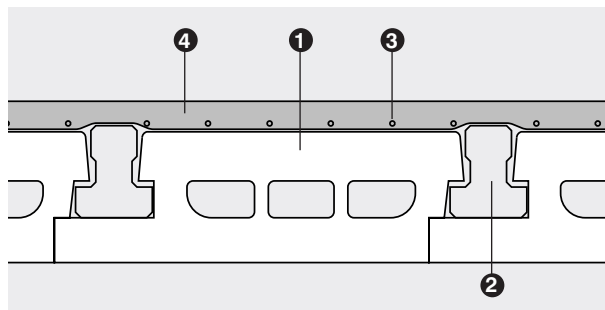
1. Jablite WS20 panel
2. Concrete beam
3. Reinforcement
4. Structural concrete screed

Figure 33b.  
Insulated suspended  
composite floor



1. Jablite WR25 panel
2. Concrete beam
3. Reinforcement
4. Structural concrete screed

Figure 33c.  
Insulated suspended  
composite floor



1. Jablite WR20 panel
2. Concrete beam
3. Reinforcement
4. Structural concrete screed