

Jabfloor Premium below a Screed Finish

Table 1

Thickness	U-value					
	D25 Wire	D22 Wire	D20 Wire	D18 Wire	D15 Wire	D10 Wire
100	0.18	0.19	0.20	0.21	0.22	0.23
120	0.17	0.18	0.19	0.20	0.21	0.22
140	0.16	0.17	0.18	0.19	0.20	0.21
160	0.15	0.16	0.17	0.18	0.19	0.20
180	0.14	0.15	0.16	0.17	0.18	0.19
200	0.13	0.14	0.15	0.16	0.17	0.18
220	0.12	0.13	0.14	0.15	0.16	0.17
240	0.11	0.12	0.13	0.14	0.15	0.16
260	0.10	0.11	0.12	0.13	0.14	0.15
280	0.09	0.10	0.11	0.12	0.13	0.14
300	0.08	0.09	0.10	0.11	0.12	0.13

APPLICATION:

Floor insulation – below screed finish

Products: Jabfloor *Premium* 70 and 100

Jabfloor *Premium* insulation can be used in all floor constructions for both domestic and commercial buildings. The application will determine the grade of Jabfloor *Premium* required for your project. Jabfloor *Premium* 70 is mainly used for domestic floors, whereas Jabfloor *Premium* 100 is widely used for commercial floors where higher loadings are likely to be encountered.

Jabfloor *Premium*

Jabfloor *Premium* can be used above the concrete slab with a screed finish in ground floor constructions to satisfy the relevant U-value requirements.

Easy to handle

Jabfloor *Premium* is manufactured from low lambda expanded polystyrene (EPS) which is lightweight and easy to handle on site

Permanent

Jabfloor *Premium* is rot-proof and durable and will remain effective for the life of the building. It also has the added advantage of being flood-proof.

Rapid construction

No specialised trades or equipment are required.

Versatile

Jabfloor *Premium* can be used above or below the damp-proof membrane.

Environment

Expanded polystyrene has been awarded an A+ rating by the BRE's Green Guide to Specification.

Type

Jabfloor *Premium* is supplied as EPS 70 and 100 as defined in BS EN 13163 – Reaction to Fire Class E, containing a flame retardant additive.

Approvals

Jabfloor *Premium* has been assessed and approved by the British Board of Agrément for use above the concrete slab with a screed finish in solid ground floors; Certificate number 87/1796.

Dimensions

Standard size: 2400 x 1200mm.

Standard thicknesses: 25, 30, 40, 50, 60, 75, 100, 120, 150 and 200mm (Other thicknesses available to order)

Fire

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

U-values

The rate of heat loss through a ground floor varies with its size and shape. The thickness of insulation required to meet a given U-value will similarly depend on the size and shape of the floor. Approved Documents L1A, L1B, L2A and L2B guide you to BS EN ISO 13370 as the method for determining floor U-values based on the floor perimeter and floor area where: "P" is length of exposed perimeter in metres and "A" is floor area in square metres.

The measurement of both the floor area and perimeter should be made on the internal finished surface of the walls enclosing the heated space; unheated areas such as garages, porches and storage spaces need not be included. For buildings such as terraces or blocks of flats and apartments, the measurement should be taken over the total gross ground-floor area.

Table 3.1 shows the required thicknesses of Jabfloor *Premium* 70 and 100 to meet U-values of 0.25, 0.22, 0.20, 0.18, 0.15 and 0.10W/m²K.

These values are based on the following k-values:

Jabfloor 70	0.030W/mK
Jabfloor 100	0.030W/mK

Floor insulation – below screed finish

Table 3.1

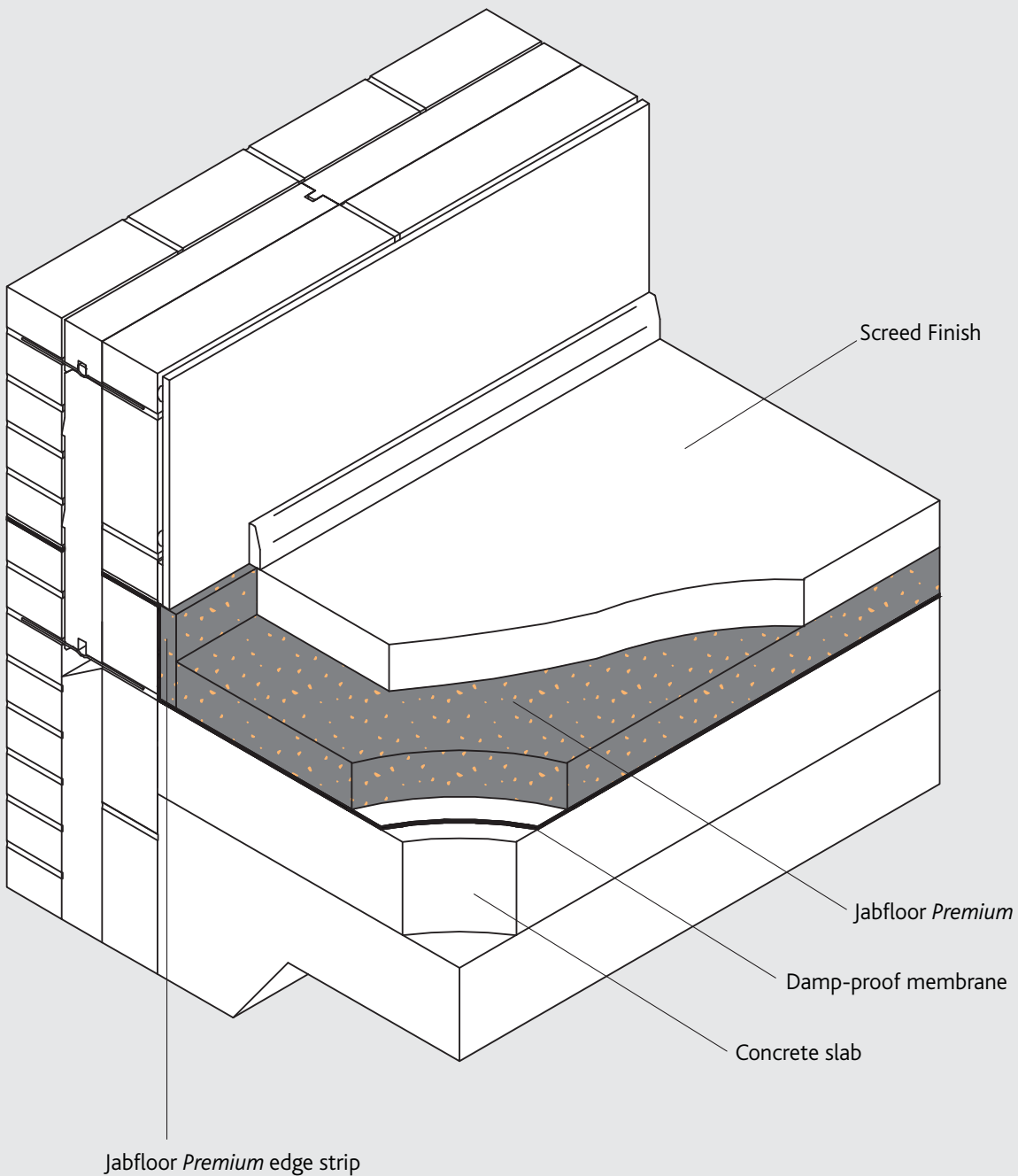
P/A Ratio	U-values					
	0.25 W/m ² K	0.22 W/m ² K	0.20 W/m ² K	0.18 W/m ² K	0.15 W/m ² K	0.10 W/m ² K
1.00	85	100	115	130	160	260
0.90	85	100	110	125	160	250
0.80	80	100	110	125	160	250
0.70	75	100	105	120	160	250
0.60	75	90	100	115	145	240
0.50	65	80	100	110	140	240
0.40	60	75	85	100	135	230
0.30	50	65	75	90	120	210
0.25	40	55	65	80	110	200
0.20	25	40	50	65	100	180
0.15	25	25	30	40	70	160

Key: Standard thickness 2 layers of Standard thickness

Standard thicknesses: 25, 30, 40, 50, 60, 75, 100, 120, 150, 200mm

APPLICATION: Floor insulation – below screed finish

Figure 3.1



NOTE: Damp-proof membrane can be positioned above or below Jabfloor Premium.

Floor insulation – below screed finish

INSTALLATION

Concrete slab

The concrete slab should have a level, evenly-tamped surface; a floated or screeded finish is not necessary. The slab should be left as long as possible after laying to allow it to dry out.

Damp-proof membrane

Jabfloor Premium should not be regarded as a damp-proof membrane (DPM), and a suitable DPM must be used to protect floors in contact with the ground. The membrane may be positioned either above or below the concrete slab, (See figures 3.2 and 3.3); liquid membranes are positioned above the concrete slab. If a liquid DPM is used, care should be taken that it is compatible with Jabfloor Premium, and that it is completely dry before the insulation is laid.

Services

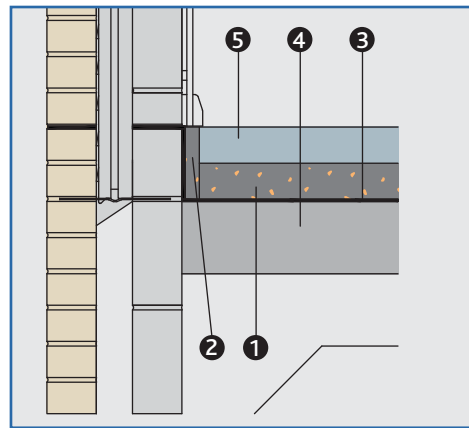
Providing the work is carried out in accordance with the relevant Byelaws or Regulations, electrical conduits, gas and water pipes can be accommodated within the thickness of the concrete slab. If this is not possible, it is permissible to accommodate the services within the thickness of the insulation providing pipes etc are securely fixed to the slab. Jabfloor Premium should not be allowed to come into direct contact with PVC-sheathed cable, nor closer than 12mm to hot-water pipes; pipes should be haunched with a sand/cement mix or lagged using a proprietary material intended for this purpose.

Jabfloor Premium

Jabfloor Premium should be loose-laid over the prepared surface; all joints should be tightly butted and taped with 75mm-wide adhesive tape to prevent the ingress of screed between the boards. The boards should be cut with a sharp knife to fit accurately around services, and taped as necessary.

Figure 3.2

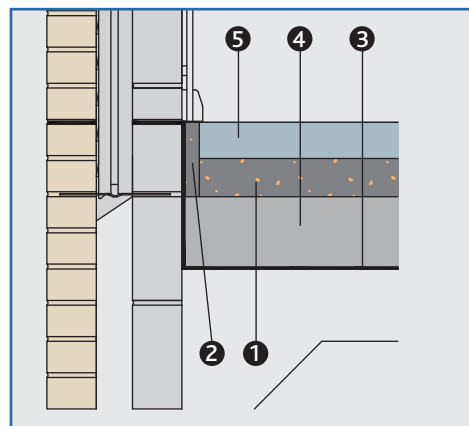
Damp-proof membrane below insulation



1. Jabfloor Premium
2. Jabfloor Premium edge strip
3. Damp-proof membrane
4. Concrete slab
5. Screed

Figure 3.3

Damp-proof membrane below concrete slab



1. Jabfloor Premium
2. Jabfloor Premium edge strip
3. Damp-proof membrane
4. Concrete slab
5. Screed

Screeding

The recommendations of the appropriate parts of BS 8204 should always be followed. Sand/cement screeds should be at least 65mm-thick for domestic applications and 75mm-thick for non-domestic applications. In order to minimise cracking or curling, the screed should be laid so that jointless areas do not exceed 15m² and with the ratio of

length to width not exceeding 1.5:1.

If these limits cannot be observed, the use of light-gauge galvanised-metal reinforcement, placed centrally in the screed, will help to distribute shrinkage cracks evenly. During the screeding operations, the surface of the insulation should be protected from impact damage or excessive trafficking by the use of spreader boards.

References

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

BS 8204 Screeds, bases and in-situ floorings.

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.

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Table 2.1

R-value	U-values					
	0.25 W/m ² K	0.22 W/m ² K	0.20 W/m ² K	0.18 W/m ² K	0.15 W/m ² K	0.10 W/m ² K
0.05	0.0	0.0	0.0	0.0	0.0	0.0
0.10	0.0	0.0	0.0	0.0	0.0	0.0
0.15	0.0	0.0	0.0	0.0	0.0	0.0
0.20	0.0	0.0	0.0	0.0	0.0	0.0
0.25	0.0	0.0	0.0	0.0	0.0	0.0
0.30	0.0	0.0	0.0	0.0	0.0	0.0
0.35	0.0	0.0	0.0	0.0	0.0	0.0
0.40	0.0	0.0	0.0	0.0	0.0	0.0
0.45	0.0	0.0	0.0	0.0	0.0	0.0
0.50	0.0	0.0	0.0	0.0	0.0	0.0
0.55	0.0	0.0	0.0	0.0	0.0	0.0
0.60	0.0	0.0	0.0	0.0	0.0	0.0
0.65	0.0	0.0	0.0	0.0	0.0	0.0
0.70	0.0	0.0	0.0	0.0	0.0	0.0
0.75	0.0	0.0	0.0	0.0	0.0	0.0
0.80	0.0	0.0	0.0	0.0	0.0	0.0
0.85	0.0	0.0	0.0	0.0	0.0	0.0
0.90	0.0	0.0	0.0	0.0	0.0	0.0
0.95	0.0	0.0	0.0	0.0	0.0	0.0
1.00	0.0	0.0	0.0	0.0	0.0	0.0

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