



Jabfloor Premium below a Ground Supported Slab

Table 1

Thickness	U-value					
	D25 Ww/RC	D22 Ww/RC	D20 Ww/RC	D18 Ww/RC	D15 Ww/RC	D10 Ww/RC
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 ground supported slab

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* 70 and 100 can be used below the concrete slab in solid ground-floor constructions to satisfy the relevant U-value requirements.

Easy to handle

Jabfloor *Premium* is manufactured from 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 below the concrete slab 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, Jabfloor *Premium* is fully protected by the concrete slab, 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 1.1 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 <i>Premium</i> 70	0.030W/mK
Jabfloor <i>Premium</i> 100	0.030W/mK

Floor insulation – below ground supported slab

Table 1.1

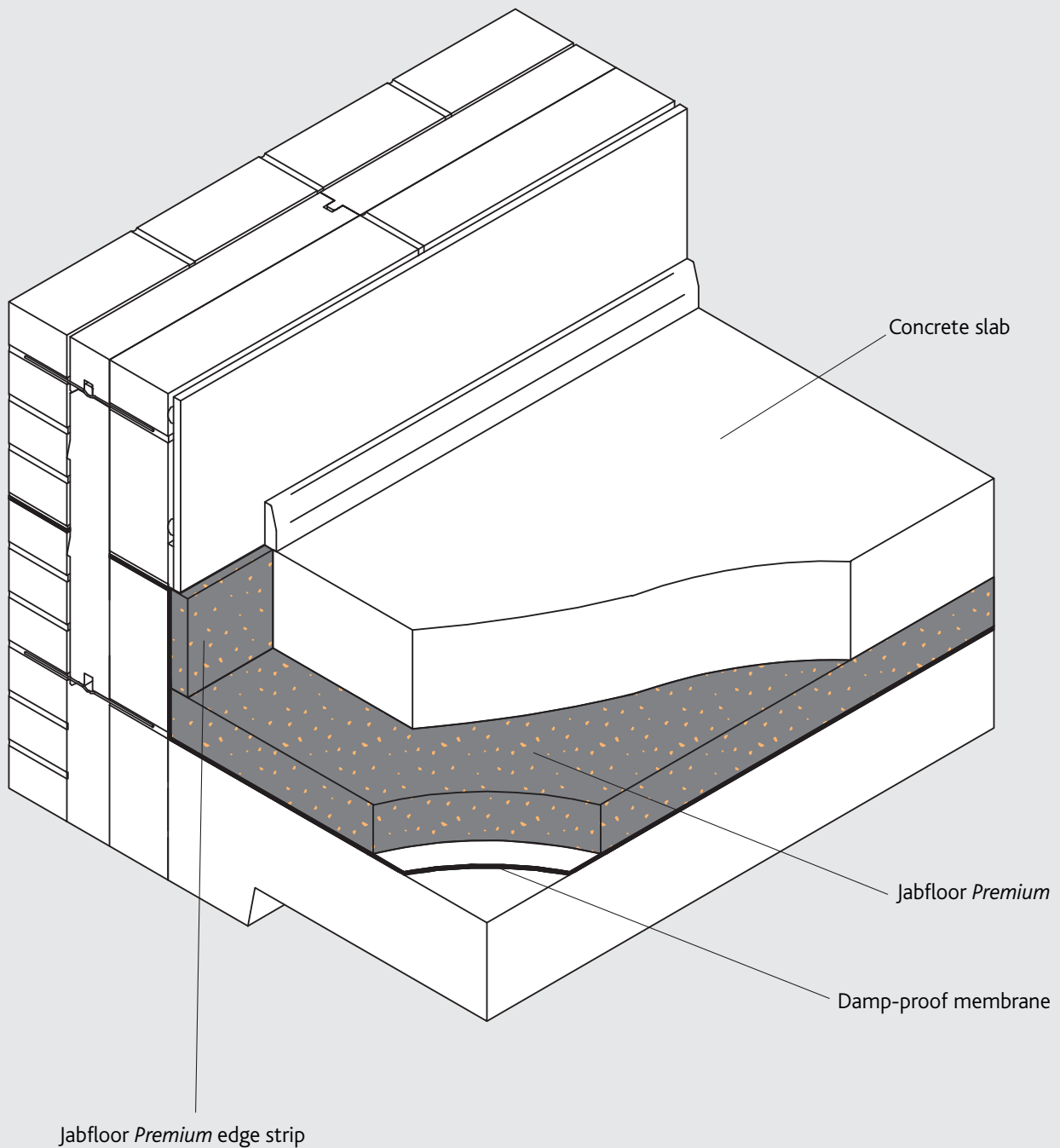
P/A Ratio	U-values					
	0.25 W/m ² K	0.22 W/m ² K	0.20 W/m ² K	0.18 W/m ² K	0.15 W/m ² K	0.10 W/m ² K
1.00	90	105	120	135	170	260
0.90	90	105	115	130	170	260
0.80	85	100	115	130	160	260
0.70	80	100	110	125	160	250
0.60	75	100	105	120	160	250
0.50	70	85	100	115	145	240
0.40	65	80	90	105	140	230
0.30	50	65	80	100	125	220
0.25	40	55	70	85	115	210
0.20	30	50	55	70	100	190
0.15	25	25	40	50	75	170

Key: Standard thickness 2 layers of Standard thickness

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

APPLICATION: Floor insulation – below ground supported slab

Figure 1.1



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

Floor insulation – below ground supported slab

INSTALLATION

Damp-proof membrane

Jabfloor *Premium* should not be regarded as a damp-proof membrane (DPM). A suitable DPM must be provided, positioned either above or below the Jabfloor *Premium*, or on top of the concrete slab; (See figures 1.2 – 1.4). Liquid membranes are positioned above the slab. The hardcore should be blinded before receiving either the Jabfloor *Premium* or the DPM. If a liquid DPM is used, care should be taken that it is compatible with the Jabfloor *Premium* and that it is completely dry before the insulation is laid.

Jabfloor *Premium*

Jabfloor *Premium* should be loose-laid over the prepared surface; all joints should be tightly butted. If the concrete slab is to be poured directly onto the Jabfloor *Premium*, the joints should be covered with 75mm-wide adhesive tape to prevent the ingress of concrete or grout between the boards. Vertical upstands of Jabfloor *Premium* edge strip should be used around perimeter to prevent cold bridging, as detailed in BRE Report 262.

Concrete slab

The concrete slab is laid to the required thickness and either tamped or power-floated to provide the required finish. During these operations, the surface of Jabfloor *Premium* or the DPM should be protected from impact damage or excessive trafficking by the use of spreader boards.

Figure 1.2
Damp-proof membrane above concrete slab

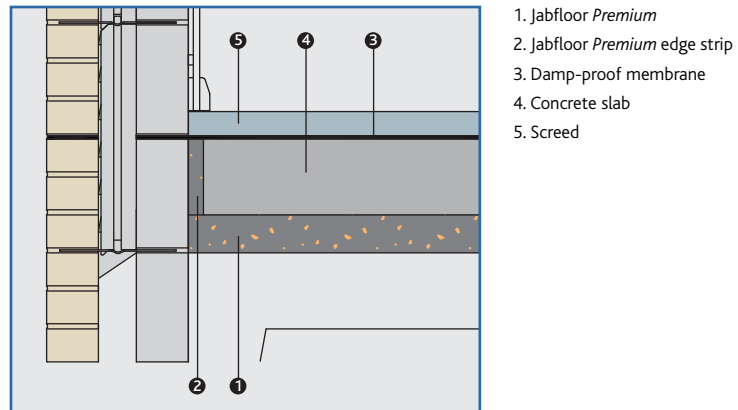


Figure 1.3
Damp-proof membrane above insulation

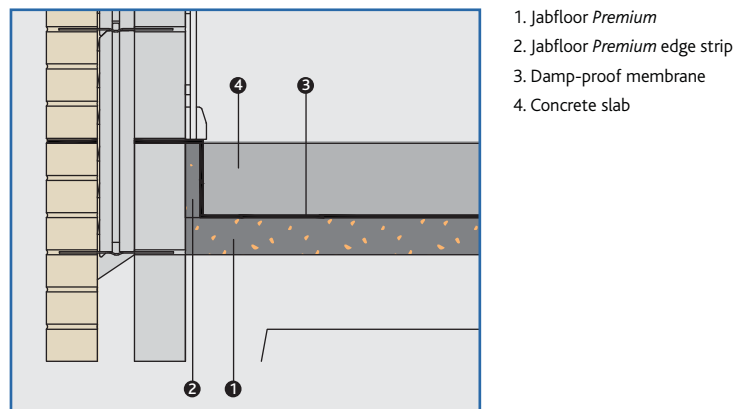
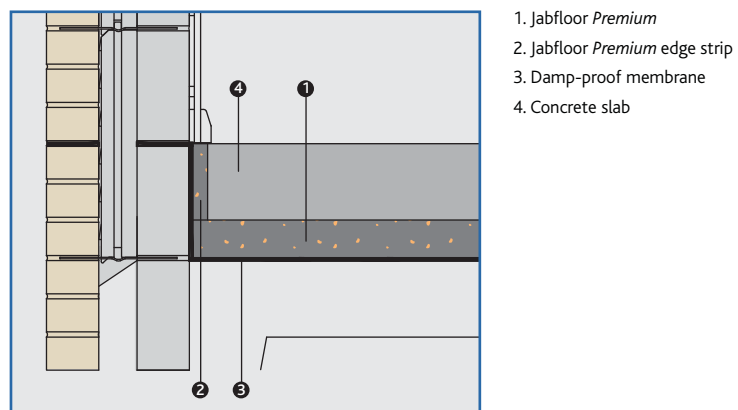


Figure 1.4
Damp-proof membrane below insulation



References

- BRE Report 262. Thermal insulation: avoiding risks – Third edition 2002.
- 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 (EPS) – Specification.

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Table 2.1

U-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
0.00	00	00	00	00	00	00
0.01	01	01	01	01	01	01
0.02	02	02	02	02	02	02
0.03	03	03	03	03	03	03
0.04	04	04	04	04	04	04
0.05	05	05	05	05	05	05
0.06	06	06	06	06	06	06
0.07	07	07	07	07	07	07
0.08	08	08	08	08	08	08
0.09	09	09	09	09	09	09
0.10	10	10	10	10	10	10
0.11	11	11	11	11	11	11
0.12	12	12	12	12	12	12
0.13	13	13	13	13	13	13
0.14	14	14	14	14	14	14
0.15	15	15	15	15	15	15
0.16	16	16	16	16	16	16
0.17	17	17	17	17	17	17
0.18	18	18	18	18	18	18
0.19	19	19	19	19	19	19
0.20	20	20	20	20	20	20
0.21	21	21	21	21	21	21
0.22	22	22	22	22	22	22
0.23	23	23	23	23	23	23
0.24	24	24	24	24	24	24
0.25	25	25	25	25	25	25
0.26	26	26	26	26	26	26
0.27	27	27	27	27	27	27
0.28	28	28	28	28	28	28
0.29	29	29	29	29	29	29
0.30	30	30	30	30	30	30
0.31	31	31	31	31	31	31
0.32	32	32	32	32	32	32
0.33	33	33	33	33	33	33
0.34	34	34	34	34	34	34
0.35	35	35	35	35	35	35
0.36	36	36	36	36	36	36
0.37	37	37	37	37	37	37
0.38	38	38	38	38	38	38
0.39	39	39	39	39	39	39
0.40	40	40	40	40	40	40
0.41	41	41	41	41	41	41
0.42	42	42	42	42	42	42
0.43	43	43	43	43	43	43
0.44	44	44	44	44	44	44
0.45	45	45	45	45	45	45
0.46	46	46	46	46	46	46
0.47	47	47	47	47	47	47
0.48	48	48	48	48	48	48
0.49	49	49	49	49	49	49
0.50	50	50	50	50	50	50
0.51	51	51	51	51	51	51
0.52	52	52	52	52	52	52
0.53	53	53	53	53	53	53
0.54	54	54	54	54	54	54
0.55	55	55	55	55	55	55
0.56	56	56	56	56	56	56
0.57	57	57	57	57	57	57
0.58	58	58	58	58	58	58
0.59	59	59	59	59	59	59
0.60	60	60	60	60	60	60
0.61	61	61	61	61	61	61
0.62	62	62	62	62	62	62
0.63	63	63	63	63	63	63
0.64	64	64	64	64	64	64
0.65	65	65	65	65	65	65
0.66	66	66	66	66	66	66
0.67	67	67	67	67	67	67
0.68	68	68	68	68	68	68
0.69	69	69	69	69	69	69
0.70	70	70	70	70	70	70
0.71	71	71	71	71	71	71
0.72	72	72	72	72	72	72
0.73	73	73	73	73	73	73
0.74	74	74	74	74	74	74
0.75	75	75	75	75	75	75
0.76	76	76	76	76	76	76
0.77	77	77	77	77	77	77
0.78	78	78	78	78	78	78
0.79	79	79	79	79	79	79
0.80	80	80	80	80	80	80
0.81	81	81	81	81	81	81
0.82	82	82	82	82	82	82
0.83	83	83	83	83	83	83
0.84	84	84	84	84	84	84
0.85	85	85	85	85	85	85
0.86	86	86	86	86	86	86
0.87	87	87	87	87	87	87
0.88	88	88	88	88	88	88
0.89	89	89	89	89	89	89
0.90	90	90	90	90	90	90
0.91	91	91	91	91	91	91
0.92	92	92	92	92	92	92
0.93	93	93	93	93	93	93
0.94	94	94	94	94	94	94
0.95	95	95	95	95	95	95
0.96	96	96	96	96	96	96
0.97	97	97	97	97	97	97
0.98	98	98	98	98	98	98
0.99	99	99	99	99	99	99
1.00	100	100	100	100	100	100

For more information about Jablite please contact us on:
Tel: 0870 600 3666
Email: sales@jablite.co.uk
Visit: www.jablite.co.uk



Jablite Limited
Head Office: Infinity House, Anderson Way, Belvedere, Kent DA17 6BG