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Agrément Certificate
02/3943
Product Sheet 1

S AND B EXPANDED POLYSTYRENE INSULATIONS

S AND B EPS FLOORING INSULATION

This Agrément Certificate Product Sheet⁽¹⁾ relates to S and B EPS Flooring Insulation, an expanded polystyrene board for insulating ground-supported or suspended concrete floors. The product may also be used on exposed or semi-exposed intermediate concrete floors and is used to reduce the thermal transmittance of new or existing floors of domestic buildings.

(1) Hereinafter referred to as 'Certificate'.

CERTIFICATION INCLUDES:

- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.

KEY FACTORS ASSESSED

Thermal performance — the declared thermal conductivity (λ_D)* of the product is between $0.038 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ and $0.030 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ depending upon the grade (see section 6).

Condensation — the product can contribute to limiting the risk of condensation (see section 7).

Floor loading — the product, when installed in accordance with this Certificate, can support a design loading for domestic applications (see section 9).

Durability — the product is dimensionally stable and, when installed with the overlays specified in section 4.3, will remain effective as an insulating material for the life of the building in which it is incorporated (see section 11).



The BBA has awarded this Certificate to the company named above for the product described herein. This product has been assessed by the BBA as being fit for its intended use provided it is installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

A handwritten signature in black ink, appearing to read 'John Albon'.

A handwritten signature in black ink, appearing to read 'Claire Curtis-Thomas'.

Date of Second issue: 24 March 2015

Originally certificated on 16 August 2002

Certificate amended on 13 March 2017 to replace the wording EPS 90 E with the word Elite.

John Albon — Head of Approvals
Construction Products

Claire Curtis-Thomas
Chief Executive

The BBA is a UKAS accredited certification body — Number 113. The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at www.bbacerts.co.uk

Readers are advised to check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA direct.

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Regulations

In the opinion of the BBA, S and B EPS Flooring Insulation, if installed, used and maintained in accordance with this Certificate, can contribute to satisfying the relevant requirements of the following Building Regulations (the presence of a UK map indicates that the subject is related to the Building Regulations in the region or regions of the UK depicted):



The Building Regulations 2010 (England and Wales) (as amended)

Requirement:	A1	Loading
Comment:		The product can contribute to satisfying this Requirement. See section 9.2 of this Certificate.
Requirement:	C2(c)	Resistance to moisture
Comment:		The product can contribute to satisfying this Requirement. See sections 7.1 and 7.3 of this Certificate.
Requirement:	L1(a)(i)	Conservation of fuel and power
Comment:		The product can contribute to satisfying this Requirement. See section 6 of this Certificate.
Regulation:	7	Materials and workmanship
Comment:		The product is acceptable. See section 11 and the <i>Installation</i> part of this Certificate.
Regulation:	26	CO ₂ emission rates for new buildings
Regulation:	26A	Fabric energy efficiency rates for new dwellings (applicable to England only)
Regulation:	26A	Primary energy consumption rates for new buildings (applicable to Wales only)
Regulation:	26B	Fabric performance values for new dwellings (applicable to Wales only)
Comment:		The product can contribute to satisfying these Regulations. See section 6 of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)	Durability, workmanship and fitness of materials
Comment:		The product is acceptable. See section 11 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards applicable to construction
Standard:	1.1(a)(b)	Structure
Comment:		The product can contribute to satisfying this Standard, with reference to clause 1.1.1 ⁽¹⁾ . See section 9.2 of this Certificate.
Standard:	3.15	Condensation
Comment:		The product can contribute to satisfying this standard, with reference to clauses 3.15.1 ⁽¹⁾ , 3.15.4 ⁽¹⁾ and 3.15.5 ⁽¹⁾ . See sections 7.1 and 7.4 of this Certificate.
Standard:	6.1(b)	Carbon dioxide emissions
Standard:	6.2	Building insulation envelope
Comment:		The product can contribute to satisfying clauses, or parts of, 6.1.2 ⁽¹⁾ , 6.1.6 ⁽¹⁾ , 6.2.1 ⁽¹⁾ , 6.2.7 ⁽¹⁾ , 6.2.9 ⁽¹⁾ , 6.2.11 ⁽¹⁾ , and 6.2.13 ⁽¹⁾ of these Standards. See section 6 of this Certificate.
Standard:	7.1(a)(b)	Statement of sustainability
Comment:		The product can contribute to satisfying the relevant Requirements of Regulation 9, Standards 1 to 6, and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard. In addition the product can contribute to a construction meeting a higher level of sustainability as defined in this Standard with reference to clauses 7.1.4 ⁽¹⁾ [Aspects 1 ⁽¹⁾ and 2 ⁽¹⁾], 7.1.6 ⁽¹⁾ [Aspects 1 ⁽¹⁾ and 2 ⁽¹⁾] and 7.1.7 ⁽¹⁾ [Aspect 1 ⁽¹⁾]. See section 6.1 of this Certificate.
Regulation:	12	Building standards applicable to conversions
Comment:		All comments given for this product under Regulation 9, Standards 1 to 6, also apply to this Regulation, with reference to clause 0.12.1 ⁽¹⁾ and Schedule 6 ⁽¹⁾ . (1) Technical Handbook (Domestic).



The Building Regulations (Northern Ireland) 2012

Regulation:	23	Fitness of materials and workmanship
Comment:		The product is acceptable. See section 11 and the <i>Installation</i> part of this Certificate.
Regulation:	29	Condensation
Comment:		The product can contribute to satisfying this Regulation. See section 7.1 of this Certificate.
Regulation:	30	Stability
Comment:		The product can contribute to satisfying this Regulation. See section 9.2 of this Certificate.
Regulation:	39(a)(i)	Conservation measures
Regulation:	40(2)	Target carbon dioxide emission rate
Comment:		The product can contribute to satisfying these Regulations when appropriate compensating fabric/services measures are taken. See section 6 of this Certificate.

Construction (Design and Management) Regulations 2007

Construction (Design and Management) Regulations (Northern Ireland) 2007

Information in this Certificate may assist the client, CDM co-ordinator, designer and contractors to address their obligations under these Regulations.

See section: 3 *Delivery and site handling* (3.4) of this Certificate.

Additional Information

NHBC Standards 2014

NHBC accepts the use of S and B EPS Flooring Insulation when installed, used and maintained in accordance with this Certificate, in relation to *NHBC Standards*, Chapter 5.1 *Substructure and ground bearing floors*.

CE marking

The Certificate holder has taken the responsibility of CE marking the products in association with harmonised European Standard BS EN 13163 : 2012. An asterisk (*) appearing in this Certificate indicates that data shown is given in the manufacturer's Declaration of Performance.

Technical Specification

1 Description

1.1 S and B EPS Flooring Insulation consist of rigid, expanded polystyrene boards, in six grades, manufactured to comply with BS EN 13163 : 2012.

1.2 The boards are supplied with the characteristics given in Table 1.

Characteristic (unit)	EPS 70 E	EPS 100 E, EPS 120 E and EPS 150 E	Lambdatherm®(2)	
			EPS 70 E	Elite
Length*(1) (mm)	2400	2400	2400	2400
Width*(1) (mm)	1200	1200	1200	1200
Thickness*(1) (mm)	75 to 100	75 to 100	50 to 100	50 to 100
Water vapour diffusion resistance* factor (μ)	20 to 40	30 to 70	20 to 40	30 to 70
Water vapour permeability* [$\text{mg}\cdot(\text{Pa}\cdot\text{h}\cdot\text{m})^{-1}$]	0.015 to 0.030	0.009 to 0.020	0.015 to 0.030	0.009 to 0.020
Edge profile	square or rebated	square or rebated	square or rebated	square or rebated

(1) Other sizes can be supplied to order.

(2) Lambdatherm is a Registered Trademark.

2 Manufacture

2.1 S and B EPS Flooring Insulation boards are manufactured from expanded polystyrene (EPS) bead placed in a pre-expander. The product is manufactured in blocks and cut to size.

2.2 As part of the assessment and ongoing surveillance of product quality, the BBA has:

- agreed with the manufacturer the quality control procedures and product testing to be undertaken
- assessed and agreed the quality control operated over batches of incoming materials
- monitored the production process and verified that it is in accordance with the documented process
- evaluated the process for management of nonconformities
- checked that equipment has been properly tested and calibrated
- undertaken to carry out the above measures on a regular basis through a surveillance process, to verify that the specifications and quality control operated by the manufacturer are being maintained.

2.3 The management system of S and B EPS Ltd has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2008 and BS EN ISO 14001 : 2004 by BBA (Certificates 03/Q001 and 12/E013 respectively).

3 Delivery and site handling

3.1 The product is delivered to site in packs, wrapped in polythene. Each pack contains a label bearing the manufacturer's trade name, product description, board dimensions, number of boards and the BBA identification mark incorporating the number of this Certificate.

3.2 The product must be protected from prolonged exposure to sunlight and should be stored either under cover or protected with opaque light-coloured polythene.

3.3 The product must be stored fully supported and flat on a firm, level, dry base, protected from the weather and raised above damp surfaces. The product must be discarded if damaged or wet.

3.4 The product must not be exposed to open flame or other ignition sources. Care must be taken to avoid contact with solvents and materials containing organic components.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on S and B EPS Flooring Insulation.

Design Considerations

4 General

4.1 S and B EPS Flooring Insulation is effective in reducing the U value (thermal transmittance) of new or existing ground floors in new and existing domestic buildings.

4.2 Ground-supported concrete and suspended ground floors incorporating the insulation must include a suitable damp-proof membrane (dpm) laid in accordance with the relevant clauses of CP 102 : 1973, BS 8102 : 2009 and/or BS 8215 : 1991 or suitable ventilation of the sub floor as appropriate.

4.3 The overlay to the insulation should be:

- a vapour control layer (VCL) (see section 7.2), and
- a cement-based floor screed of minimum 65 mm thickness, laid in accordance with the relevant clauses of BS 8204-1 : 2003 and/or BS 8204-2 : 2003, or
- a floor finish installed in accordance with BS EN 12871 : 2013
- a concrete slab to BS EN 1992-1-1 : 2004.

5 Practicability of installation

The product is designed to be installed by a competent general builder, or a contractor, experienced with this type of product.

6 Thermal performance



6.1 Calculations of the thermal transmittance (U value) of a floor construction should be carried out in accordance with BS EN ISO 6946 : 2007, BS EN ISO 13370 : 1998 and BRE Report BR 443 : 2006, using the declared thermal conductivity value as given in Table 2.

Table 2 Declared thermal conductivity values

Grade	Thermal conductivity* (W·m ⁻¹ ·K ⁻¹)
EPS 70 E	0.038
EPS 100 E	0.036
EPS 120 E	0.036
EPS 150 E	0.035
LambdaTherm 70 E	0.032
LambdaTherm Elite	0.030

6.2 Examples of U values achieved by different thicknesses of insulation used either in suspended or ground-supported floors are given in Tables 3(a) and 3(b).

Table 3(a) Floor U values

Floor type	Insulation	Perimeter/area ratio	Insulation Board thickness requirement (mm)				
			Target U value (W·m ⁻² ·K ⁻¹)				
			0.13	0.15	0.20	0.22	0.25
Slab and ground Supported	EPS 70 E	0.2	160	125	65	50	35
		0.4	210	170	115	100	80
		0.6	230	190	130	115	95
		0.8	240	200	140	125	105
		1.0	245	205	145	130	110
	EPS 100 E and EPS 120 E	0.2	150	120	65	50	35
		0.4	200	165	105	95	75
		0.6	215	180	125	110	90
		0.8	225	190	135	120	100
		1.0	230	195	140	125	105
	EPS 150 E	0.2	145	115	60	50	30
		0.4	190	160	105	90	75
		0.6	210	175	120	105	90
		0.8	220	185	130	115	95
		1.0	225	190	135	120	100
Suspended beam-and-block	EPS 70 E	0.2	190	155	95	80	60
		0.4	225	185	125	110	90
		0.6	235	200	140	120	100
		0.8	240	205	145	130	110
		1.0	245	210	150	130	110
	EPS 100 E and EPS 120 E	0.2	180	145	90	75	55
		0.4	210	175	120	105	85
		0.6	220	190	130	115	95
		0.8	225	195	135	120	105
		1.0	230	195	140	125	105
	EPS 150 E	0.2	175	145	90	75	55
		0.4	205	170	115	100	85
		0.6	215	185	130	115	95
		0.8	220	190	135	120	100
		1.0	225	190	135	120	105

Table 3(b) Floor U values

Floor type	Insulation	Perimeter/area ratio	Insulation Board thickness requirement (mm)				
			Target U value ($W \cdot m^{-2} \cdot K^{-1}$)				
			0.13	0.15	0.20	0.22	0.25
Slab and ground supported	Lambdatherm 70 E	0.2	135	105	60	45	30
		0.4	175	145	95	85	70
		0.6	195	160	115	100	80
		0.8	200	170	120	105	90
		1.0	205	175	125	110	95
	Lambdatherm Elite	0.2	125	100	55	45	30
		0.4	165	135	90	80	65
		0.6	180	150	105	90	75
		0.8	190	160	115	100	85
		1.0	195	165	120	105	90
Suspended beam-and-block	Lambdatherm 70 E	0.2	160	130	80	70	50
		0.4	190	160	110	95	80
		0.6	200	170	120	105	85
		0.8	205	175	120	110	90
		1.0	205	175	125	115	95
	Lambdatherm Elite	0.2	150	125	75	65	45
		0.4	180	150	100	90	75
		0.6	185	160	110	95	80
		0.8	190	165	115	105	85
		1.0	195	165	120	105	90

Note: (1) Constructions and boundary conditions used for both Tables are in accordance with Chapter 9.1 and 9.2 of BRE Report BR 443 : 2006.
 (2) Where a construction is used with the dpm above the insulation on a slab on the ground (see Figure 6), a moisture correction factor should be considered for the thermal conductivity used, in accordance with BS EN ISO 10456 : 2007.

6.3 Care must be taken in the overall design and construction of junctions with other elements and openings to minimise thermal bridges and air infiltration. Detailed guidance can be found in the documents supporting the national Building Regulations.

7 Condensation

Interstitial condensation



7.1 Floors will adequately limit the risk of interstitial condensation when they are designed and constructed in accordance with BS 5250 : 2011, Annex F.

7.2 When the product is used above the dpm on a ground-supported floor, or on a beam-and-block floor, a VCL is installed on the warm side of the insulation to inhibit the risk of interstitial condensation on the upper slab surface.

Surface condensation



7.3 Floors will adequately limit the risk of surface condensation when the thermal transmittance (U value) does not exceed $0.7 W \cdot m^{-2} \cdot K^{-1}$ at any point and junctions with other elements are designed in accordance with the guidance referred to in section 6.3 of this Certificate.



7.4 Floors will adequately limit the risk of surface condensation when the thermal transmittance (U value) does not exceed $1.2 W \cdot m^{-2} \cdot K^{-1}$ at any point. Guidance may be obtained from BS 5250 : 2011 Annex F. Further guidance may be obtained from BRE Report BR 262 : 2002 and section 6.3 of this Certificate.

8 Behaviour in relation to fire

8.1 The product is classified as Class E* in accordance with BS EN 13501-1 : 2002.

8.2 When properly installed, the product will not add significantly to any existing fire hazard. The product will be contained within the floor by the overlay until the overlay itself is destroyed. Therefore, the product will not contribute to the development stages of a fire or present a smoke or toxic hazard.

8.3 Electrical cables running within the polystyrene should be separated from it by enclosing them within a suitable conduit, eg rigid PVC.

9 Floor loading

9.1 The Certificate holder has declared designation codes of CS(10)70*, CS(10)90*, CS(10)100*, and CS(10)150* in accordance with BS EN 13163 : 2012 (compressive stress at 10% deformation to BS EN 826 : 2013) for the product, depending on the grades.

9.2 The product is suitable for domestic occupancies defined in this Certificate when covered with a suitable floor overlay (see section 4.3), and is capable of resisting a uniformly distributed load of 1.5 kN·m⁻² or a concentrated load of 2 kN for category A1 and A2 (domestic) situations as defined in BS EN 1991-1-1 : 2002, National Annex Table NA.2, or BS 6399-1 : 1996 Table 1. Further assessment is necessary in the case of duty walkways and floors subject to physical activities.

9.3 The performance of the floor construction will depend on the insulation properties and type of floor overlay used (including thickness and strength). Where the product is used under a concrete slab, resistance to concentrated and distributed loads is a function of the slab specification. Further guidance on the suitability of floor coverings can be found in BS EN 13810-1 : 2002, BS EN 13810-2 : 2003, BS 8204-1 : 2003 and BS EN 312 : 2010, and from the flooring manufacturer.

10 Maintenance

The product is confined within the floor and has suitable durability (see section 11), maintenance is not required.

11 Durability

The insulation is rot-proof, dimensionally stable and, when installed with the overlays specified in this Certificate, will remain effective as an insulating material for the life of the building in which it is incorporated.

Installation

12 General

12.1 Installation of S and B EPS Flooring Insulation must be in accordance with the Certificate holder's installation instructions and the requirements of this Certificate.

12.2 Typical methods of installation are shown in Figures 1 to 6. Reference should also be made to BRE Report BR 262 : 2002.

12.3 All floor surfaces should be smooth, level and flat to within 5 mm when measured with a two-metre straight-edge. Irregularities greater than this must be removed. Minor irregularities (up to 10 mm deep) may be levelled with mortar or thin screed.

12.4 In ground-supported concrete floors (see Figures 1, 3 and 5), the concrete floor slab over which the insulation is laid should be left for as long as possible to maximise drying out and dissipation of constructional moisture, in accordance with BS 8203 : 2001, Section 3.1.2.

Figure 1 Ground-supported concrete floor — particle board overlay

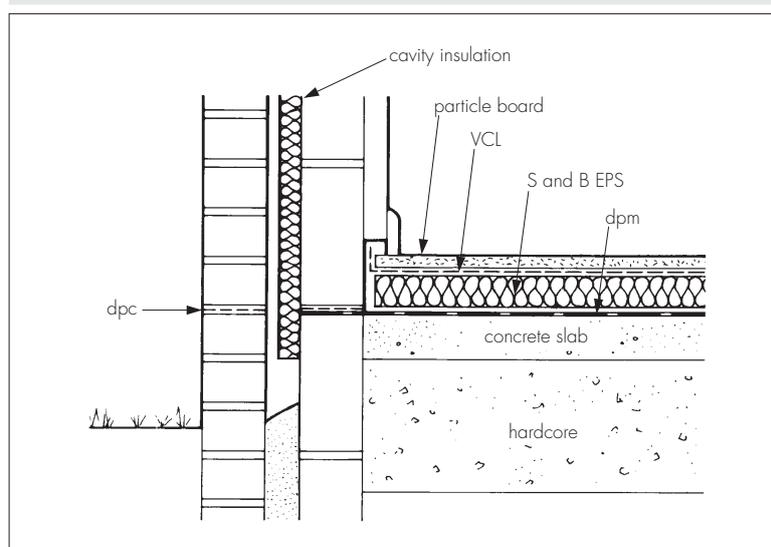


Figure 2 Suspended concrete floor — particle board overlay

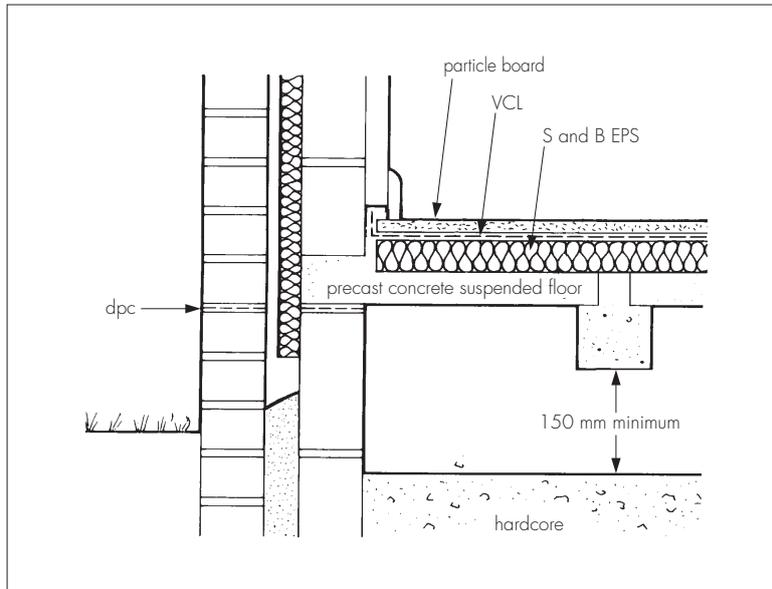


Figure 3 Ground-supported concrete floor — particle board overlay

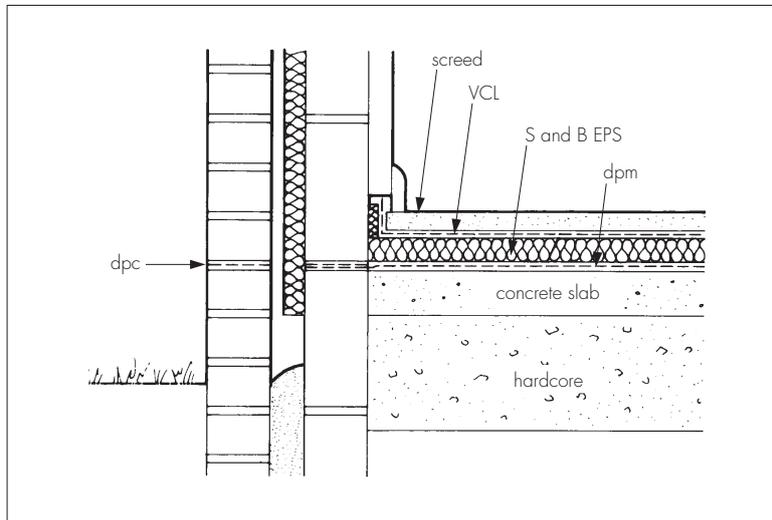


Figure 4 Suspended concrete floor — screed overlay

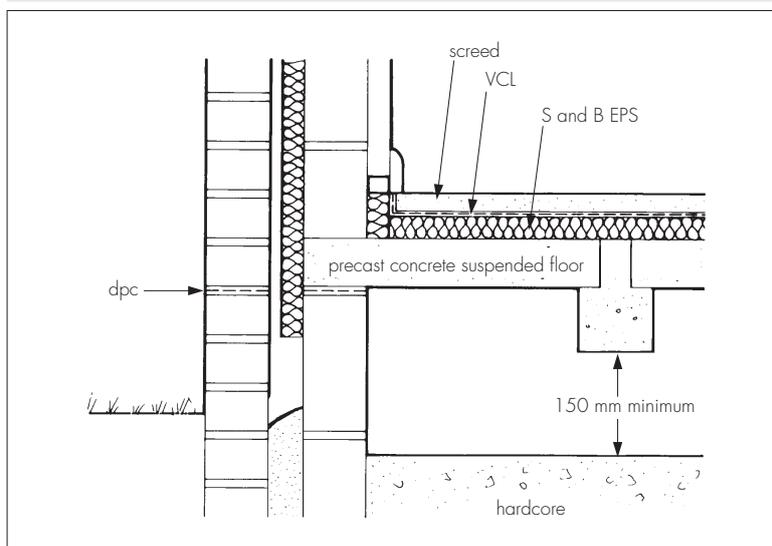


Figure 5 Particle board overlay — damp-proof membrane (dpm) under concrete slab

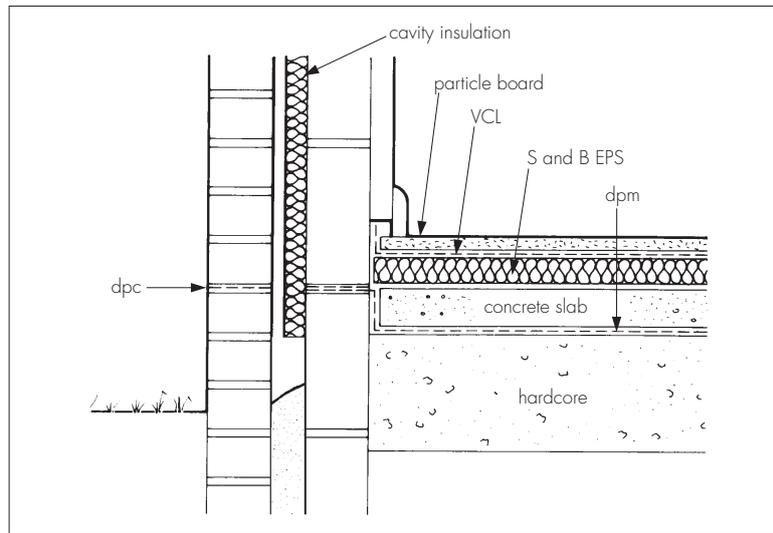
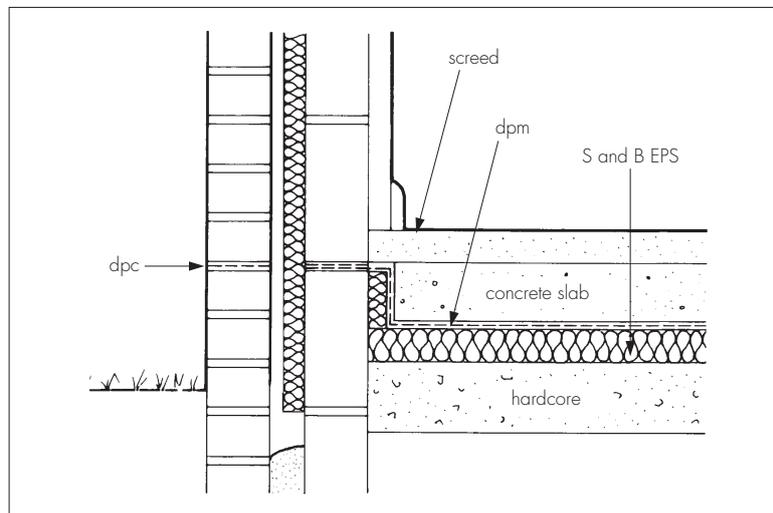


Figure 6 Concrete slab overlay



12.5 Where the insulation is used over ground-supported concrete floor slabs a suitable (dpm) in accordance with BS 8102 : 2009, should be laid to resist moisture from the ground. If a liquid-type dpm is applied to the slabs, it should be of a type compatible with expanded polystyrene and be allowed to dry out fully before laying the insulation.

12.6 Where the insulation is used on hardcore bases under ground-supported concrete slabs, the hardcore must be compacted and blinded before application of the insulation.

12.7 The insulation can be used on beam-and-block (see Figures 2 and 4) suspended concrete floors, that are the subject of a current Agrément Certificate and installed in accordance with, and within the limitations imposed by that Certificate, or those designed and installed to the precast concrete and general loading codes, that have been assessed as suitable.

12.8 Where a screed or concrete slab is laid over the insulation, vertical upstands of insulation should be provided and be of sufficient depth to fully separate the screed or slab from the wall. If used, a suitable partial fill cavity wall insulation material can be extended below the dpc level to provide edge insulation to the floor.

12.9 During construction, the insulation and overlays must be protected from damage by traffic and moisture sources such as water spillage and plaster droppings.

13 Procedure

13.1 The insulation is cut to size, as necessary and laid with closely-butted, staggered cross-joints, ensuring that all spaces are completely filled. For rebate edged boards, one edge should be cut straight and laid next to the wall.

13.2 The laying pattern should ensure that all cut edges are at the perimeter of the floor or some other feature, eg mat wells, thresholds or access ducts. Spreader boards should be used to protect the insulation.

Particle board and oriented strand board (OSB) overlays (Figures 1, 2 and 5)

13.3 Before laying the particle board or OSB overlays, preservative-treated battens, in accordance with BS 8417: 2011 are positioned at doorways, access panels and to support partitions. Adequate time should be allowed for preservatives to be fixed and the solvents from solvent-based preservatives to evaporate.

13.4 Where the insulation is laid on a dpm, a VCL of polythene sheet with a minimum thickness of 0.25 mm (1000 gauge), is laid between the insulation and the particle board. The polythene sheet has 150 mm overlaps taped at the joints and is turned up 100 mm at the walls.

13.5 Tongue-and-groove overlay boards, 18 mm thick, are laid with staggered cross-joints.

13.6 An expansion gap between the overlay board and the perimeter walls should be provided at the rate of 2 mm per metre run or a minimum of 10 mm, whichever is the greater.

13.7 Where there are long, uninterrupted lengths of floor, eg corridors, proprietary expansion joints should be installed at intervals on the basis of a 2 mm gap per metre run of overlay board.

13.8 Before the overlay boards are interlocked, a waterproof PVA adhesive is applied to the joints.

13.9 Once the overlay board is laid, temporary wedges are inserted between the walls and the floor to maintain tight joints until the adhesive has set.

13.10 When the wedges are removed and before the skirting boards are fixed, suitable compressible filler, eg pieces of polystyrene, should be fitted around the perimeter of the floor between the overlay board and the walls.

13.11 Where there is a likelihood of regular water spillage, eg in rooms such as kitchens, bathrooms, shower and utility rooms, additional particle board protection should be considered, eg by a continuous flexible vinyl sheet flooring, with welded joints, turned up at abutments and cove skirting.

Cement-based screed overlay (Figures 3, 4 and 6)

13.12 Perimeter edge pieces are cut and placed around the edges and all floor joints taped before a properly-compacted screed of a minimum thickness 65 mm is laid. The relevant clauses of BS 8204-1 : 2003 should be followed and BRE Digest 224 : 1981 and BRE Digest 104 : 1973 should be consulted.

Concrete slab overlay (ground bearing only) (Figure 6)

13.13 Perimeter edge pieces are cut and placed around the edges and taped at joints. The concrete slab is laid to the required thickness.

14 Incorporation of services

14.1 The insulation must not be used in direct contact with electrical heating cables or hot water pipes.

14.2 Where possible, electrical conduits, gas and water pipes or other services should, be contained in ducts or channels within the concrete slab of ground-supported floors. Where this is not possible, the services may be accommodated within the insulation, provided they are securely fixed to the concrete slab. Electrical cables should be enclosed in a suitable conduit. With hot pipes, the insulation must be cut back to maintain an air space.

14.3 Where water pipes are installed, either within the slab or the insulation, they must be pre-lagged with close fitting pipe insulation, eg extruded polyethylene foam.

14.4 Where the boards are installed on a floor of a suspended beam-and-block design, all services must be installed so as not to impair the floor performance in accordance with the Agrément Certificate (where appropriate) for that floor.

14.5 For exposed/semi-exposed intermediate concrete floors, all services should be incorporated beneath the existing floor.

14.6 On overlay board floors, in situations where access to the services is desirable, a duct may be formed by mechanically fixing, to the floor, timber bearers of the same thickness as the insulation to provide support for a particle board cover. Services should be suitably fixed to the floor base and not to the insulation boards.

Technical Investigations

15 Tests

Tests were carried out by the BBA in accordance with BS EN 13163 : 2001 to determine:

- thickness
- compressive stress at 10% deformation
- long-term water absorption by immersion (total and partial)
- long-term water absorption by diffusion
- thermal conductivity (λ_D value)
- dimensional stability under constant normal laboratory conditions
- dimensional stability at specified temperature and humidity
- compressive creep
- freeze-thaw resistance.

16 Investigations

16.1 The manufacturing process was examined, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

16.2 An examination was made of test data to BS EN 13163 : 2001 relating to:

- dimensions
- squareness
- flatness
- density
- thermal conductivity (λ_D value)
- compressive strength at 10% compression
- bending strength.

Bibliography

BS 5250 : 2011 *Code of practice for control of condensation in buildings*

BS 6399-1 : 1996 *Loading for buildings — Code of practice for dead and imposed loads*

BS 8102 : 2009 *Code of practice for protection of below ground structures against water from the ground*

BS 8203 : 2001 *Code of practice for installation of resilient floor coverings*

BS 8204-1 : 2003 *Screeds, bases and in situ floorings — Concrete bases and cementitious levelling screeds to receive floorings — Code of practice*

BS 8204-2 : 2003 *Screeds, bases and in situ floorings — Concrete wearing surfaces — Code of practice*

BS 8215 : 1991 *Code of practice for design and installation of damp-proof courses in masonry construction*

BS 8417 : 2011 *Preservation of wood — Code of practice*

BS EN 312 : 2010 *Particleboards — Specifications*

BS EN 826 : 2013 *Thermal insulating products for building applications — Determination of compression behaviour*

BS EN 1991-1-1 : 2002 *Eurocode 1 — Actions on structures — General actions — Densities, self-weight, imposed loads for buildings*

NA to BS EN 1991-1-1 : 2002 *UK National Annex to Eurocode 1 : Actions on structures — General actions — Densities, self-weight, imposed loads for buildings*

BS EN 1992-1-1 : 2004 *Eurocode 2 : Design of concrete structures — General rules and rules for buildings*

BS EN 12871 : 2013 *Wood-based panels — Determination of performance characteristics for load bearing panels for use in floors, roofs and walls*

BS EN 13163 : 2001 *Thermal insulation products for buildings — Factory made products of expanded polystyrene — Specification*

BS EN 13163 : 2012 *Thermal insulation products for buildings — Factory made expanded polystyrene (EPS) products — Specification*

BS EN 13810-1 : 2002 *Wood-based panels — Floating floors — Performance specifications and requirements*

BS EN 13810-2 : 2003 *Wood-based panels — Floating floors — Test methods*

BS EN 13501-1 : 2002 *Fire classification of construction products and building elements — Classification using test data from reaction to fire tests*

BS EN ISO 6946 : 2007 *Building components and building elements — Thermal resistance and thermal transmittance — Calculation method*

BS EN ISO 9001 : 2008 *Quality management systems — Requirements*

BS EN ISO 10456 : 2007 *Building materials and products — Hygrothermal properties — Tabulated design values and procedures for determining declared and design thermal values*

BS EN ISO 13370 : 1998 *Thermal performance of buildings — Heat transfer via the ground — Calculation methods*

BS EN ISO 14001 : 2004 *Environmental management systems — Requirements with guidance for use*

CP 102 : 1973 *Code of practice for protection of buildings against water from the ground*

BRE Digest 104 : 1973 *Floor screeds*

BRE Digest 224 : 1981 *Cellular Plastics for Buildings — Floors*

BRE Report (BR 262 : 2002) *Thermal insulation: avoiding risks*

BRE Report (BR 443 : 2006) *Conventions for U-value calculations*

17 Conditions

17.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is issued only to the company, firm, organisation or person named on the front page — no other company, firm, organisation or person may hold or claim that this Certificate has been issued to them
- is valid only within the UK
- has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective
- is copyright of the BBA
- is subject to English Law.

17.2 Publications, documents, specifications, legislation, regulations, standards and the like referenced in this Certificate are those that were current and/or deemed relevant by the BBA at the date of issue or reissue of this Certificate.

17.3 This Certificate will remain valid for an unlimited period provided that the product/system and its manufacture and/or fabrication, including all related and relevant parts and processes thereof:

- are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA
- continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine
- are reviewed by the BBA as and when it considers appropriate.

17.4 The BBA has used due skill, care and diligence in preparing this Certificate, but no warranty is provided.

17.5 In issuing this Certificate, the BBA is not responsible and is excluded from any liability to any company, firm, organisation or person, for any matters arising directly or indirectly from:

- the presence or absence of any patent, intellectual property or similar rights subsisting in the product/system or any other product/system
- the right of the Certificate holder to manufacture, supply, install, maintain or market the product/system
- actual installations of the product/system, including their nature, design, methods, performance, workmanship and maintenance
- any works and constructions in which the product/system is installed, including their nature, design, methods, performance, workmanship and maintenance
- any loss or damage, including personal injury, howsoever caused by the product/system, including its manufacture, supply, installation, use, maintenance and removal
- any claims by the manufacturer relating to CE marking.

17.6 Any information relating to the manufacture, supply, installation, use, maintenance and removal of this product/system which is contained or referred to in this Certificate is the minimum required to be met when the product/system is manufactured, supplied, installed, used, maintained and removed. It does not purport in any way to restate the requirements of the Health and Safety at Work etc. Act 1974, or of any other statutory, common law or other duty which may exist at the date of issue or reissue of this Certificate; nor is conformity with such information to be taken as satisfying the requirements of the 1974 Act or of any statutory, common law or other duty of care.