Ravago Building Solutions UK Limited
Beech Farm Offices
Lymm Road
Thelwall
Warrington WA4 2TG

Tel: +44 3301 096138
e-mail: technical.uk.rbs@ravago.com
website: www.ravagobuildingsolutions.co.uk

Agrément Certificate
21/5866
Product Sheet 1 Issue 2

RAVAGO BUILDING SOLUTIONS UK

RAVATHERM XPS X 300 SB FLOOR INSULATION

This Agrément Certificate Product Sheet(1) relates to Ravatherm XPS X 300 SB Floor Insulation, an extruded polystyrene (XPS) board for use as thermal insulation in ground-bearing or suspended concrete floors, in new or existing domestic and non-domestic buildings.

(1) Hereinafter referred to as 'Certificate'.

The assessment includes

Product factors:

- compliance with Building Regulations
- compliance with additional regulatory or non-regulatory information where applicable
- evaluation against technical specifications
- assessment criteria and technical investigations
- uses and design considerations

Process factors:

- compliance with Scheme requirements
- installation, delivery, handling and storage
- production and quality controls
- maintenance and repair

Ongoing contractual Scheme elements†:

- regular assessment of production
- formal 3-yearly review

KEY FACTORS ASSESSED

Section 1. Mechanical resistance and stability
Section 2. Safety in case of fire
Section 3. Hygiene, health and the environment
Section 4. Safety and accessibility in use
Section 5. Protection against noise
Section 6. Energy economy and heat retention
Section 7. Sustainable use of natural resources
Section 8. Durability

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

Date of Second issue: 17 July 2025
Originally certified on 25 February 2021

Hardy Giesler
Chief Executive Officer

This BBA Agrément Certificate is issued under the BBA's Inspection Body accreditation to ISO/IEC 17020. Sections marked with † are not issued under accreditation.

The BBA is a UKAS accredited Inspection Body (No. 4345), Certification Body (No. 0113) and Testing Laboratory (No. 0357).

Readers MUST check that this is the latest issue of this Agrément Certificate by either referring to the BBA website or contacting the BBA directly.

The Certificate should be read in full as it may be misleading to read clauses in isolation.

Any photographs are for illustrative purposes only, do not constitute advice and should not be relied upon.

British Board of Agrément
1st Floor Building 3
Croxley Park, Watford
Herts WD18 8YG

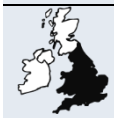
tel: 01923 665300
clientservices@bbacerts.co.uk
www.bbacerts.co.uk

SUMMARY OF ASSESSMENT AND COMPLIANCE

This section provides a summary of the assessment conclusions; readers should refer to the later sections of this Certificate for information about the assessments carried out.

Compliance with Regulations

Having assessed the key factors, the opinion of the BBA is that Ravatherm XPS X 300 SB Floor Insulation, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements of the following Building Regulations:



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

Requirement:	**A1**	**Loading**
Comment:		The product can contribute to satisfying this Requirement. See section 1 of this Certificate.
Requirement:	**C2(c)**	**Resistance to moisture**
Comment:		The product can contribute to satisfying this Requirement. See section 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(1)**	**Materials and workmanship**
Comment:		The product is acceptable. See sections 8 and 9 of this Certificate.
Regulation:	**25B**	**Nearly zero-energy requirements for new buildings**
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 efficiency rates for new buildings (applicable to Wales only)**
Regulation:	**26B**	**Fabric performance values for new dwellings (applicable to Wales only)**
Regulation:	**26C**	**Target primary energy rates for new buildings (applicable to England only)**
Regulation:	**26C**	**Energy efficiency rating (applicable to Wales only)**
Comment:		The product can contribute to satisfying these Regulations; however, compensating fabric/service measures will be required. See section 6 of this Certificate.

The Building (Scotland) Regulations 2004 (as amended)

Regulation:	**8(1)**	**Fitness and durability of materials and workmanship**
Comment:		The product is acceptable. See sections 8 and 9 of this Certificate.
Regulation:	**9**	**Building standards - construction**
Standard:	1.1(b)	Structure The product can contribute to satisfying this Standard, with reference to clause 1.1.2[(1)]. See section 1 of this Certificate.
Standard:	3.15	Condensation
Comment:		The product can contribute to satisfying this Standard, with reference to clauses 3.15.1[(1)(2)], 3.15.4[(1)(2)] and 3.15.5[(1)(2)]. See section 3 of this Certificate.
Standard:	6.1(b)(c)	Energy demand
Comment:		The product can contribute to satisfying this Standard, with reference to clauses 6.1.1[(1)] and 6.1.2[(2)]; however, compensating fabric/service measures will be required. See section 6 of this Certificate.

Standard: Comment:	6.2	Building insulation envelope The product can contribute to satisfying this Standard, with reference to clauses, or parts of, 6.2.1(1)(2), 6.2.3(1), 6.2.4(2), 6.2.6(1), 6.2.7(1)(2), 6.2.8(1), 6.2.9(1)(2), 6.2.10(1)(2), 6.2.11(1)(2) and 6.2.12(1). See section 6 of this Certificate.
Standard: Comment:	7.1(a)(b)	Statement of sustainability The product can contribute to satisfying the relevant requirements of Regulation 9, Standards 1 to 6, and therefore will contribute to a construction meeting at least 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), 7.1.6(1)(2), 7.1.7(1), 7.1.9(2) and 7.1.10(2). See section 6 of this Certificate.
Regulation: Comment:	**12**	**Building standards - conversion** All comments given for the product under Regulation 9, Standards 1 to 6, also apply to this Regulation, with reference to clause 0.12.1(1)(2) and Schedule 6(1)(2). (1) Technical Handbook (Domestic). (2) Technical Handbook (Non-Domestic).

The Building Regulations (Northern Ireland) 2012 (as amended)

Regulation: Comment:	**23(1)(a)(i) (iii)(b)(i)(ii)**	**Fitness of materials and workmanship** The product is acceptable. See sections 8 and 9 of this Certificate.
Regulation: Comment:	**29**	**Condensation** The product can contribute to satisfying this Regulation. See section 3 of this Certificate.
Regulation: Comment:	**30**	**Stability** The product can contribute to satisfying this Regulation. See section 1 of this Certificate.
Regulation: Comment:	**39(a)(i)**	**Conservation measures** The product can contribute to satisfying this Regulation. See section 6 of this Certificate.
Regulation: **Regulation:** **Regulation:** Comment:	**40(2)** **43(1)(2)** **43(B)**	**Target carbon dioxide emission rate** **Renovation of thermal elements** **Nearly zero-energy requirements for new buildings** The product can contribute to satisfying these Regulations; however, compensating fabric/service measures will be required. See section 6 of this Certificate.

Additional Information

NHBC Standards 2025

In the opinion of the BBA, Ravatherm XPS X 300 SB Floor Insulation, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards*, Chapters 5.1 *Substructure and ground bearing floors* and 5.2 *Suspended ground-floors.*

The opinion of the BBA does not amount to any endorsement or approval by NHBC and does not in any way guarantee that NHBC will approve such product / system as compliant with the NHBC Technical Requirements and Standards.

Fulfilment of Requirements

The BBA has judged Ravatherm XPS X 300 SB Floor Insulation to be satisfactory for use as described in this Certificate. The product has been assessed as an XPS board, for use as thermal insulation in ground-bearing or suspended concrete floors, in new or existing domestic and non-domestic buildings.

ASSESSMENT

Product description and intended use

The Certificate holder provided the following description for the product under assessment. Ravatherm XPS X 300 SB Floor Insulation consists of rigid XPS boards.

The product has the nominal characteristics given in Table 1.

Table 1 Nominal characteristics

Characteristic (unit)	Value
Length and width (mm)	2500 x 600
Thickness (mm)	50, 75, 100, 125, 150
Edge profile	Square
Deviation from flatness (mm/m)	6
Colour	Grey

The product is intended for use as floor insulation in new and existing domestic and non-domestic buildings and may be used in:

- ground-supported concrete floors
- suspended concrete ground floors
- suitably designed beam-and-block floors incorporating Type R2 semi-resisting or resisting blocks to BS EN 15037-2 : 2009 and self-bearing beams to BS EN 15037-1 : 2008.

Ancillary Items

The Certificate holder recommends the following ancillary items for use with the product, but these materials have not been assessed by the BBA and are outside the scope of this Certificate:

- damp proof membrane (DPM)
- air and vapour control layer (AVCL)

The overlay to the product must be:

- an AVCL where necessary (see section 3) and:
- a cement-based floor screed of minimum 65 mm(1) thickness, laid in accordance with the relevant clauses of BS 8204-1 : 2003 and/or BS 8204-2 : 2003, and BS 8000-9 : 2003 or
- wood-based floor (eg tongue-and-groove plywood to BS EN 636 : 2012, flooring grade particle board [Type P4 or P7] to BS EN 312 : 2010 or oriented strand board [type OSB/3 to OSB/4] to BS EN 300 : 2006), of a thickness to be determined by a suitably experienced and competent individual, and installed in accordance with PD CEN/TR 12872 : 2014 and BS EN 12871 : 2013 or
- a concrete slab to BS EN 1992-1-1 : 2004 and its UK National Annex.

(1) The NHBC only accept ground-supported floor slabs with at least 100 mm thick concrete including a monolithic screed.

Product assessment – key factors

The product was assessed for the following key factors, and the outcome of the assessments is shown below. Conclusions relating to the Building Regulations apply to the whole of the UK unless otherwise stated.

1 Mechanical resistance and stability

Data were assessed for the following characteristics.

1.1 Behaviour under loading

1.1.1 The product was tested for compressive strength and assessed for compressive creep and the results are given in Table 2.

Table 2 Compressive strength and compressive creep

Product assessed	Assessment method	Requirement	Result
Ravatherm XPS X 300 SB Floor Insulation	Minimum compressive strength at 10% deformation to BS EN 826 : 2013	Declared value CS(10\Y) 300	Pass
	Compressive creep assessment to EN 13164 : 2012	Creep strain less than 2%	Pass

1.1.2 On the basis of data assessed, the product is suitable for the occupancies defined in this Certificate when covered with a suitable floor overlay, and is capable of resisting a uniformly distributed load of 1.5 $kN \cdot m^{-2}$ or a concentrated load of 2 kN for category A1 and A2 (domestic) situations as defined in the UK National Annex to BS EN 1991-1-1 : 2002, Table NA.2, and is also capable of resisting a uniformly distributed load of 3 $kN \cdot m^{-2}$ for category B (offices) and 4 $kN \cdot m^{-2}$ for category C33 (non-domestic), or a concentrated load of 2.7 kN for category B (offices) and 4.5 kN for category C33 (non-domestic) situations as defined in the UK National Annex to BS EN 1991-1-1 : 2002, Table NA.2.

1.1.3 The performance of a specific floor construction will depend on the insulation properties and type of floor overlay used (including thickness and strength). When the products are 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 overlays can be found in BS EN 13810-1 : 2002, DD CEN/TS 13810-2 : 2003, BS 8204-1 : 2003 and BS EN 312 : 2010, and from the flooring manufacturer, although the latter is outside the scope of this Certificate.

2 Safety in case of fire

Data were assessed for the following characteristics.

2.1 Reaction to fire

The product was tested for reaction to fire and the classification is given in Table 3.

Table 3 Reaction to fire classification

Product assessed	Assessment method	Requirement	Result(1)
Ravatherm XPS X 300 SB Floor Insulation	NF EN 13501-1 : 2018	Reaction to fire classification	E

(1) Details of the classification can be found in test report RA21-0144 (Issue no 3, 2 August 2021), issued by CSTB, available from the Certificate holder. This classification is valid for thicknesses of 50 to 205 mm.

3 Hygiene, health and the environment

Data were assessed for the following characteristics.

3.1 Water vapour permeability

For the purpose of assessing the risk of interstitial condensation, the water vapour resistivity value may be taken as given in Table 4.

Table 4 Water vapour resistivity

Material	Assessment method	Requirement	Result
XPS insulation	EN ISO 10456 : 2007	Value achieved	100 μ

3.2 Condensation

3.2.1 The BBA has assessed the product for the risk of interstitial condensation, and the following factors must be implemented:

3.2.1.1 When the product is used on a ground-bearing floor or a suspended concrete floor, an AVCL must be installed on the warm side of the insulation to inhibit the risk of interstitial condensation, unless a risk assessment shows this is not necessary.

3.2.1.2 Voids below suspended concrete ground floors must be ventilated. Ventilation may be achieved by installing vents not less than 1500 $mm^2 \cdot m^{-1}$ run of external wall or 500 $mm^2 \cdot m^{-2}$ of floor area, whichever is the greater. Ventilation openings must be arranged to prevent the ingress of rain, snow, birds and small mammals and the risk of subsequent blockage by other building operations.

4 Safety and accessibility in use

Not applicable.

5 Protection against noise

Not applicable.

6 Energy economy and heat retention

Data were assessed for the following characteristics.

6.1 Thermal conductivity

The product was tested for thermal conductivity and the results are given in Table 5.

Table 5 Thermal conductivity

Product assessed	Insulation thickness	Assessment method	Requirement	Result
Ravatherm XPS X 300 SB	< 60 mm	EN 13164 : 2012	Declared value (λ_D)	0.030 $W \cdot m^{-1} \cdot K^{-1}$
Floor Insulation	≥ 60 mm			0.031 $W \cdot m^{-1} \cdot K^{-1}$

6.2 Thermal performance

6.2.1 The U value of a completed floor will depend on the insulation thickness, the perimeter/area ratio, and the floor type. Example U-values are given in Table 6.

Table 6 Example U values — ground-floor construction

Floor type	Design U value ($W \cdot m^{-2} \cdot K^{-1}$)	Insulation thickness (mm)				
		P/A ratio				
		0.2	0.4	0.6	0.8	1.0
Ground-bearing concrete floor[1][3]	0.11	—[4]	—[4]	—[4]	—[4]	—[4]
	0.12	150	—[4]	—[4]	—[4]	—[4]
	0.13	150	—[4]	—[4]	—[4]	—[4]
	0.15	100	150	—[4]	—[4]	—[4]
	0.18	75	125	125	150	150
	0.22	50	125	100	100	125
	0.25	50	75	75	100	100
Suspended concrete ground-floor[2][3]	0.11	—[4]	—[4]	—[4]	—[4]	—[4]
	0.12	—[4]	—[4]	—[4]	—[4]	—[4]
	0.13	150	—[4]	—[4]	—[4]	—[4]
	0.15	125	150	—[4]	—[4]	—[4]
	0.18	100	125	125	150	150
	0.22	75	100	100	100	125
	0.25	50	75	100	100	100

(1) Ground-bearing concrete floor construction (Ravatherm XPS X 300 SB Floor Insulation on top of slab, under screed finish) — 65 mm concrete screed (λ = 1.15 $W \cdot m^{-1} \cdot K^{-1}$), polyethylene separating layer, Ravatherm XPS X 300 SB Floor insulation, DPM, 100 mm concrete oversite, and 150 mm sand blinded hardcore.
(2) Suspended concrete ground-floor construction (Ravatherm XPS X 300 SB Floor Insulation on top of beam-and-block, under screed finish) — 65 mm concrete screed (λ = 1.15 $W \cdot m^{-1} \cdot K^{-1}$), polyethylene separating layer, Ravatherm XPS X 300 SB Floor insulation, beam-and-block floor (12%; beam λ = 2.00 $W \cdot m^{-1} \cdot K^{-1}$), dense block infill ($\lambda$ = 1.13 $W \cdot m^{-1} \cdot K^{-1}$), ventilated void.
(3) 30 mm edge insulation (λ = 0.030 $W \cdot m^{-1} \cdot K^{-1}$) of Ravatherm XPS X 300 SB Floor Insulation at 65 mm deep (outside the scope of this Certificate).
(4) See section 6.2.3

6.2.2 The product can contribute towards a floor construction satisfying the national Building Regulations in respect of energy economy and heat retention.

6.2.3 For improved energy or carbon savings, designers must consider appropriate fabric/service measures.

6.2.4 Where a construction is used with the DPM above the insulation on a slab on the ground, a moisture correction factor must be considered for the thermal conductivity used, in accordance with EN ISO 10456 : 2007.

7 Sustainable use of natural resources

Not applicable.

8 Durability

8.1 The potential mechanisms for degradation and the known performance characteristics of the materials in the product was assessed.

8.2 Data were assessed for the characteristics given in Table 7.

Table 7 Durability

Product assessed	Assessment method	Requirement	Result
Ravatherm XPS X 300 SB Floor Insulation	Dimensional stability to EN 1604 : 2013 (70°C and 90-100% RH for 48 hours)	Declared value DS(70,90)	Pass
	Compressive creep to EN 1606 : 2013 (130 kPa at 23°C and 50% RH)	Declared value CC(2/1,5/50) 130	Pass
	Deformation to EN 1605 : 2013 (Condition 2)	Declared value DLT(2)5	Pass

8.3 Service life

Under normal service conditions, the product will have a service life equivalent to the structure in which it is incorporated, provided it is designed, installed and maintained in accordance with this Certificate and the Certificate holder's instructions.

PROCESS ASSESSMENT

Information provided by the Certificate holder was assessed for the following factors:

9 Design, installation, workmanship and maintenance

9.1 Design

9.1.1 The design process was assessed, and the following requirements apply in order to satisfy the performance assessed in this Certificate.

9.1.2 The product can be used on suitably designed beam-and-block floors incorporating Type R2 semi-resisting or resisting blocks to BS EN 15037-2 : 2009 and self-bearing beams to BS EN 15037-1 : 2008.

9.1.3 Ground-bearing floors must only be used where the depth of compacted fill is less than 600 mm and is defined as non-shrinkable. Shrinkable fills are defined as material containing more than 35% fine particles (silt and clay) and having a Plasticity Index of 10% or greater (shrinkable fills are susceptible to clay heave).

9.1.4 Ground-bearing concrete and suspended concrete ground-floors incorporating the products must include a suitable DPM laid beneath the insulation, in accordance with the relevant clauses of CP 102 : 1973, BS 8102 : 2009 and BS 8215 : 1991 (see sections A.4 and A.5 of this Certificate).

9.1.5 Suspended concrete ground-floors incorporating the insulation boards must include suitable ventilation of the sub-floor void (minimum 150 mm void between the underside of the floor and the ground surface) or a DPM. For suspended floors in locations where clay heave is anticipated, an additional void of up to 150 mm may be required to accommodate the possible expansion of the ground below the floor. In such cases where the risk of clay heave has been confirmed by geotechnical investigations by a competent individual, a total void of up to 300 mm may be required.

9.1.6 Where a concrete screed or slab finish is to be laid directly over the product, a polyethylene separating layer/AVCL must be installed between the insulation and the concrete to prevent seepage between the boards (see section A.6). Any gaps between insulation boards or around service openings visible prior to installing the concrete, must be filled with expanding foam or strips of insulation.

9.1.7 Voids below suspended timber ground floors must be ventilated. Ventilation may be achieved by installing vents not less than 1500 $mm^2.m^{-1}$ run of external wall or 500 $mm^2.m^{-2}$ of floor area, whichever is the greater. Ventilation openings should be arranged to prevent the ingress of rain, snow, birds and small mammals and the risk of subsequent blockage by other building operations.

9.1.8 Walls must not be built on the insulation.

9.1.9 If present, mould or fungal growth must be treated prior to the application of the product.

9.1.10 Calculations of the thermal transmittance (U value) of a floor must be carried out in accordance with BS EN ISO 6946 : 2017, BS EN ISO 13370 : 2017 and BRE Report BR 443 : 2019.

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

Interstitial condensation

9.1.12 Floors incorporating the product will adequately limit the risk of interstitial condensation when they are designed and constructed in accordance with BS 5250 : 2021.

9.1.13 When the product is used above the DPM on a ground-supported or suspended concrete floor, an AVCL must be installed on the warm side of the insulation to limit the risk of interstitial condensation, unless a risk assessment shows this is not necessary.

Surface condensation

9.1.14 In England and Wales, floors incorporating the product 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 the junctions with other elements are designed in accordance with the relevant parts of BS 5250 : 2021.

9.1.15 In Scotland, floors incorporating the product 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, and the junctions with other elements are designed in accordance with the relevant parts of BS 5250 : 2021. Further guidance may be obtained from BRE Report BR 262 : 2002 and section 6 of this Certificate.

9.2 Installation

9.2.1 Installation instructions provided by the Certificate holder were assessed and judged to be appropriate and adequate.

9.2.2 Installation must be carried out in accordance with this Certificate and the Certificate holder's instructions. A summary of instructions and guidance is provided in Annex A of this Certificate.

Incorporation of services

9.2.3 De-rating of electrical cables must be considered where the insulation restricts air cooling of cables; the product must not be used in direct contact with electrical heating cables or hot water pipes. Where underfloor heating systems are to be used, the advice of the Certificate holder must be sought, but such advice is outside the scope of this Certificate.

9.2.4 Where possible, electrical conduits, gas and water pipes or other services must be contained within ducts or channels within the concrete slab of ground bearing 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 that are likely to come into contact with the insulation must be protected by a suitable conduit or PVC-U trunking. With hot pipes, the insulation must be cut back to maintain an air space.

9.2.5 Where water pipes are installed below the insulation, they must be pre-lagged with close-fitting pipe insulation.

9.2.6 Where the product is installed on a floor of a suspended beam-and-block design, all services must be installed in accordance with a BBA Certificate for that floor and/or with the relevant codes of practice.

9.2.7 To provide support for a particle board cover on overlay board floors 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. The duct must be as narrow as possible and not exceed 400 mm in width or the maximum particle board spans given in PD CEN/TR 12872 : 2014 without intermediate support. Services must be suitably fixed to the floor base and not to the insulation boards.

9.3 Workmanship

Practicability of installation was assessed by the BBA, on the basis of the Certificate holder's information. To achieve the performance described in this Certificate, installation of the product must be carried out by a competent general builder, or a contractor, experienced with this type of product.

9.4 Maintenance and repair

As the product is confined within the floor by the overlay and has suitable durability, maintenance is not required.

10 Manufacture

10.1 The production processes for the product have been assessed, and provide assurance that the quality controls are satisfactory according to the following factors:

10.1.1 The manufacturer has provided documented information on the materials, processes, testing and control factors.

10.1.2 The quality control operated over batches of incoming materials has been assessed and deemed appropriate and adequate.

10.1.3 The quality control procedures and product testing to be undertaken have been assessed and deemed appropriate and adequate.

10.1.4 The process for management of non-conformities has been assessed and deemed appropriate and adequate.

10.1.5 An audit of each production location was undertaken, and it was confirmed that the production process was in accordance with the documented process, and that equipment has been properly tested and calibrated.

† 10.2 The BBA has undertaken to review 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.

11 Delivery and site handling

11.1 The Certificate holder stated that the product is delivered to site in packaging bearing the product name, the Certificate holder's name, batch number, and the BBA Certificate number.

11.2 Delivery and site handing must be performed in accordance with the Certificate holder's instructions and this Certificate, including:

11.2.1 The product must be protected from prolonged exposure to sunlight and must be stored either under cover or protected with opaque polythene sheeting. Where possible, packs should be stored inside. If outside, the product must be stacked flat, and raised above ground level and not be in contact with ground moisture.

11.2.2 The product must not be exposed to open flame or other ignition sources, or to solvents or other chemicals.

11.2.3 The product must be discarded if damaged or contaminated and, if accidentally allowed to become wet, must be allowed to dry fully before installation.

† ANNEX A – SUPPLEMENTARY INFORMATION

Supporting information in this Annex is relevant to the product but has not formed part of the material assessed for the Certificate.

Construction (Design and Management) Regulations 2015
Construction (Design and Management) Regulations (Northern Ireland) 2016

Information in this Certificate may assist the client, designer (including Principal Designer) and contractor (including Principal Contractor) to address their obligations under these Regulations.

CE marking

The Certificate holder has taken the responsibility of CE marking the product, in accordance with harmonised European Standard EN 13164 : 2012.

Management Systems Certification for production

The management system of the manufacturer has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2015 by BSI Management Systems (Certificate Q05968).

Additional information on installation

A.1 Typical methods of installation are shown in Figures 1 to 3. Reference should also be made to BRE Report BR 262 : 2002.

Figure 1 Ravatherm XPS X 300 SB Floor Insulation above ground-supported concrete slab

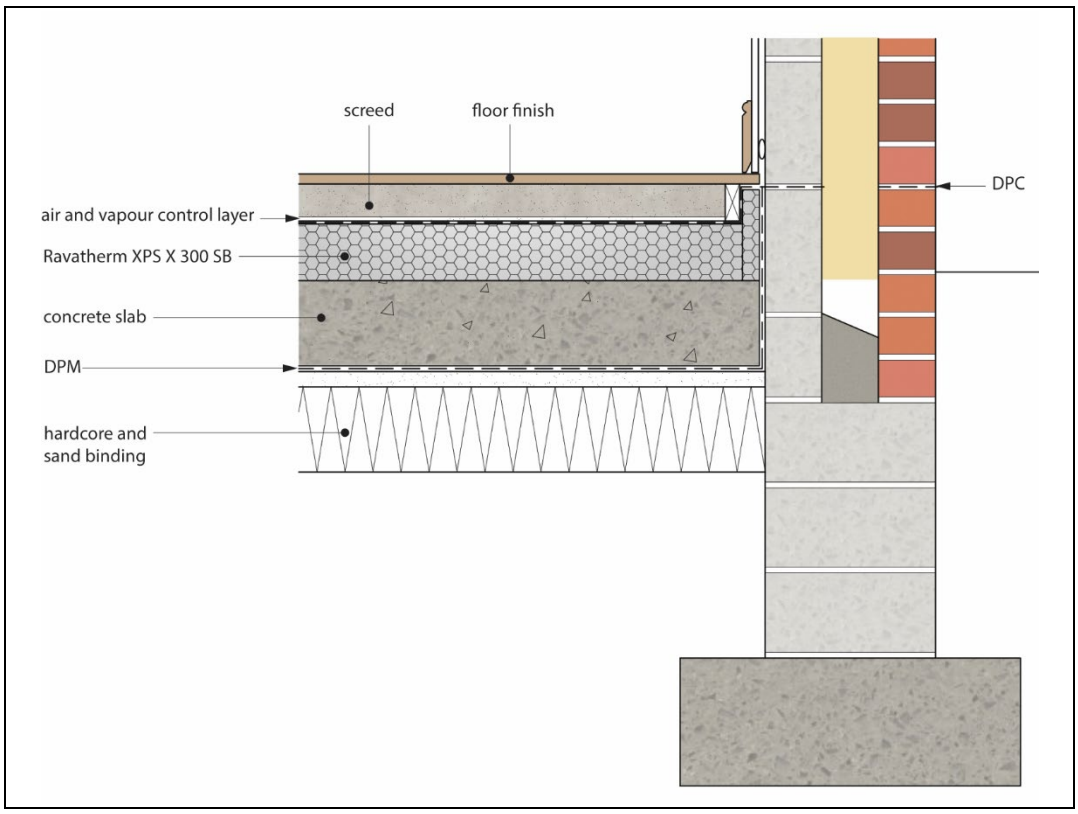


Figure 2 Ravatherm XPS X 300 SB Floor Insulation beneath ground-supported concrete slab

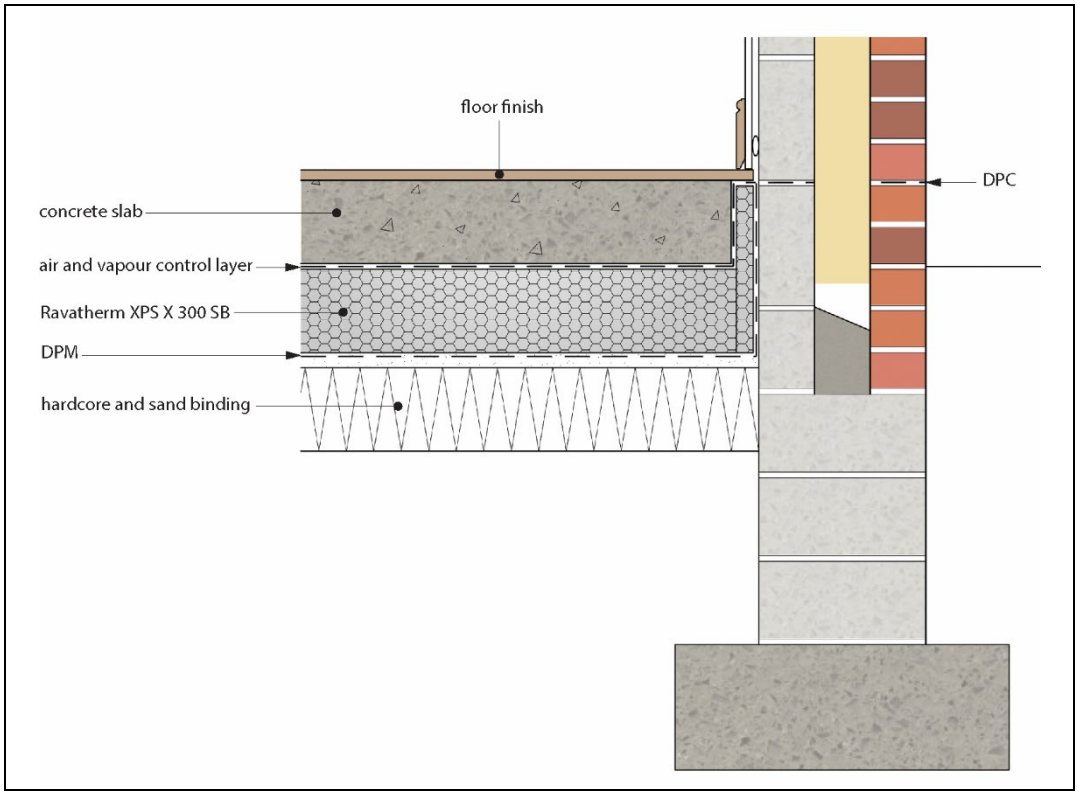
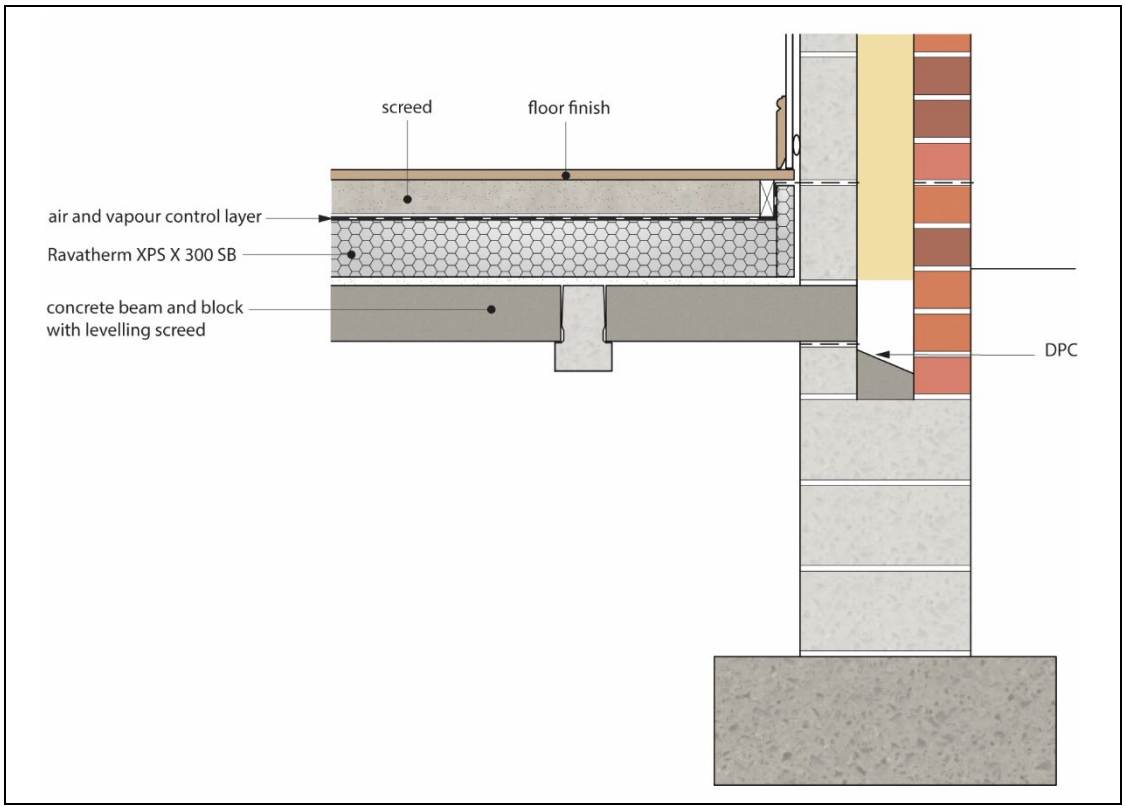


Figure 3 Ravatherm XPS X 300 SB Floor Insulation above suspended beam-and-block concrete floor



A.2 In ground-supported concrete floors, the concrete floor slab over which the boards are to be laid should be left for as long as possible to maximise drying out and dissipation of constructional moisture, in accordance with BS 8203 : 2017, section 3.1.2.

A.3 The concrete floor surface 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.

A.4 Where the insulation is used over ground-supported concrete floor slabs, a suitable DPM should be laid in accordance with BS 8215 : 1991 to resist moisture from the ground. If a liquid-type DPM is applied to the slabs, it should be of a type compatible with the product and must be allowed to dry out fully before laying the insulation.

A.5 Where the insulation is used on hardcore bases beneath ground-bearing concrete slabs, the hardcore must be compacted and blinded with a thin layer of sand, before application of the DPM followed by the insulation boards.

A.6 An AVCL is installed on the warm side of the insulation to inhibit the risk of interstitial condensation if necessary (see section 9.1.13). Where a concrete screed or slab finish is to be laid directly over the products, a polyethylene separating layer/AVCL must be installed between the insulation and the concrete to prevent seepage between the boards.

A.7 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 cavity wall insulation material should be extended below the DPC level to provide edge insulation to the floor.

A.8 To limit the risk of condensation and other sources of dampness, the insulation and overlays should only be laid after the construction is made substantially weathertight, eg after glazing. During construction, the insulation and overlay must be protected from damage by traffic and moisture sources, such as water spillage and plaster droppings.

Procedure

A.9 The product is cut to size (using a sharp knife or fine-toothed saw), as necessary, and laid with closely butted, staggered cross-joints, ensuring all spaces are completely filled.

A.10 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.

Timber-based board overlay

A.11 Before installing the plywood, particle board or OSB overlays, preservative-treated timber battens, in accordance with BS 8417 : 2011, are positioned at doorways and access panels. Adequate time should be allowed for preservatives to be fixed, and the solvents from solvent-based preservatives to evaporate.

A.12 Where the insulation is laid above a DPM, a polyethylene AVCL of at least 0.125 mm (500 gauge) thickness is laid between the insulation and the timber board overlay. The AVCL should have 150 mm overlaps, taped at the joints and turned up 100 mm at the walls.

A.13 Timber based overlay boards as specified in the *Ancillary items* part of this Certificate are laid with staggered cross-joints, in accordance with PD CEN/TR 12872 : 2014 and BS EN 12871 : 2013.

A.14 An expansion gap between the overlay board and the perimeter walls should be provided at a rate of 2 mm per metre run or a minimum of 10 mm, whichever is the greater.

A.15 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.

A.16 Before the overlay boards are interlocked, a waterproof PVA adhesive is applied to the joints.

A.17 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.

A.18 When the wedges are removed and before the skirting boards are fixed, a suitable compressible filler (eg foamed polyethylene) should be fitted around the perimeter of the floor between the overlay board and the walls.

A.19 Where there is a likelihood of regular water spillage in rooms (eg in kitchens, bathrooms, and shower and utility rooms), additional overlay board protection should be considered, eg a continuous flexible vinyl sheet flooring with welded joints, which is turned up at abutments and cove skirting.

Cement-based screed overlay

A.20 Perimeter edge pieces are cut and placed around the edges and taped at joints. A polyethylene AVCL, at least 0.125 mm thick (500 gauge), is laid over the insulation. The AVCL should have 150 mm overlaps, taped at the joints, and turned up 100 mm at the walls. A properly compacted screed of minimum thickness 65 mm is then laid over. The relevant clauses of BS 8204-1 : 2003 should be followed.

Concrete slab overlay (ground-supported only)

A.21 Perimeter edge pieces are cut and placed around the edges and taped at the joints. A polyethylene AVCL, minimum 0.125 mm thick (500 gauge), is laid over the insulation. The AVCL should have 150 mm overlaps, taped at the joints and turned up 100 mm at the walls. The concrete slab is laid to the required thickness in accordance with BS 8000-9 : 2003 and BS 8204-1 : 2003.

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British Board of Agrément
Building 3, Hatters Lane
Croxley Park, Watford
Herts WD18 8YG
tel: 01923 665300
clientservices@bbacerts.co.uk
www.bbacerts.co.uk