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Agrément Certificate
08/4526
Product Sheet 1 Issue 3

ROCKSILK FLAT ROOF SLABS

ROCKSILK FLAT ROOF SLAB

This Agrément Certificate Product Sheet(1) relates to Rocksilk(2) Flat Roof Slab, comprising rock mineral wool (MW) roof insulation slabs, for use as a thermal insulation layer on limited access concrete, timber or metal flat roof decks in new or existing domestic and non-domestic buildings. It is for use in conjunction with an air and vapour control layer (AVCL) and a mechanically fixed roof waterproofing membrane.

(1) Hereinafter referred to as 'Certificate'.
(2) Rocksilk is a registered trademark.

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 Third issue: 16 November 2023
Originally certificated on 10 March 2008

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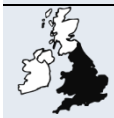
SUMMARY OF ASSESSMENT AND COMPLIANCE

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 Rocksilk Flat Roof Slab, 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:	**B3(2)**	**Internal fire spread (structure)**
Comment:		The product can contribute to satisfying this Requirement. See section 2 of this Certificate.
Requirement:	**B4(2)**	**External fire spread**
Comment:		The product can contribute to satisfying this Requirement. See section 2 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; however, compensating fabric measures may be required. 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 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/services measures may 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
Comment:		The product can contribute to satisfying this Standard, with reference to clause 1.1.2[(1)(2)]. See section 1 of this Certificate.

Standard:	2.1	Compartmentation
Standard:	2.2	Separation
Comment:		The product can contribute to satisfying these Standards, with reference to clauses 2.1.15(2), 2.2.7(2) and 2.2.10(1). See section 2 of this Certificate.
Standard:	2.8	Spread from neighbouring buildings
Comment:		The product can contribute to satisfying this Standard, with reference to clause 2.8.1(1)(2). See section 2 of this Certificate.
Standard:	3.15	Condensation
Comment:		The product can contribute to a roof satisfying this Standard, with reference to clauses 3.15.1(1)(2), 3.15.3(1)(2), 3.15.4(1)(2), 3.15.5(1)(2) and 3.15.6(1)(2). See section 3 of this Certificate.
Standard:	6.1(b)(c)	Energy demand and carbon dioxide emissions
Comment:	(d)	The product can contribute to satisfying this Standard, with reference to clause 6.1.1(1)(2), however, compensating fabric/services measures may be required. See section 6 of this Certificate.
Standard:	6.2	Building insulation envelope
Comment:		The product can contribute to satisfying this Standard, with reference to clauses 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)(2), 6.2.9(1)(2), 6.2.10(1)(2) and 6.2.12(1), however, compensating fabric measures may be required. 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 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 7.1.2(1), 7.1.3(2), 7.1.4(1), 7.1.6(1)(2) 7.1.7(1), 7.1.8(2), 7.1.9(2) and 7.1.10(2). See section 6 of this Certificate.
Regulation:	**12**	**Building standards – conversions**
Comment:		Comments made in relation to 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:	**23(1)(a)(i)**	**Fitness of materials and workmanship**
Comment:	**(iii)(b)(i)(ii)**	The product is acceptable. See sections 8 and 9 of this Certificate.
Regulation:	**29**	**Condensation**
Comment:		The product can contribute to satisfying this Regulation. See section 3 of this Certificate.
Regulation:	**30**	**Stability**
Comment:		The product can contribute to satisfying this Regulation. See section 1 of this Certificate.
Regulation:	**35(2)**	**Internal fire spread - structure**
Comment:		The product can contribute to satisfying this Regulation. See section 2 of this Certificate.

Regulation:	**36(b)**	**External fire spread**
Comment:		The product can contribute to satisfying this Regulation. See section 2 of this Certificate.
Regulation:	**39(a)(i)**	**Conservation measures**
Comment:		The product can contribute to satisfying this Regulation. See section 6 of this Certificate.
Regulation:	**40(2)**	**Target carbon dioxide emission rate**
Regulation:	**43(1)(2)**	**Renovation of thermal elements**
Regulation:	**43(b)**	**Nearly zero-energy requirements for new buildings**
Comment:		The product can contribute to satisfying these Regulations. See section 6 of this Certificate.

Additional Information

NHBC Standards 2023

In the opinion of the BBA, Rocksilk Flat Roof Slab, if installed, used, and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards*, Chapter 7.1 *Flat roofs, terraces and balconies*.

Fulfilment of Requirements

The BBA has judged Rocksilk Flat Roof Slab to be satisfactory for use as described in this Certificate. The product has been assessed for use as a fully supported thermal insulation layer on flat roofs, and to create or improve falls on limited access concrete, timber or profiled metal roof decks, in new and existing domestic and non-domestic buildings.

ASSESSMENT

Product description and intended use

The Certificate holder provided the following description for the product under assessment. Rocksilk Flat Roof Slab comprises rigid rock mineral wool (MW) treated with a water-repellent additive, supplied unfaced.

The product is available with the nominal characteristics given in Table 1.

Table 1 Nominal characteristics

Characteristic (unit)	Value
Length (mm)	1200
Width (mm)	900 and 1000
Thickness (mm)(1)	100, 120, 145 and 180
Edge profile	Square

(1) Other thicknesses within the above range are available on request.

Slabs are also available in a tapered version to create falls of 1:120, 1:80, 1:60 and 1:40.

The product is intended for use on flat concrete, metal or timber roofs, with access limited to maintenance only, on new and existing domestic and non-domestic buildings.

The product is intended for use with mechanically fixed single-ply waterproof membranes which are the subject of a current BBA Certificate and laid in accordance with that Certificate.

Definitions for products and applications inspected

The following terms have been defined for the purpose of this Certificate as:

- limited access roofs – those subject only to pedestrian traffic for maintenance of the roof covering, cleaning of gutters, etc.
- flat roofs – those having a roof pitch of no more than 10°.

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 Wind loading

1.1.1 Results of the wind uplift performance of the product are given in Table 2.

Table 2 Wind uplift resistance

Product assessed	Assessment method	Requirement	Result
60 mm Rocksilk Flat Roof Slab, mechanically fixed to a steel deck(1)	Large scale wind uplift test to EOTA TR 005 : 2003	Peak load for completed wind uplift cycle without damage	4.0 kPa

(1) FixFast SureFast carbon steel SF-RS-5.8 x 75 mm self-drilling screws combined with SureFast SF-T-75 x 25 plastic insulation washers to steel deck, eight per full sized insulation slab.

1.1.2 On the basis of data assessed, the design wind resistance must be determined by using the appropriate partial factors, to be calculated by a suitably experienced and competent individual in accordance with BS EN 1991-1-4 : 2005 and its UK National Annex. The insulation slabs, when used in accordance with the design wind resistance and properly installed on suitable flat roof decks, can adequately transfer negative and positive (suction and pressure) wind loads to the roof deck.

1.2 Behaviour under loading

1.2.1 The results of the behaviour under loading tests are given in Table 3.

Table 3 Compressive strength, tensile strength perpendicular to faces and behaviour on exposure to mechanical stress

Product assessed	Assessment method	Requirement	Result
Rocksilk Flat Roof Slab	Compressive strength to BS EN 826 : 2013	> 70 kPa	Pass
Rocksilk Flat Roof Slab	Compressive strength after immersion to BS EN 826 : 2013 and MOAT 50 : 1992	> 70 kPa	Pass
Rocksilk Flat Roof Slab	Behaviour on exposure to mechanical stress under distributed static load to BS EN 1605 : 2013 and MOAT 50 : 1992	≤ 10% deformation	Pass
Rocksilk Flat Roof Slab	Behaviour on exposure to mechanical stress - under concentrated loads in middle of free span to MOAT 50 : 1992	No breakage	See Table 4

1.2.2 The product was tested for resistance to loading when spanning ribs on profiled decks and the results are given in Table 4.

Table 4 Maximum clear span

Insulation thickness (mm)	Maximum span (mm)	
	Slab ends supported on profile tops	Slab ends unsupported over troughs
100	300	180
120	300	220
145	300	240
180	300	280

1.2.3 The product must not exceed the maximum permissible spans given in Table 4.

1.2.4 The insulation slabs have not been assessed for use with permanent distributed or concentrated loads, such as air conditioning units, mechanical plants, water tanks, etc. Such loads must be supported directly on the roof construction or on suitably designed support systems.

2 Safety in case of fire

Data were assessed for the following characteristics.

2.1 External fire spread

The resistance to fire exposure of a built-up roofing system will be dependent on the fire performance of the combined individual components and cannot be predicted from the classification of the insulation alone. The classification of a specific roof system must be confirmed by reference to the requirements of the documents supporting the national Building Regulations.

2.2 Reaction to fire

The product was tested for reaction to fire and the classification is given in Table 5.

Table 5 Reaction to fire classification(1)

Product assessed	Assessment method	Requirement	Result
Rocksilk Flat Roof Slab	SIST EN 13501-1 : 2019	Value achieved	A1

(1) ZAG. Report No. 114/22-530-2. 14 February 2022. Copies can be obtained from the Certificate holder.

2.3 Resistance to fire

Where the roof forms a junction with compartment walls, the junction must maintain the required period of fire resistance.

3 Hygiene, health and the environment

Data were assessed for the following characteristics.

3.1 Water vapour permeability

The product was tested for water vapour permeability and the results are given in Table 6.

Table 6 Water vapour resistivity

Material	Assessment method	Requirement	Result
Rocksilk Flat Roof Slab	BS EN ISO 10456 : 2007	Value achieved	5 $MN \cdot s \cdot g^{-1} \cdot m^{-1}$

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.

3.2.2 An assessment of the risk of interstitial condensation for the specific construction must be carried out in accordance with BS 5250 : 2021 and the relevant guidance, using the water vapour resistivity/resistance values in Table 6 of this Certificate.

3.2.3 To minimise moisture entering the roof, an AVCL with sealed and lapped joints must be used below the product, which must be turned up around the insulation and bonded to the waterproofing finish.

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 7.

Table 7 Thermal conductivity

Material	Assessment method	Requirement	Thermal conductivity ($W \cdot m^{-1} \cdot K^{-1}$)
Rocksilk Flat Roof Slab	Thermal conductivity to BS EN 13162 : 2012	Declared value (λ_D)	0.039

6.2 Conservation of fuel and power

6.2.1 Example U-values are given in Table 8 of this Certificate.

Table 8 Example U values

U value ($W \cdot m^{-2} \cdot K^{-1}$)	Rocksilk insulation thickness(1) (mm)		
	Concrete deck(2)	Timber deck(3)	Metal deck(4)
0.09	180 + 145 + 100(5)	180 + 145 + 100(5)	180 + 145 + 100(5)
0.11	180 + 180(5)	180 + 180(5)	180 + 180(5)
0.12	180 + 145(5)	180 + 145(5)	180 + 145(5)
0.13	180 + 120(5)	180 + 100(5)	180 + 120(5)
0.15	180 + 100(5)	145 + 100(5)	180 + 100(5)
0.16	145 + 100(5)	145 + 100(5)	145 + 100(5)
0.18	120 + 100(5)	100 + 100(5)	120 + 100(5)
0.20	100 + 100(5)	180	100 + 100(5)

(1) Nearest available thickness. Includes one stainless steel insulation fixing per m^2, with a 4.8 mm cross-sectional diameter.
(2) 150 mm concrete deck — 1.33 $W \cdot m^{-1} \cdot K^{-1}$, AVCL, insulation and an 8 mm built-up waterproofing membrane.
(3) 12.5 mm plasterboard, 150 mm timber joists (12.5%)/air cavity (87.5%), 18 mm plywood decking, AVCL, insulation and an 8 mm built-up waterproofing membrane.
(4) Metal deck (not included in calculation), AVCL, insulation and an 8 mm built-up waterproofing membrane.
(5) Multiple layers of insulation slabs used.

6.2.2 The U value of a completed roof will depend on the insulation thickness, its structure, the fixings and its internal finish.

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

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 were assessed. Specific test data were assessed as shown in Table 9.

Table 9 Dimensional stability, bowing under the effects of a thermal gradient, and flatness after one sided wetting

Product assessed	Assessment method	Requirement	Result
Rocksilk Flat Roof Slab	Dimensional stability to BS EN 1604 : 2013 (70°C and 90% RH for 48 hours)	Length, width and thickness < 1 % change	Pass
Rocksilk Flat Roof Slab	Bowing under the effects of a thermal gradient to MOAT 50 : 1992	Maximum deformation < 10 mm	Pass

8.2 Service life

Under normal service conditions, the product will have a 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 by the BBA, and the following requirements apply in order to satisfy the performance assessed in this Certificate.

9.1.2 Decks to which the product is to be applied must comply with the relevant requirements of BS 6229 : 2018, BS 8217 : 2005 and, where appropriate, *NHBC Standards* 2023, Chapter 7.1.

9.1.3 Imposed loads, dead loading and wind loads must be calculated by a suitably experienced and competent individual in accordance with BS EN 1991-1-1 : 2002, BS EN 1991-1-3 : 2003 and BS EN 1991-1-4 : 2005, and their UK National Annexes.

9.1.4 For design purposes on flat roofs, twice the minimum finished fall should be assumed, unless a detailed analysis of the roof is available, including overall and local deflections, direction of falls etc.

9.1.5 The suitability of the substrate to accept the mechanical fixings must be established before installation. Mechanical fixings must be checked before installation by carrying out in-situ pull-out or pull-through tests to determine the minimum safe working load the fixings can resist. The advice of the Certificate holder should also be sought in respect of suitable mechanical fixings.

9.1.6 On multi-storey buildings or in areas subject to high wind loads, additional mechanical fixings may be required.

9.1.7 Roofs should incorporate an AVCL below the product which is compatible both with the product and the waterproofing system. Design and installation should be in accordance with BS 5250 : 2021.

9.1.8 Roof waterproof covering systems must be applied in accordance with the relevant BBA Certificates or manufacturer's guidance.

9.1.9 In England and Wales, roofs will limit the risk of surface condensation adequately where the thermal transmittance (U value) does not exceed 0.35 $W \cdot m^{-2} \cdot K^{-1}$ at any point and the junctions with other elements are designed in accordance with the guidance referred to in section 6 of this Certificate.

9.1.10 For buildings in Scotland, constructions will be acceptable where the thermal transmittance (U value) of the roof does not exceed 1.2 $W \cdot m^{-2} \cdot K^{-1}$ at any point, and roofs are designed and constructed in accordance with the relevant parts of BS 5250 : 2021. Further guidance may be obtained from BRE Report BR 262 : 2002.

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, the relevant clauses of BS 6229 : 2018, BS 8000-0 : 2014, BS 8000-4 : 1989, BS 8217 : 2005, BS EN 13956 : 2012 and the Certificate holder's instructions. A summary of instructions and guidance is provided in Annex A of this Certificate.

9.2.3 Care should be taken to ensure the substrate deck is graded to the correct falls, and is dry, clean and free from any projections or gaps.

9.2.4 For tapered products to be effective in providing a uniform fall, it is essential that the substrate deck is true and even. Any hollows, depressions and backfalls found in the roof deck must be rectified prior to laying the insulation.

9.2.5 The suitability of the substrate deck to accept a mechanical fixing must be checked prior to the work commencing.

9.2.6 The substrate deck to which the AVCL is to be applied must be even, dry, sound, and free from dust and grease and other defects which may impair the bond. All deck joints must be taped to prevent moisture being trapped on or in the insulation.

9.2.7 In areas where high wind speeds can be expected, additional mechanical fixings must be considered, particularly at corners and perimeters. If mechanical fixing is impractical, suitable ballasting may be required. In all cases, the advice of a suitably competent and experienced individual must be sought with regard to the relevant clauses of BS EN 1991-1-4 : 2005 and its UK National Annex, but such advice is outside the scope of this Certificate.

9.2.8 When profiled metal decking is used, the slabs must be installed in a staggered layout, with the long edge at right angles to the profiles. Where possible, butt joints should occur on a crown.

9.2.9 Slabs must be protected during laying and before the application of the roof waterproofing, or to lay the roof covering at the same time as laying the slabs. However, slabs accidentally wetted must be replaced or allowed to dry fully before application of the waterproof layer.

9.2.10 Where multiple application of slabs is required, the subsequent layers must be installed offset from the previous layer.

9.2.11 Tapered slabs must be laid in accordance with the specific Certificate holder's layout drawing provided.

9.2.12 The AVCL must be installed in accordance with the manufacturer's instructions for each deck type.

9.2.13 Slabs must not be installed when the ambient temperature is below 5°C, to prevent condensation.

9.2.14 The slabs can be cut with a sharp knife or fine-toothed saw and handled easily, although additional care may be required with the weight of thicker slabs.

9.2.15 Once installed, access to the roof must be restricted in accordance with section 1.

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

9.4.1 The product, once installed, does not require any regular maintenance, and has suitable durability provided the roof waterproof layers are inspected and maintained at regular intervals.

9.4.2 When maintenance of the roof waterproofing is required, protective boarding must be laid over the roof surface to avoid concentrations of loads.

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 polythene shrink-wrapped packs. Each pack contains a label bearing the Certificate holder's name, slab dimensions and the BBA logo incorporating the number of this Certificate.

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 stored clear of the ground, on a clean level surface to protect it from prolonged exposure to moisture or mechanical damage and stored under cover until required for use.

11.2.2 Dust masks, gloves and long-sleeved clothing must be worn during cutting and handling of the slabs.

11.2.3 Damaged, contaminated or wet products must not be used.

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 13162 : 2012.

Management Systems Certification for production

The management system of the manufacturer has been assessed and registered as meeting the requirements of ISO 9001 : 2015, ISO 14001 : 2015, ISO 45001 : 2018 and ISO 50001 : 2018 by TUV Nord (Certificates 44100190742, 44104190742, 44126190742 and 44764190742, respectively).

Additional information on installation

Timber decks (eg, tongue-and-groove boards, plywood, OSB)

A.1 An AVCL is nailed to the deck, in accordance with BS 8217 : 2005, or bitumen-bonded using traditional techniques.

A.2 The specified AVCL should have a minimum of 150 mm side and end laps which should be adequately sealed using the appropriate grade of bitumen, a polyurethane adhesive, or a suitable solvent-based adhesive in accordance with BS 8217 : 2005.

A.3 The AVCL should also be turned up at, but not sealed to, all vertical surfaces edges and penetrations such as roof lights, which abut the roof, to a minimum height of 250 mm and overhanging the verge or gutter by the same amount.

A.4 The mechanical fixings located along the edge or at corners of the slabs should be situated no less than 50 mm and no more than 150 mm from the slab edge. For non-bituminous AVCLs, the fixings penetrating the AVCL should be self-sealing. For bituminous AVCLs, the nail heads should be blanked out with hot bitumen.

A.5 The slabs are laid in a broken bond (ie, staggered) pattern, with joints between the slabs lightly butted.

A.6 Only sufficient slabs should be laid that can be waterproofed in the same working period using the methods described in section 9.

A.7 Before applying the roof finish, the projecting 250 mm of the AVCL should be turned over the insulation and sealed to the waterproof finish at all edges and penetrations such as roof lights, with detailing in accordance with the standards and guidance in section 9.

Concrete decks

A.8 Before applying the AVCL, an appropriate levelling screed should be applied where necessary and be allowed to cure completely. The whole deck should be primed, if necessary, in accordance with the manufacturer's instructions. The advice of the Certificate holder should be sought in respect of a suitable primer and installation instructions.

A.9 The AVCL is fully bonded to the primed concrete deck and the laps are sealed. The slabs and roof waterproofing membrane are then applied in the manner described for timber decks (see sections A.3 to A.7).

Metal decks

A.10 If adhering the AVCL, the deck should be prepared and treated with a suitable primer before applying the AVCL. The advice of the Certificate holder should also be sought in respect of a suitable primer and installation instructions.

A.11 A reinforced AVCL is fully bonded to the metal deck using a polyurethane adhesive or a suitable solvent-based adhesive and the laps are sealed. The slabs and roof waterproofing membrane are then applied in the manner described for timber decks (see sections A.3 to A.7).

A.12 The slabs are laid with the long edges at right angles to the ribs, and all slab ends must be fully supported on a rib.

A.13 The thickness of the slabs used can depend on the width of the rib openings of the metal deck as given in Table 4.

A.14 The deck profiles should give a bonding area of at least 33% of the total projected surface area. Deck stiffeners cannot be counted as a satisfactory bond area, and this should be allowed for in the calculation of the bonded area for a particular application. Confirmation should be sort from the structural steel deck manufacturer for the specific deck profile installed.

A.15 On metal decks of tall buildings or in areas subject to high wind loads, additional mechanical fixings may be required, using appropriate fixings at the ratio per slab specified in the manufacturer's instructions.

Multi layers (when required)

A.16 Where multiple layers of slabs are required to make up the thicknesses needed to meet specific U value requirements (see Table 8), slab joints on multiple layer systems should be offset by a minimum of 100 mm. Slabs are to be mechanically fixed.

Mechanically fixed systems (non-bitumen)

A.17 Advice from the manufacturer of single-ply membranes should be sought to confirm compatibility with the product, but such advice is outside of the scope of this Certificate.

A.18 Slabs should be held in place initially, with one fixing per slab in the centre of the slab. Further fixing will depend upon the guidance of the membrane manufacturer.

A.19 Where more than one fixing per slab is required (dependent upon the design wind load), advice should be sought from the membrane manufacturer for the number of fixings for the application concerned, but such advice is outside of the scope of this Certificate.

A.20 The roof waterproofing is then applied in accordance with the relevant BBA Certificate.

Tapered slabs – all decks

A.21 Pre-cut slabs, tapered to the required falls, are labelled in accordance with the Certificate holder's layout drawing for the building concerned.

A.22 To provide a uniform fall, it is essential that the deck is even and true. Features such as hollows, back falls and depressions must be rectified prior to laying the slabs.

A.23 Slabs are laid sequentially in accordance with the position code on the layout drawing. Laying for the main area should commence at the apex line(s) of the roof. To avoid error, it is advisable to temporarily position each slab prior to fixing.

A.24 Installation of tapered slabs is otherwise as described for the standard slabs.

Weatherproofing (all systems)

A.25 Advice from the manufacturer of single-ply membranes should be sought to confirm compatibility with the product, but such advice is outside of the scope of this Certificate.

A.26 The waterproofing system should be applied above the slabs.

Bibliography

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

BS 5250 : 2021 *Management of moisture in buildings. Code of practice*

BS 6229 : 2018 *Flat roofs with continuously supported coverings — Code of practice*

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BS 8000-4 : 1989 *Workmanship on building sites — Code of practice for waterproofing*

BS 8217 : 2005 *Reinforced bitumen membranes for roofing — Code of practice*

BS EN 826 : 1996 *Thermal insulating products for building applications — Determination of compression behaviour*

BS EN 1604 : 2013 *Thermal insulating products for building applications – Determination of dimensional stability under specified temperature and humidity conditions*

BS EN 1605 : 2013 *Thermal insulating products for building applications — Determination of deformation under specified compressive load and temperature conditions*

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 1991-1-3 : 2003 + A1 : 2015 Eurocode 1 *Actions on structures — General actions — Snow loads*
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BS EN 1991-1-4 : 2005 + A1 : 2010 Eurocode 1 *Actions on structures — General actions — Wind actions*
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BS EN 13162 : 2012 + A1 : 2015 *Thermal insulation products for buildings — Factory made mineral wool (MW) products – Specification*

BS EN 13956 : 2012 *Flexible sheets for waterproofing — Plastic and rubber sheets for roof waterproofing — Definitions and characteristics*

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

EOTA TR 005 : 2003 *Determination of the resistance to wind loads of partially bonded roof waterproofing membranes*

ISO 9001 : 2015 *Quality management systems — Requirements*

ISO 14001 : 2015 *Environmental management systems — Requirements with guidance for use*

ISO 45001 : 2018 *Occupational health and safety management systems — Requirements with guidance for use*

ISO 50001 : 2018 *Energy management systems — Requirements with guidance for use*

MOAT 50 : 1992 *Technical guidelines for the assessment of thermal insulation systems intended for supporting waterproof coverings on flat and sloping roofs*

SIST EN 13501-1 : 2019 *Fire classification of construction products and building elements — Classification using test data from reaction to fire tests*

Conditions

1 This Certificate:

- relates only to the product 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
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3 This Certificate will be displayed on the BBA website, and the Certificate Holder is entitled to use the Certificate and Certificate logo, provided that the product 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
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- are reviewed by the BBA as and when it considers appropriate.

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6 Any information relating to the manufacture, supply, installation, use, maintenance and removal of this product which is contained or referred to in this Certificate is the minimum required to be met when the product 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.

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