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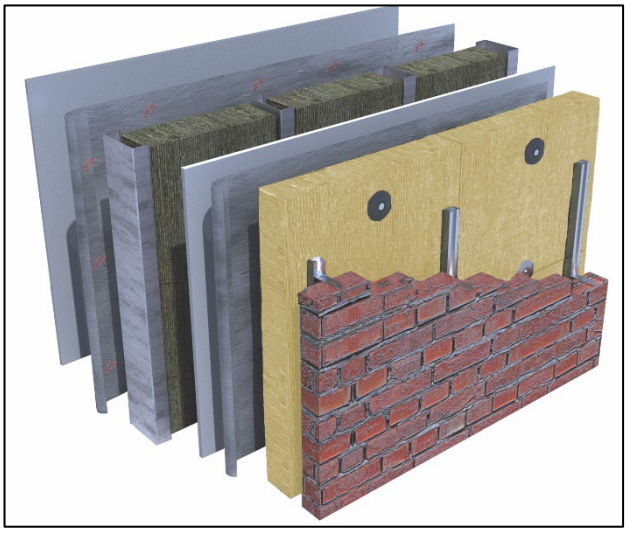
Agrément Certificate
20/5845
Product Sheet 2 Issue 2

K-ROC RAINSCREEN SLAB

K-ROC RAINSCREEN SLAB FOR USE IN TIMBER OR STEEL FRAME CONSTRUCTIONS

This Agrément Certificate Product Sheet(1) relates to K-Roc(2) Rainscreen Slab for use In timber or steel frame constructions, a mineral wool slab for use as a partial fill insulation on timber- and steel-frame walls, in new and existing domestic and non-domestic buildings, with a masonry outer leaf.

(1) Hereinafter referred to as 'Certificate'
(2) K-Roc 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 Second issue: 28 February 2024

Originally certified on 17 December 2020

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.

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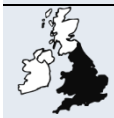
SUMMARY OF ASSESSMENT AND COMPLIANCE

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 K-Roc Rainscreen Slab for use in timber or steel frame constructions, 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:	**B3(4)**	**Internal fire spread (structure)**
Comment:		The product is unrestricted by this Requirement. See section 2 of this Certificate.
Requirement:	**B4(1)**	**External fire spread**
Comment:		The product is unrestricted by this Requirement. See section 2 of this Certificate.
Requirement:	**C2(a)**	**Resistance to moisture**
Comment:		The product can contribute to satisfying this Requirement. See section 3 of this Certificate.
Requirement:	**C2(b)**	**Resistance to moisture**
Comment:		The product can contribute to satisfying this Requirement. See section 9 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:	**7(2)**	**Materials and workmanship**
Comment:		The product is unrestricted by this Regulation. See section 2 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:	**8(3)**	**Fitness and durability of materials and workmanship**
Comment:		The product is unrestricted by this Regulation. See section 2 of this Certificate.
Regulation:	**9**	**Building standards – construction**
Standard:	2.4	Cavities
Comment:		The product is unrestricted by this Standard, with reference to clauses 2.4.2(1)(2), 2.4.4(1) and 2.4.6(2). See section 2 of this Certificate.
Standard:	2.6	Spread to neighbouring buildings
Comment:		The product is unrestricted by this Standard, with reference to clauses 2.6.5(1) and 2.6.6(2). See section 2 of this Certificate.
Standard:	3.4	Moisture from the ground
Comment:		The product can contribute to satisfying this Standard, with reference to clauses 3.4.1(1)(2) and 3.4.5(1)(2). See section 3 of this Certificate.
Standard:	3.10	Precipitation
Comment:		The product can contribute to satisfying this Standard, with reference to clauses 3.10.1(1)(2) and 3.10.3(1)(2). See section 9 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/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), 6.2.11(2) and 6.2.12(1); however, compensating fabric measures may be required. See section 6 of this Certificate.
Standard:	7.1(a)	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 7.1.4(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:	**12**	**Building standards – conversion**
Comment:		Comments 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) and Schedule 6(1).

(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:	**23(2)**	**Fitness of materials and workmanship**
Comment:		The product is unrestricted by this Regulation. See section 2 of this Certificate.

Regulation:	**28(a)**	**Resistance to moisture and weather**
Comment:		The product can contribute to satisfying this Regulation. See section 3 of this Certificate.
Regulation:	**28(b)**	**Resistance to moisture and weather**
Comment:		The product can contribute to satisfying this Regulation. See section 9 of this Certificate.
Regulation:	**29**	**Condensation**
Comment:		The product can contribute to satisfying this Regulation. See section 3 of this Certificate.
Regulation:	**35(4)**	**Internal fire spread – structure**
Comment:		The product is unrestricted by this Regulation. See section 2 of this Certificate.
Regulation:	**36(a)**	**External fire spread**
Comment:		The product is unrestricted by this Regulation. See section 2 of this Certificate.
Regulation:	**39(a)(i)**	**Conservation measures**
Comment:		The product can contribute to satisfying this Regulation; however, compensating fabric measures may be required. See section 6 of this Certificate.
Regulation:	**40(2)**	**Target carbon dioxide emission rate**
Regulation:	**43(1)(2)**	**Renovation of thermal elements**
Regulation:	**43B**	**Nearly zero-energy requirements for new buildings**
Comment:		The product can contribute to satisfying these Regulations; however, compensating fabric/services measures may be required. See section 6 of this Certificate.

Additional Information

NHBC Standards 2024

In the opinion of the BBA, K-Roc Rainscreen Slab for use in timber or steel frame constructions, 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 6.2 *External timber framed walls* and 6.10 *Light steel framed walls and floors*.

Fulfilment of Requirements

The BBA has judged K-Roc Rainscreen Slab for use in timber or steel frame constructions to be satisfactory for use as described in this Certificate. The product has been assessed for use as a partial fill insulation on timber- and steel-frame walls, in new and existing domestic and non-domestic buildings, with a masonry outer leaf.

ASSESSMENT

Product description and intended use

The Certificate holder provided the following description for the product under assessment. K-Roc Rainscreen Slab for use in timber or steel frame constructions comprises slabs of stone mineral wool (MW).

The product has the nominal characteristics given in Table 1.

Table 1 Nominal characteristics

Characteristic (unit)	Value
Length (mm)	1200
Width (mm)	600
Thickness (mm)	30 to 200
Edge profile	Square

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:

- insulation fasteners/fixings
- sheathing and lining board
- breather membrane
- air and vapour control layer (AVCL).

Applications

The product is intended for use as a partial fill cavity wall insulation on timber- and steel-frame constructions with a masonry outer leaf (where masonry includes clay and calcium silicate bricks, concrete blocks, and natural and reconstituted stone blocks), in new and existing domestic and non-domestic buildings.

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

Not applicable.

2 Safety in case of fire

Data were assessed for the following characteristics.

2.1 Reaction to fire

2.1.1 The product was tested for reaction to fire and the classification is given in Table 2.

Table 2 Reaction to fire classification

Product assessed	Assessment method	Requirement	Result[1]
K-Roc Rainscreen Slab	BS EN 13501-1 : 2018	Value achieved	A1

(1) Warringtonfire, report reference 536800, 16 November 2023, Issue no 1. Copies can be obtained from the Certificate holder on request. The classification is valid for any thicknesses.

2.1.2 On the basis of data assessed, the product is not subject to any restrictions on building height or proximity to a relevant boundary by the documents supporting the national Building Regulations.

2.1.3 Designers must refer to the relevant national Building Regulations and guidance for detailed conditions of use, particularly in respect of requirements for substrate fire performance, cavity closers and barriers, fire stopping of service penetrations combustibility limitations for other materials and components used in the overall wall construction.

2.2 Resistance to fire

Where the product is incorporated in a wall construction where fire resistance is required by the documents supporting the national Building Regulations, the fire resistance should be confirmed by a suitably competent and experienced individual.

3 Hygiene, health and the environment

3.1 Effectiveness against rising damp

3.1.1 The product was tested for short-term water absorption by partial immersion and the result is given in Table 3.

Table 3 Short term water absorption by partial immersion

Product assessed	Assessment method	Requirement	Result
K-Roc Rainscreen Slab	BS EN 1609 : 2013	≤ 1 kg·m^{-2}	Pass

3.1.2 On the basis of data assessed, the product, when used in a properly drained cavity, will not transfer moisture by capillary absorption and may be used in situations where it bridges the damp proof course (DPC) in walls. Dampness from the ground will not pass through to the inner leaf provided the wall is detailed in accordance with the requirements and provisions of the national Building Regulations.

3.2 Water vapour permeability

3.2.1 The product was tested for water vapour permeability and the result is given in Table 4.

Table 4 Water vapour resistivity

Product assessed	Assessment method	Requirement	Result
K-Roc Rainscreen Slab	BS EN 12086 : 2013	Value achieved	> 5 MN·s·g^{-1}·m^{-1}

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

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 (λ_D) and the result is given in Table 5.

Table 5 Thermal conductivity (λ_D)

Product assessed	Assessment method	Requirement	Result
K-Roc Rainscreen Slab (all thicknesses)	BS EN 13162 : 2012	Declared value (λ_D)	0.034 W·m^{-1}·K^{-1}

6.2 Conservation of fuel and power

6.2.1 Example U values are given in Tables 6 and 7.

Table 6 U values — timber-frame with a masonry outer leaf[1][2]

Target U-value ($W \cdot m^{-2} \cdot K^{-1}$)	K-Roc Rainscreen Slab thickness (clear 140 mm timber frame) (mm)[3]	K-Roc Rainscreen Slab thickness (fully filled 140 mm timber frame) (mm)[4]
0.13	—[6]	130
0.15	190	95
0.17	165	70
0.18	155	60
0.21	130	35
0.26	100	30
0.28	95	0[5]
0.30	85	0[5]
0.35	70	0[5]

(1) Construction, external to internal: 102.5 mm brick (λ = 0.77 $W \cdot m^{-1} \cdot K^{-1}$), 50 mm clear cavity, K-Roc Rainscreen Slab, breather membrane, 9 mm oriented strand board (OSB) sheathing board (λ = 0.13 $W \cdot m^{-1} \cdot K^{-1}$), 140 mm timber frame ($\lambda$ = 0.13 $W \cdot m^{-1} \cdot K^{-1}$) (15% fraction), VCL and 15 mm plasterboard (λ = 0.25 $W \cdot m^{-1} \cdot K^{-1}$).
(2) Calculations based upon 4.4 stainless steel cavity wall ties per m^2 (6.6 mm^2 cross-sectional area, λ = 17 $W \cdot m^{-1} \cdot K^{-1}$).
(3) Insulation installed against the sheathing board with no insulation in the timber-frame.
(4) Insulation installed against the sheathing board with 140 mm of insulation in the timber-frame (λ = 0.035 $W \cdot m^{-1} \cdot K^{-1}$) with a 15% timber-frame fraction.
(5) Achieves the U value without K-Roc Rainscreen Slab insulation
(6) Can be achieved by the combination in the fully filled timber-frame option, see footnote (4).

Table 7 U values — steel-frame with a masonry outer leaf[1][2]

Target U value ($W \cdot m^{-2} \cdot K^{-1}$)	K-Roc Rainscreen Slab thickness (clear 90 mm steel frame) (mm)[3]	K-Roc Rainscreen Slab thickness (fully filled 90 mm steel frame) (mm)[4]
0.13	—[5]	180
0.15	—[5]	145
0.17	175	120
0.18	165	110
0.21	140	85
0.26	110	55
0.28	100	45
0.30	90	40
0.35	75	30

(1) Construction, external to internal: 102.5 mm brick (λ = 0.77 $W \cdot m^{-1} \cdot K^{-1}$), 50 mm clear cavity, K-Roc Rainscreen Slab, breather membrane, 9 mm oriented strand board (OSB) sheathing board (λ = 0.13 $W \cdot m^{-1} \cdot K^{-1}$), 90 mm light steel-frame (0.2% fraction), VCL and 15 mm plasterboard (λ = 0.25 $W \cdot m^{-1} \cdot K^{-1}$).
(2) Calculations based upon 3.7 stainless steel cavity wall ties per m^2 (28.3 mm^2 cross-sectional area, λ = 17 $W \cdot m^{-1} \cdot K^{-1}$).
(3) Insulation installed against the sheathing board with no insulation in the steel-frame.
(4) Insulation installed against the sheathing board with 90 mm of insulation in the steel frame (λ = 0.035 $W \cdot m^{-1} \cdot K^{-1}$) with a 0.2% steel-frame fraction.
(5) Can be achieved by the combination in the fully filled steel-frame option, see footnote (4).

6.2.2 The U value of a completed wall will depend on the insulation thickness, the number and type of fixings, the wall structure (including the stud cavity insulation type and thickness) 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.

6.2.4 For improved energy or carbon savings, designers must consider appropriate fabric and/or services measures.

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.

8.2 The product was tested for dimensional stability and the result is shown in Table 8.

Table 8 Dimensional stability

Product assessed	Assessment method	Requirement	Result
K-Roc Rainscreen Slab	BS EN 1604 : 2013 (70°C and 90% RH for 48 hours)	Length, width and thickness ≤ 1% change	Pass

8.3 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 The wall and sub-frame must be structurally sound, and must be designed and constructed in accordance with the relevant recommendations of:

- BS 5250 : 2021
- BS 8000-3 : 2020
- BS EN 351-1 : 2023
- BS EN 845-1 : 2013
- BS EN 1993-1-2 : 2005 and its UK National Annex
- BS EN 1993-1-3 : 2006 and its UK National Annex
- BS EN 1995-1-1 : 2004 and its UK National Annex
- BS EN 1996-1-1 : 2005 and its UK National Annex
- BS EN 1996-1-2 : 2005 and its UK National Annex
- BS EN 1996-2 : 2006 and its UK National Annex
- BS EN 1996-3 : 2006 and its UK National Annex.

9.1.3 It is essential that such walls are designed and constructed to incorporate the normal precautions against moisture ingress, including the use of a breather membrane over the timber sheathing in framing board applications.

9.1.4 As with other forms of cavity wall insulation, where buildings need to comply with the *NHBC Standards* 2024, specifiers must observe the requirements of that document.

9.1.5 Cavity wall ties with insulation-retaining fixings and, if required, any additional ties to BS EN 845-1 : 2013 must be used for structural stability in accordance with the principles of BS EN 1996-1-1 : 2005, BS EN 1996-2 : 2006 and BS EN 1996-3 : 2006, and their UK National Annexes.

9.1.6 Care must be taken in the overall design and construction of walls incorporating the product to ensure the provision of appropriate:

- cavity trays and damp-proof courses (DPCs)
- cavity barriers and fire dampers
- resistance to the ingress of precipitation, moisture and dangerous gases from the ground
- resistance to sound transmission when flanking separating walls and floors.

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

9.1.8 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.

Interstitial condensation

9.1.9 An assessment of the risk of interstitial condensation for the specific construction must be carried out in accordance with BS EN ISO 13788 : 2012 using the declared water vapour resistivity in Table 4.

9.1.10 To limit the risk of interstitial condensation, walls must be designed and constructed in accordance with BS 5250 : 2021, and the relevant guidance.

9.1.11 Adequate ventilation must be provided, particularly in rooms expected to experience high humidity, and to ensure the integrity of AVCLs and linings against vapour ingress.

9.1.12 An air and vapour control layer (AVCL) must be behind the internal plasterboard lining, which should be a minimum thickness of 0.125 mm (500 gauge) polyethylene, or plasterboard backed with a vapour control membrane.

Surface condensation

9.1.13 In England and Wales, walls will adequately limit the risk of surface condensation where 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 section 9.1.8 of this Certificate.

9.1.14 For buildings in Scotland, wall constructions will be acceptable where the thermal transmittance (U value) of the wall does not exceed 1.2 $W \cdot m^{-2} \cdot K^{-1}$ at any point, and walls 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 and section 9.1.8 of this Certificate.

Buildings up to and including 25 m high

9.1.15 The residual cavity width to be maintained during construction is 50 mm. This may reduce to 25 mm in isolated areas due to individual construction features (a minimum of 50 mm residual cavity width is required by the NHBC). This may be achieved by designing a cavity width which takes into account the dimensional tolerances of the components which make up the wall (by reference to the British Standards relating to the bricks, blocks and boards, or by using the data from the respective manufacturers). Allowances may need to be made for the quality of building operatives and the degree of site supervision or control available, and for the limitations in respect of exposure of the proposed building (as set out in Table 9).

Table 9 Maximum allowable total exposure factors of different constructions

Construction	Maximum allowable exposure factor $E^{(1)}$
All external masonry walls protected by: rendering (to BS EN 13914-1 : 2016), tile/slate hanging, or timber, plastic or metal weatherboarding or cladding	No restriction
One or more external masonry walls constructed from facing clay brickwork or natural stone (the porosity of which exceeds 20% by volume). Mortar joints must be flush-pointed or weatherstruck	100
One or more external masonry walls constructed from calcium silicate bricks, concrete blocks, reconstituted stone, or natural stone (the porosity of which is less than 20% by volume), or any material with raked mortar joints	88

(1) To BS 5618 : 1985.

9.1.16 From ground level, the maximum height of continuous cavity walls must not exceed 12 m; above 12 m, the maximum height of continuous cavity walls must not exceed 7 m. In both cases, breaks should be in the form of continuous horizontal cavity trays and weepholes discharging to the outside.

9.1.17 An external render coat or other suitable finish should be applied in locations where such applications would be normal practice; care should be taken to ensure that the residual cavity is not bridged by mortar.

Buildings over 25 m in height

9.1.18 The width of the residual clear cavity to be achieved must be in excess of 50 mm, and the following additional requirements apply:

- the specifier must take extra care when detailing to ensure that the introduction of the insulation does not affect the weather resistance of the wall. Above average site supervision is recommended during installation of the products
- where, for structural reasons, the cavity width is reduced (eg by the intrusion of ring beams), a minimum residual cavity width of 25 mm must be maintained and extra care must be taken with fixings and weatherproofing (eg the inclusion of cavity trays with weepholes).

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 are provided in Annex A of this Certificate.

9.2.3 Existing constructions must be in a good state of repair, with no evidence of rain penetration or damp. Defects must be made good prior to installation.

9.2.4 Any mould or fungal growth found to be present must be treated.

9.2.5 Installation must not be carried out until the moisture content of any timber is less than 20% by mass.

9.2.6 The slab can be cut using a fine-toothed saw or sharp knife, but care must be taken to prevent damage, particularly to edges.

9.2.7 It is important to ensure a tight fit between slabs. Trimming must be accurate, to achieve close-butted joints and continuity of insulation.

9.2.8 The slabs must be fixed against the external face of the sheathing board in conjunction with the masonry outer leaf.

9.2.9 Slabs must be close butted at all vertical and horizontal joints. The horizontal joints of the insulation must be staggered in accordance with good practice.

9.2.10 Fixings must have a minimum head diameter of 70 mm. A typical fixing pattern has 3 fixings per m^2, with one metal fixing at the centre of every slab.

9.2.11 In all situations, it is particularly important to ensure during installation that:

- cavity wall ties are installed correctly and are thoroughly clean and slope down
- excess mortar is cleaned from the cavity face of the brick leaf and any debris removed from the cavity
- mortar droppings are cleaned from the exposed edges of installed slabs
- insulation slabs are properly installed, and butt jointed
- installation is carried out to the highest level on each wall, or the top edge of the insulation is protected by a cavity tray
- at the lintel level, a cavity tray, stop ends and weep holes are provided
- cavity battens and/or boards are used during construction to prevent bridging by mortar droppings
- damp-proof course (DPC) membranes at ground level does not project into the cavity (as they can form a trap for mortar bridging)
- raked or recessed mortar joints are avoided in very severe exposure areas.

9.3 Workmanship

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

9.4 Maintenance and repair

As the product is confined between the wall and the masonry outer leaf, and has suitable durability (see section 8), and provided the integrity of the masonry outer leaf is maintained throughout the life of the system, 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 Certificate holder's name, product name, product description, dimensions, UKCA and CE marking, 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 slabs should be stored clear of the ground, on a clean, level surface, and preferably under cover to protect them from prolonged exposure to moisture or mechanical damage.

11.2.2 Dust masks, gloves and long-sleeved clothing should be worn when cutting and handling the slabs.

11.2.3 Damaged, contaminated or wet slabs 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.

CLP Regulations

The Certificate holder has taken the responsibility of classifying and labelling the product under the *GB CLP Regulation* and *CLP Regulation (EC) No 1272/2008 - classification, labelling and packaging of substances and mixtures*. Users must refer to the relevant Safety Data Sheet(s).

UKCA marking

The Certificate holder has taken the responsibility of UKCA marking the product, in accordance with Designated Standard EN 13162 : 2012.

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 BS EN ISO 9001 : 2015 and BS EN ISO 14001 : 2015 by RISE (Certificates 1418 v9 and 1418 M v6 respectively).

Additional information on installation

Installation must be in accordance with the Certificate holder's instructions and this Certificate. A summary of the procedure is provided below:

Procedure

A.1 Cavity barriers should be provided as required by the documents supporting the national Building Regulations.

A.2 The product should be cut and tightly fitted around wall tie fixings, where these occur.

A.3 For a typical installation, an AVCL is placed between the plasterboard and the timber-frame. A breather membrane is placed between the sheathing board and the product (see Figures 1 and 2).

Figure 1 Lightweight steel-frame

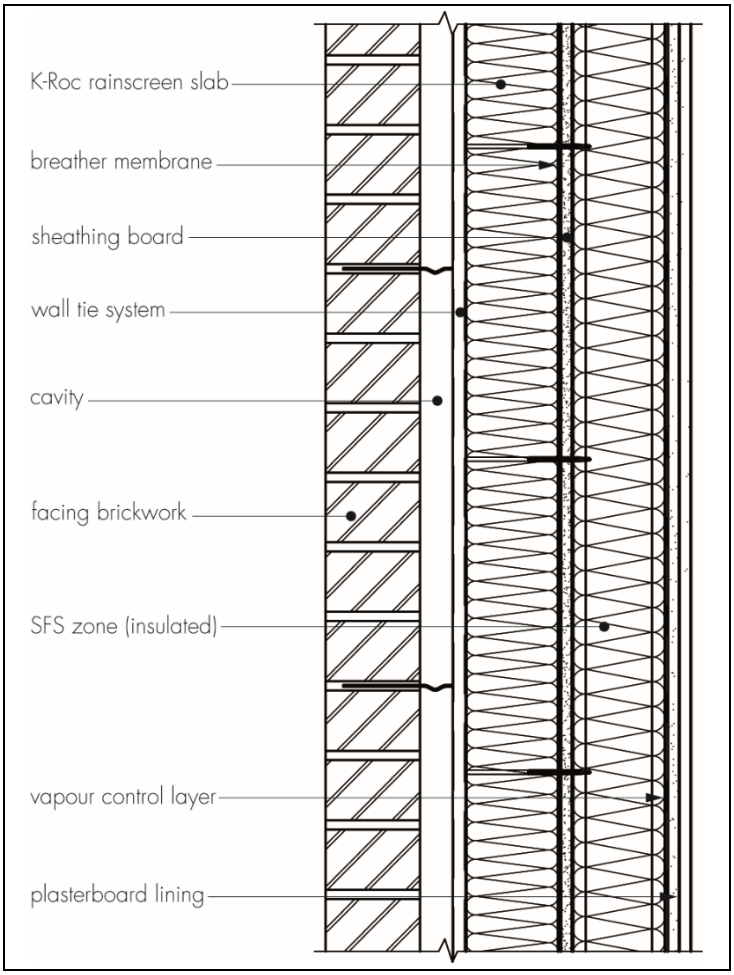
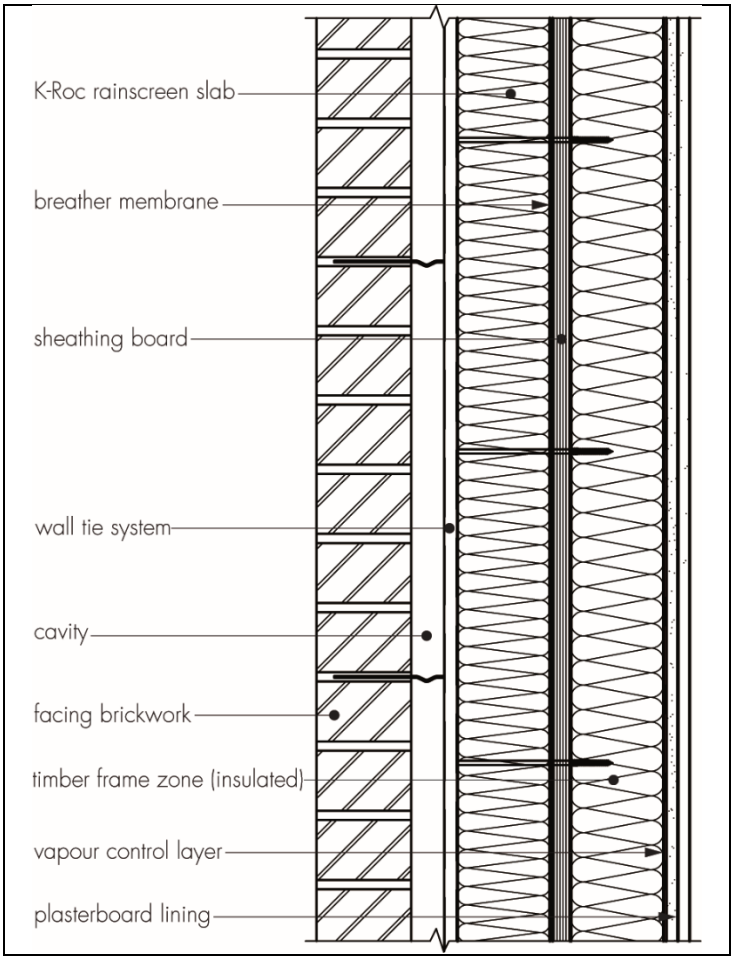


Figure 2 Timber-frame application



Mortar droppings

A.4 After each section of the leading leaf is built, excess mortar should be removed from the cavity face and mortar droppings cleaned from exposed edges of the installed slab, before installation of the next run of slabs. Use of a cavity board or a cavity batten will protect the installed slab edges and help to keep the cavity clean as the following leaf is built.

Bibliography

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

BRE Report BR 443 : 2019 *Conventions for U-value calculations*

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

BS 5618 : 1985 *Code of practice for thermal insulation of cavity walls (with masonry or concrete inner and outer leaves) by filling with urea-formaldehyde (UF) foam systems*

BS 8000-3 : 2020 *Workmanship on Building Sites — Code of Practice for Masonry*

BS EN 351-1 : 2023 *Durability of wood and wood-based products — Preservative-treated solid wood — Classification of preservative penetration and retention*

BS EN 845-1 : 2013 + A1 : 2016 *Specification for ancillary components for masonry — Wall ties, tension straps, hangers and brackets*

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

BS EN 1609 : 2013 *Thermal insulating products for building applications — Determination of short term water absorption by partial immersion*

BS EN 1993-1-2 : 2005 *Eurocode 3: Design of steel structures — General rules — Structural fire design*
NA to BS EN 1993-1-2 : 2005 UK National Annex to *Eurocode 3: Design of steel structures — General rules — Structural fire design*
BS EN 1993-1-3 : 2006 *Eurocode 3: Design of steel structures — General rules — Supplementary rules for cold-formed members and sheeting*
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BS EN 1995-1-1 : 2004 + A2 : 2014 *Eurocode 5 : Design of timber structures — General — Common rules and rules for buildings*
NA to BS EN 1995-1-1 : 2004 + A1 : 2008 UK National Annex to *Eurocode 5 : Design of timber structures — General — Common rules and rules for buildings*

BS EN 1996-1-1 : 2005 + A1 : 2012 *Eurocode 6 : Design of masonry structures — General rules for reinforced and unreinforced masonry structures*
NA to BS EN 1996-1-1 : 2005 + A1 : 2012 UK National Annex to *Eurocode 6 : Design of masonry structures — General rules for reinforced and unreinforced masonry structures*
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BS EN 12086 : 2013 *Thermal insulating products for building applications — Determination of water vapour transmission properties*

BS EN 13162 : 2012 + A1 : 2015 *Thermal insulation products for buildings – Factory made mineral wool (MW) products — Specification*

BS EN 13501-1 : 2018 *Fire classification of construction products and building elements — Classification using test data from reaction to fire tests*

BS EN 13914-1 : 2016 *Design, preparation and application of external rendering and internal plastering — External rendering*

BS EN ISO 6946 : 2017 *Building components and building elements — Thermal resistance and thermal transmittance — Calculation method*

BS EN ISO 9001 : 2015 *Quality management systems — Requirements*

BS EN ISO 13788 : 2012 *Hygrothermal performance of building components and building elements — Internal surface temperature to avoid critical surface humidity and interstitial condensation — Calculation methods*

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

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
- 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.

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.

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
- 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.

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

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

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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