

Kingspan Insulation Ltd

Pembridge
Leominster
Herefordshire HR6 9LA



Tel: 01544 388601

e-mail: info@kingspaninsulation.co.uk

website: www.kingspaninsulation.co.uk

Agrément Certificate

16/5299

Product Sheet 4 Issue 3

KINGSPAN KOOLTHERM RANGE FOR FLOORS, WALLS AND PITCHED ROOFS

KOOLTHERM K110 SOFFIT BOARD INSULATION

This Agrément Certificate Product Sheet⁽¹⁾ relates to Kooltherm K110 Soffit Board Insulation, a phenolic foam board with a wet-lay, coated glass tissue based upper facing and a composite foil lower facing. The product is for use as soffit insulation for semi-exposed concrete floor decks in car parks, storage areas, loading bays and similar areas beneath new and existing domestic and non-domestic buildings.

(1) Hereinafter referred to as 'Certificate'.

The assessment includes

Product factors:

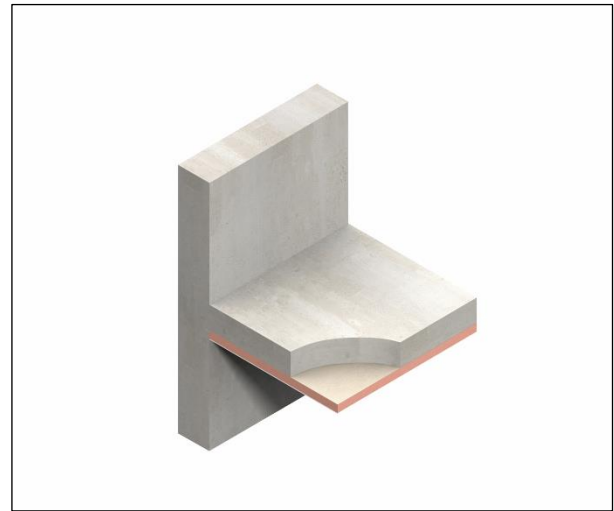
- compliance with Building Regulations
- compliance with additional regulatory or non-regulatory information where applicable
- evaluation against technical specifications
- assessment criteria and technical investigations
- uses and design considerations

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 Third issue: 23 May 2024
Originally certified on 23 August 2016

A handwritten signature in black ink, appearing to read 'Hardy Giesler'.

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, Hatters Lane
Croxley Park, Watford
Herts WD18 8YG

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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 Kooltherm K110 Soffit Board 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:	B2(1)	Internal fire spread (linings)
Comment:		The product is unrestricted by 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	CO₂ 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/service 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 clauses 1.1.1 ⁽¹⁾⁽²⁾ , 1.1.2 ⁽¹⁾⁽²⁾ and 1.1.3 ⁽¹⁾⁽²⁾ . See section 1 of this Certificate.
Standard:	2.5	Internal linings
Comment:		The product is unrestricted under this Standard, with reference to clause 2.5.1 ⁽¹⁾⁽²⁾ . See section 2 of this Certificate.

Standard: Comment:	3.15	Condensation 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: Comment:	6.1(b)(c)	Energy demand 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 may 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⁾⁽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: 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.
Regulation: Comment:	12	Building standards – conversion 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⁾⁽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:	34	Internal fire spread – Linings The product can contribute to satisfying this Regulation. See section 2 of this Certificate.
Regulation: Comment:	39(a)(i)	Conservation measures The product can contribute to satisfying this Regulation; however, compensating fabric measures may be required. See section 6 of this Certificate.
Regulation: Regulation: Regulation: Comment:	40(2) 43(1)(2) 43B	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 may be required. See section 6 of this Certificate.

Additional Information

NHBC Standards 2024

In the opinion of the BBA, Kooltherm K110 Soffit Board 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*, Chapter 2.1 *The Standards and Technical Requirements, Technical Requirement R3, Material Requirements*.

Fulfilment of Requirements

The BBA has judged Kooltherm K110 Soffit Board Insulation to be satisfactory for use as described in this Certificate. The product has been assessed for use as soffit insulation for semi-exposed concrete floor decks in car parks, storage areas, loading bays and similar areas beneath 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. Kooltherm K110 Soffit Board Insulation consists of a closed-cell phenolic foam insulation core, with a wet-lay coated glass tissue based upper facing and a composite foil lower facing.

The product has the nominal characteristics given in Table 1.

Table 1 Nominal characteristics of Kooltherm K110 Soffit Board Insulation⁽¹⁾

Characteristic (unit)	Value
Length (mm)	2400
Width (mm)	1200
Thickness (mm)	65 to 120
Edge profile	Square

(1) Other board dimensions are available on request.

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:

- edge cover strips/tape
- fixings
- timber battens/proprietary grid system.

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 The product was assessed against performance values appropriate to the principles of BS EN 1991-1-4 : 2005 and its UK National Annex. Results of the wind load resistance tests are given in Table 2.

1.1.2 The resistance forces data given in Table 2 are the results of calculations based upon pull-through resistances of the insulation to the head of the HD fixings (steel SAE 1022 case-hardened, 6.1 mm diameter, up to 175 mm length⁽¹⁾, with a minimum head diameter of 25 mm and a global tube washer, and a minimum of 25 mm embedment into the substrate).

(1) This relates to concrete substrates; lengths of up to 300 mm will be required if the timber batten fixing method is used (see section A.6).

1.1.3 Fixings with a minimum head diameter of 25 mm and a characteristic pull-through resistance value exceeding 380 N, and corresponding values from Table 2, must be used.

Table 2 Data for calculation of wind load capacity

Factor (unit)	Product ⁽¹⁾
Product thickness (mm)	All
Density of product (kg·m ⁻³)	35
Flexural strength (kPa)	627
Characteristic pull-through resistance ⁽²⁾ (per anchor) (N)	380
Partial material factor	3
Design pull-through resistance ⁽³⁾ (per anchor) (N)	127
Fixing head diameter (minimum) (mm)	25

(1) Calculation based on insulation board 2.4 m by 1.2 m (total area 2.88 m²) attached by 11 fixings (ie, 3.82 fixings per m²).

(2) Pull-through resistance of the product over the head of the fixing (see section 9.1.5).

(3) The partial material factor of 3 is applied and based on the knowledge that all boards are quality control tested to ensure consistency of the tensile strength perpendicular to the face of the board.

1.1.4 The product was tested for compressive strength and the result is given in Table 3.

Table 3 Compressive strength

Product assessed	Assessment method	Requirement	Result
Kooltherm K110	BS EN 826 : 2013	> 100 kPa	Pass

1.1.5 The product must be mechanically fixed to the structural floor with a minimum of 11 fixings per board, with the fixing pattern shown in Figure 1.

1.1.6 When attached to a structural floor with an appropriate number of fixings, the product can adequately resist the design loads applicable in the UK (see sections 9.1.4 to 9.1.6 of this Certificate).

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 achieved is given in Table 4.

Table 4 Reaction to fire classification

Product assessed	Assessment method	Requirement	Result
Kooltherm K110	BS EN 13501-1 : 2018	Value achieved	C-s2, d0

2.1.2 On the basis of data assessed, the product, when used as soffit insulation for semi-exposed floor decks, will be unrestricted under the documents supporting the national Building Regulations in relation to internal fire spread over linings.

2.1.3 If the product is painted or covered, the performance is outside the scope of this Certificate and the reaction to fire classification and permissible area of use must be determined in accordance with the documents supporting the national Building Regulations.

2.1.4 All fixings must be non-combustible.

2.1.5 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 and combustibility limitations for other materials and components used in the overall floor construction.

2.2 Resistance to fire

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

3 Hygiene, health and the environment

Data were assessed for the following characteristic.

3.1 Water vapour permeability

3.1.1 The product was tested for water vapour permeability and the results are given in Table 5.

<i>Table 5 Water vapour resistivity/resistance</i>			
Product assessed	Assessment method	Requirement	Result
Phenolic foam	BS EN 12086 : 2013	Value achieved	410 MN·s·g ⁻¹ ·m ⁻¹
Glass tissue based facing			5 MN·s·g ⁻¹
Composite foil facing			8.3 MN·s·g ⁻¹

3.1.2 For the purposes of assessing the risk of interstitial condensation, the water vapour resistivity and water vapour resistance values may be taken as stated in Table 5.

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 result is given in Table 6.

<i>Table 6 Thermal conductivity</i>			
Product assessed	Assessment method	Requirement	Result
Kooltherm K110 (all thicknesses)	BS EN 13166 : 2012	Declared value (λ_D)	0.019 W·m ⁻¹ ·K ⁻¹

6.2 Conservation of fuel and power

6.2.1 The U value of a completed soffit will depend on the insulation thickness, and its structure. Example U values are given in Tables 7 and 8.

Table 7 Example U values for K110 fixed directly to the soffit⁽¹⁾⁽²⁾

Target U value (W·m ⁻² ·K ⁻¹)	Insulation thickness (mm)
0.11	— ⁽³⁾
0.12	— ⁽³⁾
0.13	— ⁽³⁾
0.15	120
0.18	100
0.22	80
0.25	70

- (1) Values, including fixing correction due to mechanical fixings causing cold bridging. 3.82 fixings per m², $\lambda = 17 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ (stainless steel) and a cross-sectional area of 8 mm².
 (2) Construction (internal to external): 150 mm concrete deck with 2% steel ($\lambda = 2.5 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$). K110 soffit insulation fixed directly to the concrete soffit.
 (3) See section 6.2.3.

Table 8 Example U values for K110 fixed to a metal frame system⁽¹⁾⁽²⁾

Target U value (W·m ⁻² ·K ⁻¹)	Insulation thickness (mm)
0.11	— ⁽³⁾
0.12	— ⁽³⁾
0.13	— ⁽³⁾
0.15	120
0.18	100
0.22	80
0.25	70

- (1) Values, including fixing correction due to mechanical fixings causing cold bridging. 5.21 fixings per m², $\lambda = 50 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ and a cross-sectional area of 4 mm².
 (2) Construction (internal to external): 150 mm concrete deck with 2% steel ($\lambda = 2.5 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$). 25 mm deep, non-vented airspace bridged by a steel frame system = 1.5 mm thick at 600 mm centres, K110 soffit insulation.
 (3) See section 6.2.3.

6.2.2 On the basis of data assessed, 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.

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 this product were assessed.

8.2 Specific test data were assessed as given in Table 9.

Table 9 Dimensional stability

Product assessed	Assessment method	Requirement	Result
Kooltherm K110	BS EN 1604 : 1997 (70°C and 90-100% RH for 48 hours)	Length, width and thickness $\leq 1.5\%$ change	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, provide 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 Positive wind load (pressure) is transferred to the substrate directly via bearing and compression of the product.

9.1.3 Negative wind load (suction) is resisted by the stainless steel fixings which retain the product.

9.1.4 The wind loads on the structural floor must be calculated by a suitably experienced and competent individual in accordance with the principles of BS EN 1991-1-4 : 2005 and its UK National Annex. Special consideration must be given to locations with high wind-load pressure coefficients as additional fixings may be necessary. In accordance with BS EN 1990 : 2002 and its UK National Annex, it is recommended that a load factor of 1.5 is used to determine the ultimate design wind load to be resisted by the product.

9.1.5 An assessment of structural performance for individual buildings must be carried out by a suitably experienced and competent individual to confirm that:

- the structural floor has adequate strength to resist additional loads that may be applied as a result of installing the product
- the proposed product and associated fixing layout provide adequate resistance to negative wind loads (based on the results of the site investigation)
- an appropriate number of site-specific pull-out tests are conducted on the substrate of the building to determine the minimum resistance to failure of the fixings. The characteristic pull-out resistance must be determined in accordance with the guidance given in the EAD 330196-00-0604 : 2016 and EOTA Technical Report TR051 : 2018.

9.1.6 The number and centres of fixings must be determined by a suitably experienced and competent individual. Provided the structural floor is suitable and an appropriate fixing and depth of embedment is selected, the mechanical fixings will transfer the weight of the product to the structural floor.

9.1.7 Care must be taken in the detailing of the product at the floor perimeter to ensure adequate protection against precipitation. Proprietary products must be used to adequately seal the product edges from precipitation (outside the scope of this Certificate).

9.1.8 Recessed lighting must not be used.

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

9.1.10 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

9.1.11 Floors will adequately limit the risk of interstitial condensation when they are designed and constructed in accordance with BS 5250 : 2021 and the relevant guidance.

9.1.12 When designing buildings with a humidity class higher than humidity class 3, an assessment will need to be made, in accordance with BS EN 15026 : 2023 using the values given in Table 5, and the result will be construction and location specific.

Surface condensation

9.1.13 In England and Wales, floors will adequately limit the risk of surface condensation when the thermal transmittance (U value) does not exceed $0.7 \text{ W}\cdot\text{m}^{-2}\cdot\text{K}^{-1}$ at any point, and the junctions with other elements are designed in accordance with the guidance referred to in section 9.1.10 of this Certificate.

9.1.14 For buildings in Scotland, floor constructions will be acceptable when the thermal transmittance (U value) does not exceed $1.2 \text{ W}\cdot\text{m}^{-2}\cdot\text{K}^{-1}$ at any point, and the junctions with other elements are designed in accordance with the guidance referred to in BS 5250 : 2021. Further guidance may be obtained from BRE Report BR 262 : 2002 and section 9.1.10 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.

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 De-rating of electric cables must be considered in areas where the product restricts the flow of air.

9.3 Workmanship

Practicability of installation was assessed, 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

The product does not require maintenance. Minor surface damage can be repaired with proprietary fillers. Major damage may require the replacement of panels. The Certificate holder can advise on suitable measures for a particular application, but such advice is outside the scope of this Certificate.

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 and characteristics, number of boards per pack, batch number, production date, and the BBA logo incorporating the number of this Certificate.

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

11.2.1 Ideally, the boards should be stored inside. If outside storage cannot be avoided, boards must be stacked clear of the ground and covered with an opaque polythene sheet or weatherproof tarpaulin and protected from rain, snow and prolonged exposure to sunlight.

11.2.2 Boards that have been allowed to get wet or that are damaged must not be used. Nothing must be stored on top of the boards.

11.2.3 Boards must not be exposed to a naked flame or other ignition sources, or to solvents or other chemicals.

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.

UKCA marking

The Certificate holder has taken the responsibility of UKCA marking the product in accordance with Designated Standard EN 13166 : 2012.

CE marking

The Certificate holder has taken the responsibility of CE marking the product in accordance with harmonised European Standard EN 13166 : 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 CIBSE (Certificate 0001QMS-0 for the Pembridge site, and Certificate 0001QMS-7 for the Castleblayney site).

Additional information on installation

Installation must be in accordance with the Certificate holder's instructions and this Certificate.

General

A.1 The product may be fixed directly to a concrete soffit (with or without metal shuttering), to timber battens or a proprietary grid system.

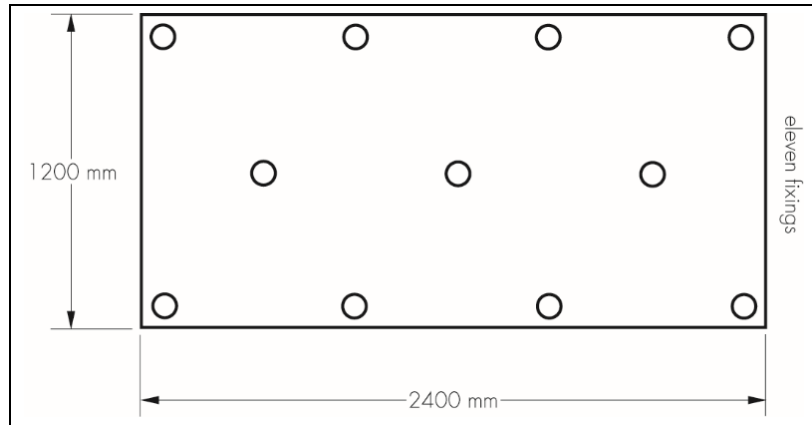
A.2 The product may be cut using a fine-toothed saw or a sharp knife, snapping the board over a straight edge and cutting the facing on the other side.

Procedure

Fixing directly to concrete soffits

A.3 The product may be fully restrained to a concrete soffit by the use of a minimum 11 insulation fasteners with a minimum head diameter of 25 mm. The fasteners must be spaced as shown in Figure 1.

Figure 1 Fastener layout



A.4 The fasteners must penetrate into the concrete soffit to a minimum distance of 40 mm. Fixings to board edges and corners should be situated between 50 and 150 mm from the board edge. If an alternative fixing penetration into the concrete slab is required, advice must be sought on suitable fixing products and installation from the fixing manufacturer, but such advice is outside the scope of this Certificate.

A.5 Board joints should preferably be staggered.

Fixing to timber battens/grid system

A.6 A treated timber batten system may be used if a void is necessary due to uneven surfaces, or services present.

A.7 Battens should be at least 50 by 25 mm and fixed at 600 mm centres to coincide with the edges/centres of the boards.

A.8 The product should be fixed to the timber battens using suitable fixings as shown in Figure 1.

A.9 Fixings should be positioned not less than 25 mm from board edges. Exposed joints should be covered with a suitable tape or cover strip.

A.10 The product may also be fixed to a grid system comprising metal furring bars. The manufacturer's advice should be sought on each system under consideration, but such advice and materials are outside the scope of this Certificate.

Bibliography

- BRE Report BR 262 : 2002 *Thermal insulation : avoiding risk*
- BRE Report BR 443 : 2019 *Conventions for U-value calculations*
- BS 5250 : 2021 *Code of practice for control of condensation in buildings*
- BS EN 826 : 2013 *Thermal insulating products for building applications — Determination of compression behaviour*
- BS EN 1604 : 1997 *Thermal insulating products for building applications — Determination of dimensional stability under specified temperature and humidity conditions*
- BS EN 1990 : 2002 + A1 : 2005 *Eurocode — Basis of structural design*
- NA to BS EN 1990 : 2002 + A1 : 2005 *UK National Annex for Eurocode — Basis of structural design*
- BS EN 1991-1-4 : 2005 + A1 : 2010 *Eurocode 1 — Actions on structures — General actions — Wind actions*
- NA to BS EN 1991-1-4 : 2005 + A1 : 2010 *UK National Annex to Eurocode 1 — Actions on structures — General actions — Wind actions*
- BS EN 12086 : 2013 *Thermal insulating products for building applications — Determination of water vapour transmission properties*
- BS EN 13166 : 2012 + A2 : 2016 *Thermal insulation products for buildings — Factory made phenolic foam (PF) products — Specification*
- BS EN 13501-1 : 2007 + A1 : 2009 *Fire classification of construction products and building elements — Classification using test data from reaction to fire tests*
- BS EN 15026 : 2023 *Hygrothermal performance of building components and building elements — Assessment of moisture transfer by numerical simulation*
- 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*
- EAD 330196-00-0604 : 2016 *Plastic Anchors for fixing of external thermal insulation composite systems with rendering*
- EOTA Technical Report TR051 : 2018 *Recommendations for job site tests of plastic anchors and screws*

Conditions of Certificate

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.

British Board of Agrément

1st Floor, Building 3, Hatters Lane
Croxley Park, Watford
Herts WD18 8YG

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