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Agrément Certificate

15/5283

Product Sheet 3

IKO INSULATIONS

IKO ENERTHERM ALU INSULATION BOARD FOR FLAT ROOFS

This Agrément Certificate Product Sheet⁽¹⁾ relates to IKO enertherm ALU Insulation Board for Flat Roofs, comprising a rigid polyisocyanurate (PIR) foam board with composite foil-facings. The product is for use as a thermal insulation layer on limited access concrete, metal or timber flat roof decks. It is for use in conjunction with a vapour control layer and mechanically or adhesively fixed roof waterproofing systems, in domestic and non-domestic buildings.

(1) Hereinafter referred to as 'Certificate'.

CERTIFICATION INCLUDES:

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

KEY FACTORS ASSESSED

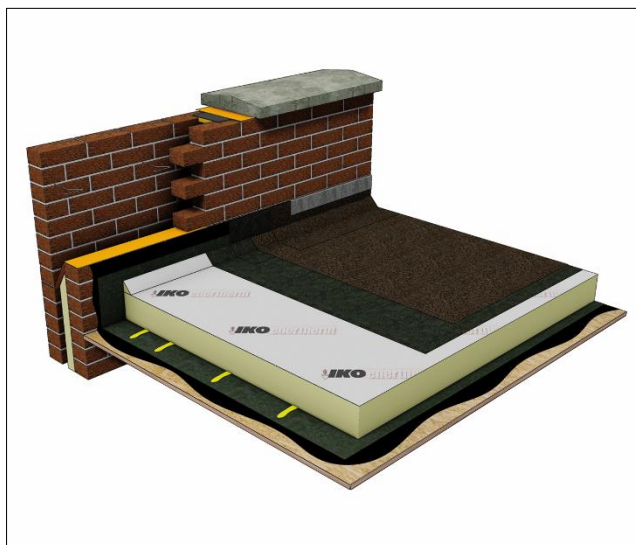
Thermal performance — the product has a declared thermal conductivity* (λ_D) of $0.022 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ (see section 6).

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

Strength and stability — when installed on suitable substrates using appropriate fixing methods, the product can adequately transfer maintenance traffic loads and wind loads to the roof deck (see section 8).

Behaviour in relation to fire — the product has a reaction to fire classification* of Class E in accordance with BS EN 13501-1 : 2007 (see section 9).

Durability — the product is durable, rot proof, water resistant and sufficiently stable to remain effective as an insulation for the life of the building (see section 11).



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

On behalf of the British Board of Agrément

Date of First issue: 4 March 2016

John Albon – Head of Approvals
Construction Products

Claire Curtis-Thomas
Chief Executive

The BBA is a UKAS accredited certification body – Number 113.

The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at www.bbacerts.co.uk
Readers are advised to check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA direct.

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Regulations

In the opinion of the BBA, IKO enertherm ALU Insulation Board for Flat Roofs, 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 presence of a UK map indicates that the subject is related to the Building Regulations in the region or regions of the UK depicted):



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

Requirement:	A1	Loading
Comment:		The product can contribute to satisfying this Requirement. See sections 8.1 and 8.2 of this Certificate.
Requirement:	B4(2)	External fire spread
Comment:		Roofs incorporating the product can satisfy this Requirement. See section 9.3 of this Certificate.
Requirement:	C2(c)	Resistance to moisture
Comment:		The product can contribute to satisfying this Requirement. See sections 7.1 and 7.4 of this Certificate.
Requirement:	L1(a)(i)	Conservation of fuel and power
Comment:		The product can contribute to satisfying this Requirement. See section 6 of this Certificate.
Regulation:	7	Materials and workmanship
Comment:		The product is acceptable. See section 11.1 and the <i>Installation</i> part of this Certificate.
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 consumption rates for new buildings (applicable to Wales only)
Regulation:	26B	Fabric performance values for new dwellings (applicable to Wales only)
Comment:		The product can contribute to satisfying these Regulations. See section 6 of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)	Durability, workmanship and fitness of materials
Comment:		The product is acceptable. See section 11.1 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards applicable to construction
Standard:	1.1	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 sections 8.1 and 8.2 of this Certificate.
Standard:	2.8	Spread from neighbouring buildings
Comment:		Roofs incorporating the product can satisfy this Standard, with reference to clause 2.8.1 ⁽¹⁾⁽²⁾ . See section 9.3 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⁾ , 3.15.4 ⁽¹⁾⁽²⁾ and 3.15.5 ⁽¹⁾⁽²⁾ . See sections 7.1 and 7.5 of this Certificate.
Standard:	6.1(b)	Carbon dioxide emissions
Standard:	6.2	Building insulation envelope
Comment:		The product can contribute to satisfying these Standards, with reference to clauses, or parts of, 6.1.1 ⁽¹⁾ , 6.1.2 ⁽²⁾ , 6.1.6 ⁽¹⁾ , 6.2.1 ⁽¹⁾⁽²⁾ , 6.2.3 ⁽¹⁾ , 6.2.4 ⁽²⁾ , 6.2.5 ⁽²⁾ , 6.2.6 ⁽¹⁾ , 6.2.7 ⁽¹⁾ , 6.2.8 ⁽¹⁾⁽²⁾ , 6.2.9 ⁽¹⁾⁽²⁾ , 6.2.10 ⁽¹⁾⁽²⁾ , 6.2.11 ⁽¹⁾⁽²⁾ , 6.2.12 ⁽²⁾ and 6.2.13 ⁽¹⁾⁽²⁾ . See sections 6.1 and 6.2 of this Certificate.

Standard:	7.1(a)(b)	Statement of sustainability
Comment:		The product can contribute to satisfying the relevant requirements of Regulation 9, Standards 1 to 6, and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard. In addition, the product can contribute to a construction meeting a higher level of sustainability as defined in this Standard, with reference to clauses 7.1.4 ⁽¹⁾⁽²⁾ [Aspects 1 ⁽¹⁾⁽²⁾ and 2 ⁽¹⁾], 7.1.6 ⁽¹⁾⁽²⁾ [Aspects 1 ⁽¹⁾⁽²⁾ and 2 ⁽¹⁾] and 7.1.7 ⁽¹⁾⁽²⁾ [Aspect 1 ⁽¹⁾⁽²⁾]. See section 6 of this Certificate.
Regulation:	12	Building standards applicable to conversions
Comment:		Comments made in relation to this 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	Fitness of materials and workmanship
Comment:		The product is acceptable. See section 11.1 and the <i>Installation</i> part of this Certificate.
Regulation:	29	Condensation
Comment:		The product can contribute to satisfying this Regulation. See section 7.1 of this Certificate.
Regulation:	30	Stability
Comment:		The product can contribute to satisfying this Regulation. See sections 8.1 and 8.2 of this Certificate.
Regulation:	36(b)	External fire spread
Comment:		Roofs incorporating the product can satisfy this Regulation. See section 9.3 of this Certificate.
Regulation:	39(a)(i)	Conservation measures
Regulation:	40(2)	Target carbon dioxide emission rate
Comment:		Roofs incorporating the product can satisfy these Regulations. See section 6 of this Certificate.

Construction (Design and Management) Regulations 2015

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

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

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

Additional Information

NHBC Standards 2016

NHBC accepts the use of IKO enertherm ALU Insulation Board for Flat Roofs, provided it is installed, used and maintained in accordance with this Certificate, in relation to *NHBC Standards*, Chapter 7.1 *Flat roofs and balconies*.

CE marking

The Certificate holder has taken the responsibility of CE marking the product in accordance with harmonised European Standard BS EN 13165 : 2012. An asterisk (*) appearing in this Certificate indicates that data shown is given in the manufacturer's Declaration of Performance.

Technical Specification

1 Description

1.1 IKO enertherm ALU Insulation Board for Flat Roofs comprises a rigid polyisocyanurate (PIR) board with composite foil-facings on both sides.

1.2 The product has the nominal characteristics as shown in Table 1.

Table 1 Nominal characteristics

Size (mm)	1200 x 600 1200 x 1000 1200 x 2400
Thickness (mm)	30, 40, 50, 60, 70, 75, 80, 90, 100, 110, 120 and 140
Edge detail	Plain square edge
Minimum compressive stress at 10% deformation (kPa)*	175
Foil-facings	Printed composite foil-facing both sides

1.3 The product is installed as part of a flat roof system in conjunction with the following items (which are outside the scope of this Certificate):

- waterproofing membrane/system
- vapour control layer (VCL)
- mechanical and adhesive fixing systems.

2 Manufacture

2.1 IKO enertherm ALU Insulation Board for Flat Roofs is manufactured by blending together polyol and MDI in a continuous foaming process aided by a blowing agent, and sandwiched between two composite foil-facings. After formation, the boards are left to cure and are cut to size.

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

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

2.3 The management system of the manufacturer has been assessed and registered as meeting the requirements of BS EN ISO 14001 : 2004 by Stichting QualityMasters (Certificate NL 6397uk).

3 Delivery and site handling

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

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

3.3 The product is light and easy to handle and care should be exercised to avoid crushing the edges or corners. If damaged the product should be discarded.

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

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on IKO enertherm ALU Insulation Board for Flat Roofs.

Design Considerations

4 Use

4.1 IKO enertherm ALU Insulation Board for Flat Roofs is suitable for use as flat roof insulation and is effective in reducing the thermal transmittance (U value) of concrete, metal or timber flat roofs, with access limited to maintenance only (see section 4.5).

4.2 Decks should be designed in accordance with the relevant clauses of either BS 6229 : 2003 or BS EN 13956 : 2012 and, where appropriate, the *NHBC Standards* 2016, Chapter 7.1.

4.3 Roofs should incorporate a VCL below the product which is compatible with both the product and the waterproofing system. Advice should be sought from the Certificate holder.

4.4 The product is for use with one of the following waterproofing specifications:

- built-up specifications including reinforced bitumen membranes to BS 8747 : 2007 in accordance with the recommendations of Table 5, and installed to the relevant clauses of BS 8217 : 2005
- single ply membranes, which are the subject of a current Agrément Certificate, laid in accordance with the requirements of that Certificate, and the manufacturer's recommendations
- other waterproofing systems, including liquid-applied waterproofing, which are the subject of a current Agrément Certificate, laid in accordance with, and within the limitations imposed by, that Certificate.

4.5 Limited access roofs are defined for the purpose of this Certificate as those roofs subject only to pedestrian traffic for maintenance of the roof covering, cleaning of gutters, etc.

4.6 Flat roofs are defined for the purpose of this Certificate as those roofs having a minimum finished fall of 1:80 and a maximum 1:6 as defined in BS 6229 : 2003.

4.7 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.

5 Practicability of installation

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

6 Thermal performance



6.1 Calculations of thermal transmittance (U value), should be carried out in accordance with BS EN ISO 6946 : 2007 and BRE Report BR 443 : 2006, using the declared thermal conductivity (λ_D)* of $0.022 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ for the insulation.

6.2 The U value of a completed roof will depend on the thickness of insulation used, the number and type of fixings and the insulating value of other roof components/layers. Example U values of roofs incorporating the product are shown in Table 2.

Table 2 Example U values – flat roofs

U value ($W \cdot m^{-2} \cdot K^{-1}$)	Insulation Thickness ⁽¹⁾ (mm) ⁽¹⁾		
	Concrete ⁽²⁾⁽⁵⁾	Timber ⁽³⁾⁽⁵⁾	Metal ⁽⁴⁾⁽⁵⁾
0.13	160 (80 + 80)	155 (80 + 75)	165 (90 + 75)
0.15	140	140	140
0.16	140	140	140
0.18	120	110	120
0.20	110	100	110
0.25	90	75	90

(1) Nearest available thickness.

(2) 150 mm concrete deck — $1.33 W \cdot m^{-1} \cdot K^{-1}$, VCL, insulation, mechanically fixed single-ply waterproofing membrane.

(3) 12.5 mm plasterboard, 150 mm timber joists (12.5%)/air cavity (87.5%), 18 mm plywood decking, VCL, insulation, mechanically fixed single-ply waterproofing membrane.

(4) Metal deck, VCL, insulation, mechanically fixed single-ply waterproofing membrane.

(5) Thermally broken tube fixings installed – therefore no fixing correction applied.

Junctions

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

7 Condensation risk

Interstitial condensation



7.1 Roofs will adequately limit the risk of interstitial condensation when they are designed and constructed in accordance with BS 5250 : 2011, Annexes D and H and the relevant guidance.

7.2 The foil-facings have a water vapour resistance of $1000 MN \cdot s \cdot g^{-1}$ and the insulation core has a water vapour resistivity of approximately $183 MN \cdot s \cdot g^{-1} \cdot m^{-1}$. The product, therefore, will provide a significant resistance to water vapour transmission.

7.3 To minimise moisture entering the roof, a VCL should be used with sealed and lapped joints and be turned up around the insulation and bonded to the waterproofing finish.

Surface condensation



7.4 Roofs will adequately limit the risk of surface condensation when 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 6.3 of this Certificate.



7.5 For buildings in Scotland, constructions will be acceptable where the thermal transmittance (U value) does not exceed $1.2 W \cdot m^{-2} \cdot K^{-1}$ at any point, and the junctions with other elements are designed in accordance with the guidance referred to in BS 5250 : 2011, Annex H. Further guidance may be obtained from BRE Report BR 262 : 2002 and section 6.3 of this Certificate.

8 Strength and stability



8.1 When installed on suitable flat roof decks, using appropriate mechanical fixings, the product can adequately transfer maintenance traffic loads and negative and positive (suction and pressure) wind loads to the roof deck.

8.2 When adhesively fixed, adhesion between the insulation board component and VCL, and between the boards and overlay, is adequate to resist the effects of wind suction and thermal cycling likely to be experienced under normal conditions. Metal deck profiles should give a bonding area of at least 33% of the total projected surface area. In areas where high wind speeds can be expected, mechanical fixing should be considered, and the advice of the Certificate holder should be sought as to the method of fixing. Reference should be made to BS EN 1991-1-4 : 2005 where a calculation is required for a specific building project.

8.3 The roof construction must be structurally sound and have sufficient strength and stability to resist all dead, imposed and wind loads. It must also have adequate resistance to the pull-out forces created by the wind forces acting on the specified fixings used.

8.4 The suitability of the substrate to accept the mechanical fixings or adhesive bond must be established before installation. Mechanical fixings must be checked before installation by carrying out in-situ pull-out or pull-through testing to determine the maximum safe working load the fixings can resist. The advice of the Certificate holder should be sought with respect to suitable mechanical fixings.

8.5 All design analysis must be in accordance with British or European Standards relevant to the construction. The requirement for fixings to suit the wind uplift requirements for the particular site should be assessed in accordance with BS EN 1991-1-4 : 2005. All calculations should be carried out by a suitably competent and experienced individual.

8.6 The number and type of mechanical fixings required will vary depending on the geographical location of the building, topographical data and height and width of the roof concerned etc, and the Certificate holder's advice should be sought in this respect.

8.7 Each fixing must incorporate a minimum 75 mm diameter thermally broken tube washer, which must not retain more than one board.

8.8 Roof waterproofing systems (see section 4.4 for suitable types) must be applied in accordance with the relevant Agrément Certificates and manufacturers' instructions.

8.9 The product has not been assessed for use with permanent distributed or concentrated loads, such as air conditioning units, mechanical plants, water tanks, etc. Such loads should be supported directly on the roof construction. The product is not suitable for use when permanent roof access is required.

8.10 When profiled decking is used, the product will need to span across the ribs. Maximum permissible spans between ribs for the different product thicknesses are shown in Table 3.

Table 3 Maximum clear span

Maximum clear span (mm)		Minimum roofboard thickness (mm)
< 75		25
> 75	≤ 100	30
> 100	≤ 125	35
> 125	≤ 150	40
> 150	≤ 175	45
> 175	≤ 200	50
> 200	≤ 225	55
> 225	≤ 250	60

8.11 When maintenance of the roof waterproofing is required, protective boarding should be laid over the roof surface to avoid concentrations of load.

9 Behaviour in relation to fire

9.1 The product has a reaction to fire classification* of Class E in accordance with BS EN 13501-1 : 2007.

9.2 The fire rating of any roof containing the product will depend on the type of deck and the nature of the roof waterproofing.



9.3 When classified in accordance with BS EN 13501-5 : 2005, a system comprising a 0.7 mm trapezoidal steel deck, a 2 mm self-adhesive Systems S-A vapour control layer, a 130 mm PIR enertherm insulation bonded with IKOpro High Performance PU adhesive, and a layer of Armourplan PSG, fully bonded with Spectrabond Low Foaming PU adhesive, achieved a B_{ROOF} (t4) rating.

9.4 The designation of other specifications should be confirmed by:

England and Wales — test or assessment in accordance with Approved Document B, Appendix A, clause A1

Scotland — test to conform to Mandatory Standard 2.8, clause 2.8.1⁽¹⁾⁽²⁾

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

Northern Ireland — test or assessment by a UKAS-accredited laboratory, BRE or an independent consultant with appropriate experience.

10 Maintenance

The product, once installed, does not require any regular maintenance of the insulation layer and has suitable durability provided the roof waterproofing is inspected and maintained at regular intervals (see section 11).

11 Durability



11.1 The product is durable, rot proof, water resistant and sufficiently stable to remain effective as an insulation for the life of the building.

11.2 When the waterproof covering is renewed at a later date, the insulation will remain suitable for continued use, provided it is undamaged by replacement of the waterproof covering.

Installation

12 General

12.1 IKO enertherm ALU Insulation Board for Flat Roofs must be installed in accordance with the Certificate holder's instructions, BS 6229 : 2003, BS 8217 : 2005, BS EN 13956 : 2012 and the relevant Agrément Certificate (where applicable), depending on the waterproofing to be applied.

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

12.3 Any hollows, depressions or backfalls found in the roof deck must be rectified prior to laying the insulation.

12.4 For both mechanically and adhesively fixed systems, the suitability of the substrate deck to accept adhesive bond or mechanical fixings must be checked prior to the work commencing.

12.5 The deck to which the VCL is to be applied must be even, dry, sound, free from dust and grease and other defects which may impair the bond.

12.6 On multi-storey buildings or in areas subject to high wind loads, additional mechanical fixings may be required and the advice of the Certificate holder should be sought on any limitations of use.

12.7 The mechanical fixing frequency and pattern should be predetermined in accordance with the Certificate holder's instructions and the relevant clauses of BS EN 1991-1-4 : 2005.

12.8 To prevent moisture being trapped on or in the insulation it is essential to:

- protect the product during laying, before the application of the roof waterproofing, or to lay the roof covering at the same time as laying the product. If the product is accidentally wetted, it must be replaced
- install the product only when the ambient temperature is above 5°C, to prevent condensation.

12.9 The product can be cut with a sharp knife or fine-toothed saw to fit around projections through the roof.

12.10 Once installed, access to the roof should be restricted in accordance with section 4.5.

13 Procedure

Concrete/Metal and Timber Decks

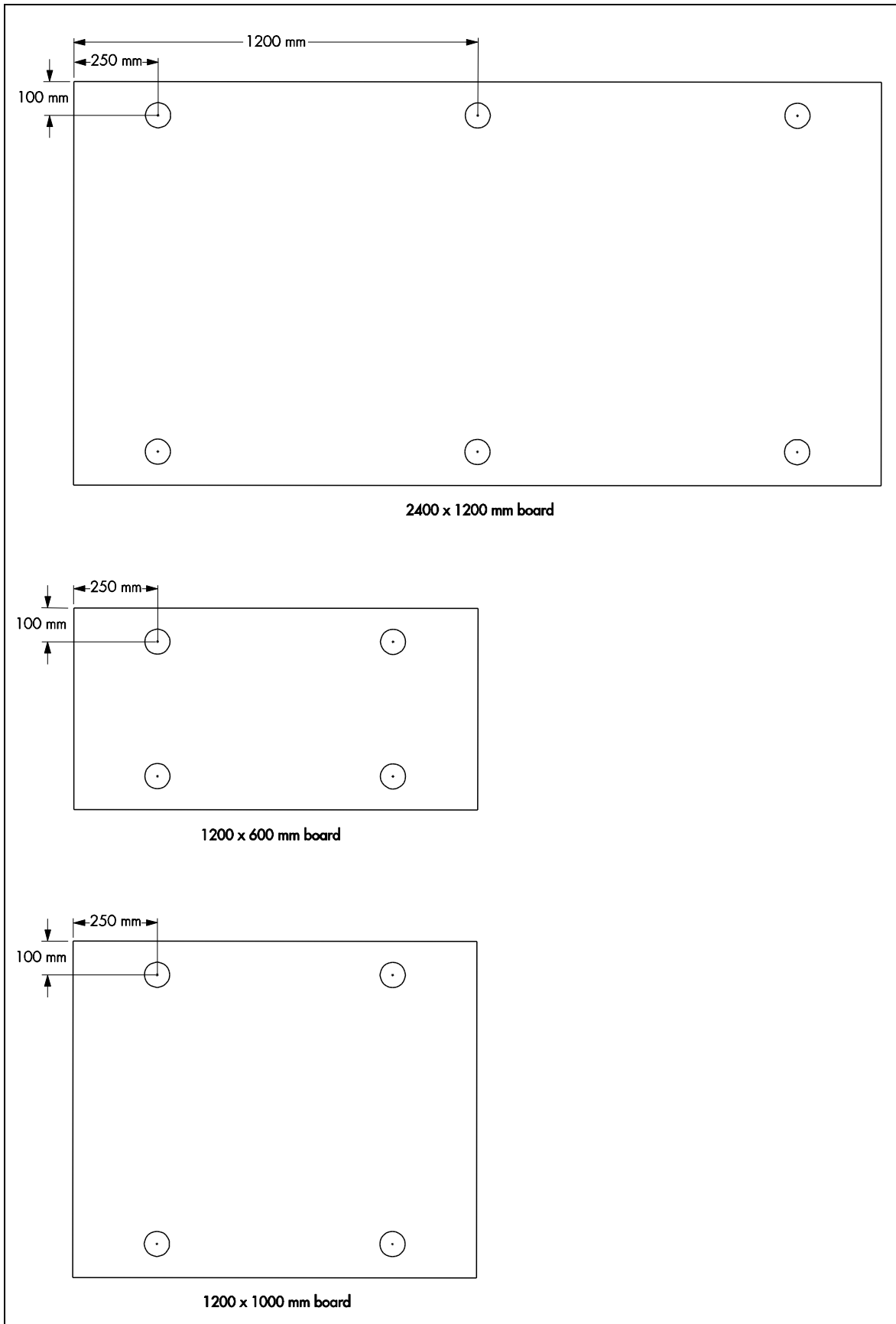
Mechanically fastened roofing system applications

13.1 A 0.25 mm (minimum) thick polyethylene VCL should be laid, with 80 mm (minimum) sealed laps. The VCL should be turned up around the insulation and sealed to the waterproof finish at all edges and penetrations such as rooflights. Advice may be sought from the Certificate holder.

13.2 The product is laid over the VCL in a break-bonded pattern. On profiled metal decks, the long edges of the board should be laid at right angles to the ribs and all board ends must be fully supported on a rib. Boards are secured to the deck with a minimum of four mechanical fixings for 1200 mm by 1000 mm and 1200 mm by 600 mm boards, or six mechanical fixings for 2400 mm by 1200 mm boards. See Figure 1 for minimum fixing layout.

13.3 The waterproofing membrane (polymeric or bituminous) is mechanically fixed to the deck through the product, with joints overlapped prior to sealing of the joint, in accordance with the manufacturer's instructions and the relevant Agrément Certificate.

Figure 1 — Minimum fixing layout for the different board sizes



Adhered roofing system applications

13.4 A bonded bituminous VCL should be laid, with 75 mm minimum sealed laps. The VCL should be turned up around the insulation and sealed to the waterproof finish at all edges and penetrations such as rooflights. Advice may be sought from the Certificate holder.

13.5 The product is laid over the VCL in a break-bonded pattern. On profiled metal decks, the long edges of the board should be laid at right angles to the ribs and all board ends must be fully supported on a rib. Boards are secured by the use of a high performance roofing insulation bonding adhesive in accordance with the Certificate holder's recommendations.

13.6 A cold applied waterproofing membrane is then adhered or bonded to the insulation, or mechanically fastened through the insulation into the deck, with joints overlapped prior to the sealing of the joint, in accordance with the manufacturer's instructions and the relevant Agrément Certificate.

Figure 2 Concrete deck

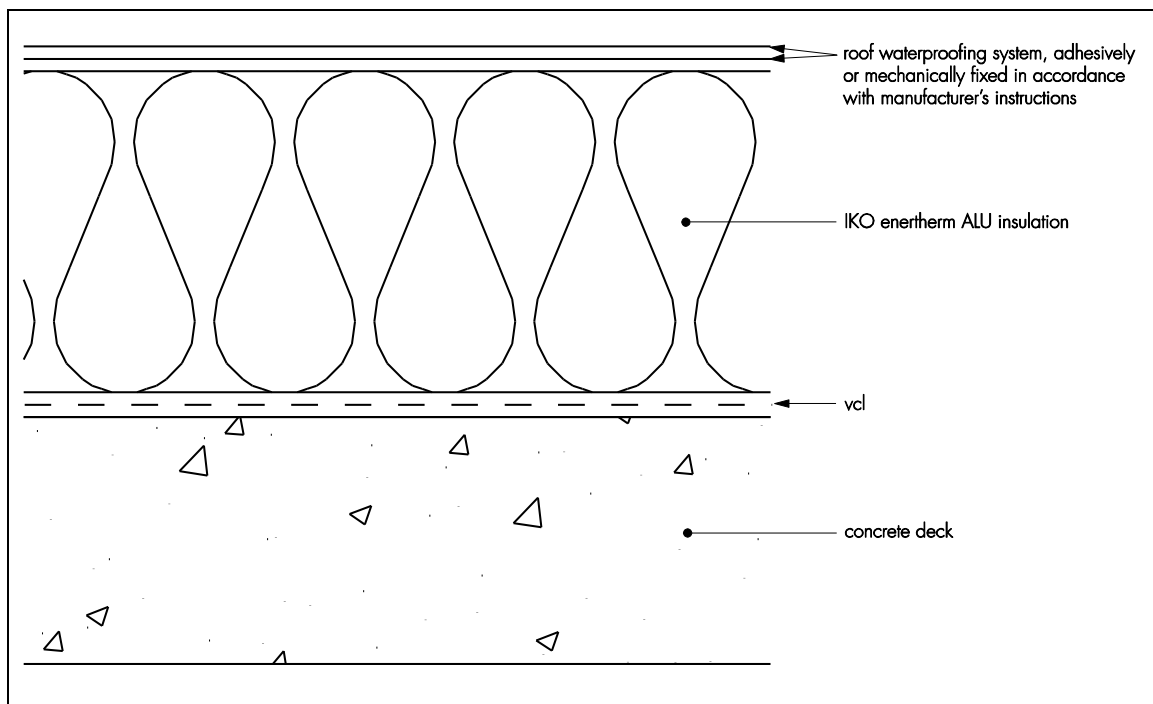


Figure 3 Metal deck

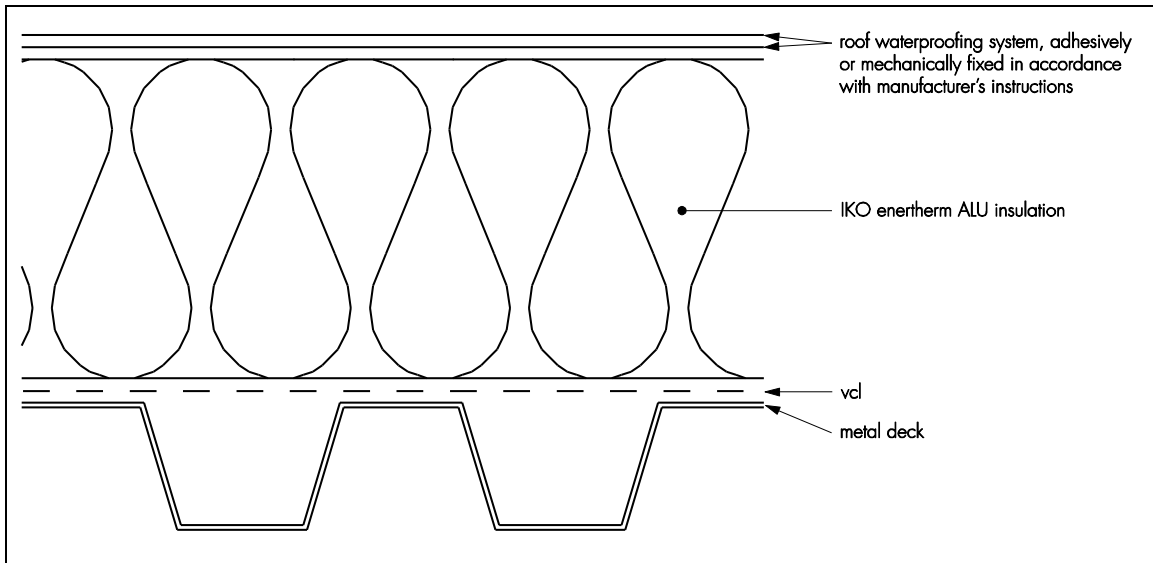
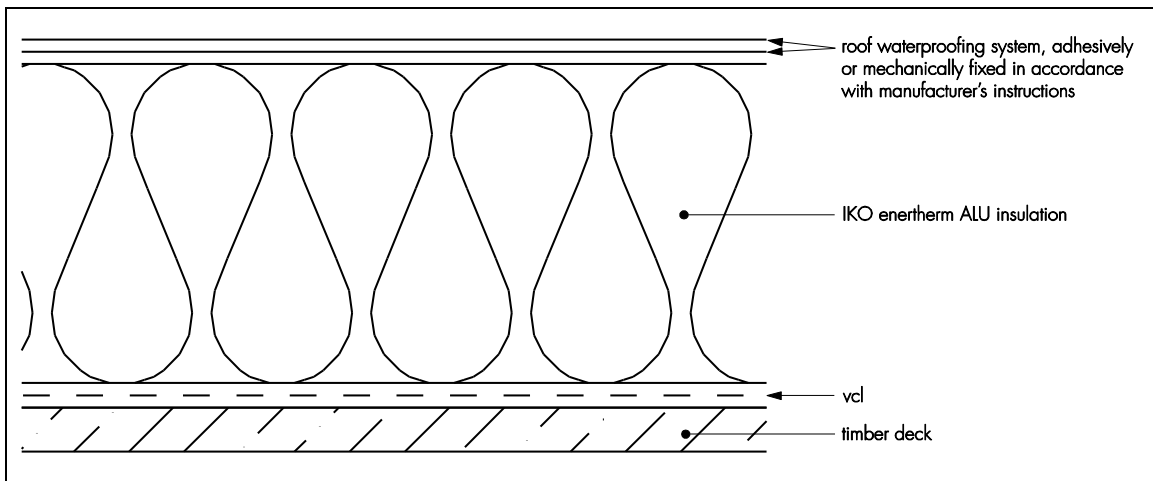


Figure 4 Timber deck



14 Tests

An examination was made of data relating to:

- fire rating
- thermal conductivity
- compressive stress at 10% deformation
- dimensional accuracy
- diffusion tight property of facings
- water vapour resistance
- wind uplift.

15 Investigations

15.1 A condensation risk analysis was carried out.

15.2 A series of U value calculations were carried out.

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

Bibliography

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

BS 6229 : 2003 *Flat roofs with continuously supported coverings — Code of practice*

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

BS 8747 : 2007 *Reinforced bitumen membranes (RBMs) for roofing — Guide to selection and specification*

BS EN 1991-1-4 : 2005 *Eurocode 1 — Actions on structures — General actions — Wind actions*

BS EN 13165 : 2012 *Thermal insulation products for buildings — Factory made rigid polyurethane foam (PU) products — Specification*

BS EN 13501-1 : 2007 *Fire classification of construction products and building elements — Classification using test data from reaction to fire tests*

BS EN 13501-5 : 2007 *Fire classification of construction products and building elements — Classification using data from external fire exposure to roofs tests*

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

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

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

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

BRE Report (BR 443 : 2006) *U-value conventions in practice*

16 Conditions

16.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is issued only to the company, firm, organisation or person named on the front page – no other company, firm, organisation or person may hold 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.

16.2 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.

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

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

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

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

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

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