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Agrément Certificate
02/3916
Product Sheet 3 Issue 2

IKO SELF-ADHESIVE ROOFING SYSTEMS

IKO EASYSEAL PRO ROOF WATERPROOFING SYSTEM

This Agrément Certificate Product Sheet⁽¹⁾ relates to the IKO Easyseal Pro Waterproofing System, comprising polymer-modified, self-adhesive bitumen waterproofing membranes, insulation boards and an air and vapour control layer (AVCL), for use on flat and low-pitched roofs with limited access

(1) Hereinafter referred to as 'Certificate'.

The assessment includes

Product factors:

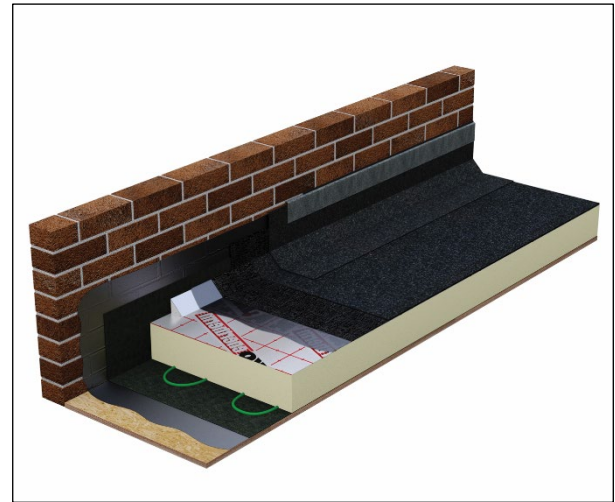
- compliance with Building Regulations
- compliance with additional regulatory or non-regulatory information where applicable
- evaluation against technical specifications
- assessment criteria and technical investigations
- uses and design considerations

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 system described herein. This system has been assessed by the BBA as being fit for its intended use provided it is installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of Second issue: 17 October 2024

Originally certified on 29 October 2018

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 the IKO Easyseal Pro Waterproofing System, 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 system can contribute to satisfying this Requirement. See section 1 of this Certificate.
Requirement: B3(2)	Internal fire spread (structure)
Comment:	The system may be restricted by this Requirement in some circumstances. See section 2 of this Certificate.
Requirement: B4(2)	External fire spread
Comment:	On a suitable substructure, the system may contribute to satisfying this Requirement. See section 2 of this Certificate.
Requirement: C2(b)	Resistance to moisture
Comment:	The system, including joints, will enable a roof to satisfy this Requirement. See section 3 of this Certificate.
Requirement: C2(c)	Resistance to moisture
Comment:	The system can contribute to enabling a roof to satisfy this Requirement. See section 3 of this Certificate.
Requirement: L1(a)(i)	Conservation of fuel and power
Comment:	The system 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 system 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 consumption 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 system 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: Comment:	8(1)(2)	Fitness and durability of materials and workmanship The use of the system satisfies the requirements of this Regulation. See sections 8 and 9 of this Certificate.
Regulation: Standard: Comment:	9 1.1	Building standards – construction Structure The system 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: Standard: Comment:	2.1 2.2	Compartmentation Separation The system may be restricted under clauses 2.1.15 ⁽²⁾ , 2.2.7 ⁽²⁾ and 2.2.10 ⁽¹⁾ of these Standards. See section 2 of this Certificate.
Standard: Comment:	2.8	Spread from neighbouring buildings When applied to a suitable substructure, the system may contribute to satisfying this Standard, with reference to clause 2.8.1 ⁽¹⁾⁽²⁾ . See section 2 of this Certificate.
Standard: Comment:	3.10	Precipitation The system, including joints, will enable a roof to satisfy the requirements of this Standard, with reference to clauses 3.10.1 ⁽¹⁾⁽²⁾ and 3.10.7 ⁽¹⁾⁽²⁾ . See section 3 of this Certificate.
Standard: Comment:	3.15	Condensation The system can contribute to satisfying this Standard, with reference to clauses 3.15.1 ⁽¹⁾ , 3.15.3 ⁽¹⁾ , 3.15.5 ⁽¹⁾ and 3.15.6 ⁽¹⁾ . See section 3 of this Certificate.
Standard: Comment:	6.1(b)(c)	Energy demand The system can contribute to satisfying this Standard, with reference to clauses, or parts of, 6.1.1 ⁽¹⁾ and 6.1.2 ⁽²⁾ ; however, compensating fabric/services measures may be required. See section 6 of this Certificate.
Standard: Comment:	6.2	Building insulation envelope The system 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⁾ , 6.2.5 ⁽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⁾ ; however, compensating fabric measures may be required. See section 6 of this Certificate.
Standard: Comment:	7.1(a)(b)	Statement of sustainability The system 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 system 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⁾ , 7.1.6 ⁽¹⁾⁽²⁾ and 7.1.7 ⁽¹⁾⁽²⁾ . See section 6 of this Certificate.
Regulation: Comment:	12	Building standards – conversion All comments given for the system under Regulation 9, Standards 1 to 6, also apply to this Regulation, with reference to clause 0.12.1 ⁽¹⁾⁽²⁾ and Schedule 6 ⁽¹⁾⁽²⁾ .

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).



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

Regulation:	23(1)(a)(i)	Fitness of materials and workmanship
Comment:	(iii)(b)(i)	The system is acceptable. See sections 8 and 9 of this Certificate.
Regulation:	28(b)	Resistance to moisture and weather
Comment:		The system, including joints, will enable a roof to satisfy the requirements of this Regulation. See section 3 of this Certificate.
Regulation:	29	Condensation
Comment:		The system can contribute to enabling a roof to satisfy this Regulation. See section 3 of this Certificate.
Regulation:	30	Stability
Comment:		The system can contribute to satisfying this Regulation. See section 1 of this Certificate.
Regulation:	35(2)	Internal fire spread – structure
Comment:		The system is restricted by this Regulation in some circumstances. See section 2 of this Certificate.
Regulation:	36(b)	External fire spread
Comment:		On a suitable substructure, the use of the system may contribute to satisfying this Regulation. See section 2 of this Certificate.
Regulation:	39(a)(i)	Conservation measures
Comment:		The system 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	41(1)(2)	Renovation of thermal elements
Regulation:	43B	Target carbon dioxide emissions rate
		The system 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, the IKO Easyseal Pro Waterproofing System, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards*, Chapter 7.1 *Flat roofs, terraces and balconies*.

In addition, in the opinion of the BBA, the system when installed and used in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards for Conversions and Renovations*, taking account of other relevant guidance within the chapter and the suitability of the substrate to receive the system.

The NHBC Standards do not cover the refurbishment of existing roofs.

Fulfilment of Requirements

The BBA has judged the IKO Easyseal Pro Waterproofing System to be satisfactory for use as described in this Certificate. The system has been assessed as self-adhesive bitumen waterproofing membranes, insulation boards and an AVCL for use on flat and low-pitched roofs with limited access.

Product description and intended use

The Certificate holder provided the following description for the system under assessment. The IKO Easyseal Pro Waterproofing System consists of:

- IKO Easyseal Pro Cap Sheet — a styrene-butadiene-styrene (SBS) modified bitumen, self-adhesive membrane, reinforced with a graphite-treated, non-woven polyester (230 g·m⁻²) with a slate finish on the upper surface and a release film on both the lower surface and the selvedge area on the upper surface. The slate surface is available in black
- IKO Easyseal Self Adhesive (S- A) Partially Bonded Underlay — a glass-reinforced (95 g·m⁻²) SBS modified bitumen, self-adhesive membrane, with a polyethylene film finish on the upper surface and a release film on the lower surface
- IKO Easyseal Self-Adhesive (S-A) Fully Bonded Underlay — a glass-reinforced (95 g·m⁻²) SBS modified bitumen, self-adhesive membrane, with a polyethylene film finish on the upper surface and a release film on the lower surface
- IKO enertherm ALU Insulation Boards — rigid polyisocyanurate (PIR) insulation boards with composite foil-facings on both sides, manufactured to comply with BS EN 13165 : 2012 (the subject of BBA Certificate 15/5283)
- IKO Easyseal Air and Vapour Control Layer — a self-adhesive membrane comprised of an elastomeric bitumen membrane incorporating a non-woven polyester reinforcement (175 g·m⁻²) and an aluminium foil laminate, selvedge and a release film on the lower surface (the subject of Product Sheet 2 of this Certificate).

The system components have the nominal characteristics given in Tables 1 and 2

Table 1 Nominal characteristics – membranes

Characteristics (unit)	IKO Easyseal Pro Cap Sheet	IKO Easyseal Self-Adhesive Partially Bonded Underlay	IKO Easyseal Self-Adhesive Fully Bonded Underlay	IKO Easyseal Air and Vapour Control Layer
Width (m)	1	1	1	1
Length (m)	8	8	8	15
Mass per unit area (kg·m ⁻²)	3.813	2.25	2.25	2.4
Roll weight (kg)	30.5	18.0	18.0	36.0

Table 2 Nominal characteristics — IKO enertherm ALU insulation boards

Characteristic (unit)	Value
Length (mm)	2400, 1000 and 600
Width (mm)	1200
Thickness (mm)	30, 40, 50, 60, 70, 75, 80, 90, 100, 110, 120 and 140

Ancillary Items

The following ancillary items are essential to use with the system and have been assessed with the system:

- IKOpro Easyseal Bonding Agent — a cold-applied bituminous primer consisting of a blend of bitumen, solvents and additives, for use on synthetic rubber and resins
- IKOpro PU Adhesive For Insulation — a moisture-curing, high-foaming, single part polyurethane adhesive

Definitions for products and applications inspected

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

- limited access roofs — a roof subjected only to pedestrian traffic for maintenance of the roof covering and cleaning of gutters, etc. Where traffic in excess of this is envisaged, additional protection to the membrane must be provided
- flat roofs — a roof having a minimum finished fall of 1:80.
- low pitched roofs — a pitched roof with a maximum pitch of 10°.

Product assessment – key factors

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

1 Mechanical resistance and stability

Data were assessed for the following characteristics.

1.1 Wind loading

1.1.1 Results of wind loading tests are given in Table 3:

Table 3 Wind loading tests

System assessed	Assessment method	Requirement	Result
IKO Easyseal Pro Roof Waterproofing System Built-up system: <ul style="list-style-type: none"> • 18 mm plywood deck • IKOpro Easyseal Bonding Agent • IKO Easyseal Air & Vapour Control Layer • IKOpro PU Insulation Adhesive • IKO enertherm ALU Insulation Boards • IKOpro Easyseal Bonding Agent • IKO Easyseal S-A Fully Bonded Underlay • IKO Easyseal Pro Cap sheet 	Wind uplift to MOAT 64 : 4.3.2 : 2001 ⁽¹⁾	Value achieved	-6 kPa
IKO Self-Adhesive Roofing System Built-up system: <ul style="list-style-type: none"> • OSB deck • IKOpro Easyseal Bonding Agent • IKO Easyseal Air & Vapour Control Layer • IKOpro PU Insulation Adhesive • IKO enertherm ALU Insulation high performance PIR insulation boards • PIR insulation fillets • IKO Easyseal S-A Partially Bonded Underlay • IKO Easyseal S-A Fully Bonded Underlay • IKO Easyseal Pro Cap Sheet (fully bonded) 	Wind uplift to BS 17686 : 2022	Value achieved	-5kPa

(1) Testing before harmonised standards

1.1.2 On the basis of data assessed, the adhesion of the bonded system to decking is sufficient to resist the effects of wind suction, thermal cycling or other minor structural movements likely to occur in practice.

1.1.3 The wind uplift forces must be calculated by a suitably experienced and competent individual in accordance with BS EN 1991-1-4 : 2005 and its UK National Annex.

1.2 Behaviour under loading

1.2.1 The results of the behaviour under loading are given in Table 4.

Table 4 Results of compressive strength

Product assessed	Assessment method	Requirement	Result
IKO enertherm ALU Insulation Boards	Compressive strength at 10% deflection to BS EN 826 : 2013	Declared value > 175 kPa	Pass

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

1.2.3 When profiled decking is used, boards will need to span ribs. The maximum permissible spans between ribs for various board thicknesses are shown in Table 5.

Maximum clear span (mm)	Minimum board thickness (mm)
≤ 75	25
76 – 100	30
101 – 125	35
126 – 150	40
151 – 175	45
176 – 200	50
201 – 225	55
226 – 250	60

2 Safety in case of fire

Data were assessed for the following characteristics.

2.1 External fire spread

2.1.1 When tested to DD CEN/TS 1187 : 2012 Test 4 and classified to BS EN 13501-5 : 2016, the systems given in Table 6 achieved B_{ROOF}(t4) for slopes below 10°.

Table 6 Tested systems

Layers	System 1 ⁽¹⁾	System 2 ⁽¹⁾	System 3 ⁽¹⁾	System 4 ⁽¹⁾
Substrate	18 mm OSB ⁽²⁾	18 mm OSB ⁽²⁾	18 mm OSB ⁽²⁾	18 mm OSB ⁽²⁾
Primer	IKO Easyseal Bonding Agent ⁽²⁾	IKO Easyseal Bonding Agent ⁽²⁾	IKO Easyseal Bonding Agent ⁽²⁾	IKO Easyseal Bonding Agent ⁽²⁾
AVCL	3 mm IKO Easyseal Air & Vapour control Layer	3 mm IKO Easyseal Air & Vapour Control Layer	3 mm IKO Easyseal Air & Vapour Control Layer	3 mm IKO Easyseal Air & Vapour Control Layer
Adhesive	IKOpro High Performance PU Adhesive ⁽²⁾	IKOpro High Performance PU Adhesive ⁽²⁾	IKOpro High Performance PU Adhesive ⁽²⁾	IKOpro High Performance PU Adhesive ⁽²⁾
Insulation	50 mm IKO enertherm ALU Insulation Board	140 mm IKO enertherm ALU Insulation Board	50 mm and 140 mm IKO enertherm ALU Insulation Board	100 mm and 140 mm IKO enertherm ALU Insulation Board
Primer	IKO Easyseal Bonding Agent	IKO Easyseal Bonding Agent	IKO Easyseal Bonding Agent	IKO Easyseal Bonding Agent
Underlayer	2.7 mm IKO Easyseal S-A Partially Bonded Underlay	2.7 mm IKO Easyseal S-A Partially Bonded Underlay	2.7 mm IKO Easyseal S-A Partially Bonded Underlay	2.7 mm IKO Easyseal S-A Partially Bonded Underlay
Cap sheet	4.2 mm IKO Easyseal Pro Cap sheet	4.2 mm IKO Easyseal Pro Cap sheet	4.2 mm IKO Easyseal Pro Cap sheet	4.2 mm IKO Easyseal Pro Cap sheet

(1) Fire test/classification reports, reference 22770A, 22770B and 22770C, conducted by Warrington Fire. Available from the Certificate holder on request.

(2) These components are outside the scope of this Certificate.

2.1.2 On the basis of data assessed, the systems listed in Table 6 will be unrestricted by the documents supporting the national Building Regulations with respect to proximity to a relevant boundary. Restrictions may apply at junctions with compartment walls.

2.1.3 In Wales and Northern Ireland, when used on flat roofs using a substrate designated in the supporting documents with the surface finishes listed below, the roof is also deemed to be unrestricted with respect to proximity to a relevant boundary:

- bitumen-bedded stone chippings covering the whole surface to a depth of not less than 12.5 mm
- bitumen-bedded tiles of a non-combustible material
- sand and cement screed
- macadam.

2.1.4 The classification and permissible areas of use of other specifications must be confirmed by reference to the requirements of the documents supporting the national Building Regulations.

2.2 Resistance to fire

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

3 Hygiene, health and the environment

Data were assessed for the following characteristics.

3.1 Weathertightness

3.1.1 Results of weathertightness are given in Table 7.

Table 7 Weathertightness

System assessed	Assessment method	Requirement	Result
IKO Easyseal Air and Vapour Control Layer on primed concrete	Peel from substrate to MOAT 64 : 4.3.3 : 2001 ⁽¹⁾	$\geq 25 \text{ N}\cdot(50 \text{ mm})^{-1}$	Pass

(1) Testing before harmonised standards

3.1.2 The watertightness and tensile strength of joints were assessed on the basis of existing test data for representative related systems.

3.1.3 The adhesion of the bonded system is sufficient to resist the effects of wind suction, elevated temperatures and thermal shock conditions likely to occur in practice and remain watertight.

3.1.4 The system, including joints, when completely sealed and consolidated, will adequately resist the passage of moisture into the interior of a building and so satisfy the requirements of the national Building Regulations.

3.2 Condensation

3.2.1 Water vapour transmission properties for the IKO Easyseal Air and Vapour Control Layer were assessed on the basis of existing test data for representative related systems, and data provided.

3.2.2 On the basis of data assessed, the AVCL provides an effective control to the passage of liquid water and water vapour, and contributes to limiting the risk of interstitial condensation.

3.2.3 The system will adequately reduce the risk of interstitial condensation when designed and constructed in accordance with BS 5250 : 2021 and BRE Report BR 262 : 2002 in England and Wales. When carrying out condensation risk analysis calculations to BS 5250 : 2021, the following vapour resistance values must be used.

Table 8 Water vapour resistance values

Product assessed	Assessment method	Vapour resistivity/resistance values
IKO Easyseal Air and Vapour Control Layer	BS EN ISO 10456	12180 MN·s·g ⁻¹
IKO enertherm ALU foil facing	BS EN ISO 10456	1000 MN·s·g ⁻¹
60 mm IKO enertherm ALU insulation Board (core)	BS EN 12086	183MN·s·gm ⁻¹
IKO Easyseal Self-Adhesive (S-A) Partially Bonded Underlay	BS EN ISO 10456	750 MN·s·g ⁻¹
IKO Easyseal Pro Cap Sheet	BS EN ISO 10456	1,000 MN·s·g ⁻¹

3.3 Resistance to mechanical damage

3.3.1 Tensile properties, dynamic indentation, static indentation, resistance to static loading, resistance to tearing and low temperature flexibility for the waterproofing membranes and IKO Easyseal AVCL were assessed on the basis of existing test data for representative related products.

3.3.2 On the basis of data assessed, the system can accept, without damage, the limited foot traffic and light concentrated loads associated with installation and maintenance and the effects of minor structural movement while remaining weathertight.

3.3.3 Where traffic in excess of the examples given in section 3.3.2 is envisaged, such as for maintenance of lift equipment, a walkway must be provided (for example, using concrete slabs supported on bearing pads). Reasonable care must be taken to avoid puncture of the membranes by sharp objects or concentrated loads.

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

IKO enertherm ALU Insulation Boards were tested for thermal conductivity and the results are given in Table 9.

Table 9 Thermal conductivity

Product assessed	Assessment method	Requirement	Result
IKO enertherm ALU Insulation Boards	BS EN 13165 : 2012	Declared value (λ_D)	0.022 (W·m ⁻¹ ·K ⁻¹)

6.2 Thermal performance

6.2.1 The U value of a completed roof will depend on the insulation thickness, its structure and its internal finish. Example constructions are given in Table 10.

Table 10 Example U values

U value ($W \cdot m^{-2} \cdot K^{-1}$)	Insulation thickness (mm) ⁽¹⁾		
	Concrete ⁽²⁾	Timber ⁽³⁾	Metal ⁽⁴⁾
0.09	— ⁽⁵⁾	— ⁽⁵⁾	— ⁽⁵⁾
0.11	— ⁽⁵⁾	— ⁽⁵⁾	— ⁽⁵⁾
0.13	— ⁽⁵⁾	— ⁽⁵⁾	— ⁽⁵⁾
0.15	140	140	140
0.16	140	140	140
0.18	120	110	120
0.20	110	100	110
0.25	80	75	90

(1) Nearest available thickness.

(2) 150 mm concrete deck ($\lambda = 1.33 W \cdot m^{-1} \cdot K^{-1}$), felt AVCL, insulation ($\lambda_D = 0.022 W \cdot m^{-1} \cdot K^{-1}$) and 10 mm bitumen felt finish ($\lambda = 0.23 W \cdot m^{-1} \cdot K^{-1}$).

(3) 12.5 mm plasterboard ($\lambda = 0.25 W \cdot m^{-1} \cdot K^{-1}$), AVCL, 150 mm timber joists (12.5%)/air cavity (87.5%), 18 mm plywood decking ($\lambda = 0.17 W \cdot m^{-1} \cdot K^{-1}$), felt AVCL, insulation ($\lambda_D = 0.022 W \cdot m^{-1} \cdot K^{-1}$) and 10 mm bitumen felt finish ($\lambda = 0.23 W \cdot m^{-1} \cdot K^{-1}$).

(4) Metal deck 0.7mm ($\lambda = 50 W \cdot m^{-1} \cdot K^{-1}$), felt AVCL, insulation ($\lambda_D = 0.022 W \cdot m^{-1} \cdot K^{-1}$) and 10 mm bitumen felt finish ($\lambda = 0.23 W \cdot m^{-1} \cdot K^{-1}$).

(5) See section 6.2.3.

6.2.2 On the basis of data assessed, the system can contribute towards a 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/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 this system were assessed.

8.2 Specific test data were assessed as follows.

Table 11 Durability

Product assessed	Assessment method	Requirement	Result
IKO Easyseal Air and Vapour Control Layer on primed concrete	Peel from substrate to MOAT 64 : 2001 ⁽¹⁾ after heat ageing for 28 days at 80°C	$\geq 25 N \cdot (50 mm)^{-1}$	Pass

(1) Testing before harmonised standards

8.3 The effect of heat ageing for the waterproofing membranes and IKO Easyseal Air and Vapour Control Layer were assessed on the basis of existing test data for representative related products.

8.4 Service life

8.4.1 Under normal service conditions, the system will have a life of at least 20 years as roof waterproofing, provided it is designed, installed and maintained in accordance with this Certificate and the Certificate holder's instructions.

8.4.2 Exposed cap sheets may suffer some localised loss of mineral/ceramic surfacing in areas where complex detailing of the roof design is incorporated.

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 meet the performance assessed in this Certificate:

9.1.2 Decks to which the system is to be applied must comply with the relevant requirements of BS 6229 : 2018, BS 8217 : 2005 and, where appropriate, *NHBC Standards 2024*, Chapter 7.1.

9.1.3 For design purposes of flat roofs and low-pitched roofs, twice the minimum finished fall must be assumed, unless a detailed structural analysis of the roof is available, including overall and local deflection, and direction of falls.

9.1.4 Profiled metal decks must give a bonding area of at least 33% of the total projected surface area. Deck stiffeners cannot be counted as a satisfactory bond area, and this must be allowed for in the calculation of the bonded area for a particular application. Confirmation must be sought from the structural metal deck manufacturer for the specific deck profile installed.

9.1.5 At falls in excess of 1:11, the provision of mechanical fixings, as required by BS 8217 : 2017, must be observed.

9.1.6 Calculations of thermal transmittance (U value) must be carried out in accordance with BS EN ISO 6946 : 2017 and BRE Report BR 443 : 2006.

9.1.7 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.

9.1.8 In England and Wales, roofs will adequately limit the risk of surface condensation where the thermal transmittance (U value) does not exceed $0.35 \text{ W}\cdot\text{m}^{-2}\cdot\text{K}^{-1}$ at any point, and the junctions with other elements are designed in accordance with section 9.1.7 of this Certificate.

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

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

9.2 Installation

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

9.2.2 Installation must be carried out in accordance with this Certificate, the Certificate holder's instructions and the relevant clauses of BS 6229 : 2018, BS 8000-0 : 2014, BS 8000-4 : 1989 and BS 8217 : 2005.

9.2.3 The substrate must be clean, dry and free from dust and contaminants, and installation should be in accordance with the instructions of the Certificate holder. The surface of the substrate must have sufficient cohesive strength to resist the specific calculated wind load acting upon the structure.

9.2.4 The system must be laid in conditions normal to roofing work and must not be laid in rain, snow or heavy fog. If the temperature is below 5°C, suitable precautions must be taken against the formation of condensation on the substrate.

9.2.5 It is recommended that the membranes, including AVCL, must be installed at temperatures above 10°C. When site ambient temperatures are below 10°C, it is recommended that the membranes are stored in a warm environment for 24 hours prior to use. If it is necessary to carry out installation at lower temperatures, a hot-air gun can be used to warm the adhesive surface (to activate the adhesive and promote bonding).

9.2.6 Prior to the installation of the AVCL, the substrate's surface must be primed in line with the Certificate holder's instructions. The AVCL is fully bonded to the primed deck using the Certificate holder's recommended bonding method. For metal decks the upper profile of the decking is primed and the AVCL bonded to the primed upper profile of the metal deck using the Certificate holder's recommended bonding method.

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

9.2.8 The insulation boards can be cut to fit around projections through the roof, using either a sharp knife or a fine-toothed saw

9.2.9 The boards are installed in a close-butted break-bonded pattern.

9.2.10 On metal decks, the boards are laid either with the long axis at right angles to the corrugations of the metal deck or diagonally across the corrugations of the deck, ensuring that all end joints and corners are sufficiently supported on the crown flats of the decking. The thickness of the board to be used is dependent on the width of the trough openings of the metal deck.

9.2.11 The insulation boards are bonded to the AVCL using IKOpro PU Adhesive. A bead of adhesive is applied in a snaking pattern, using a 30 mm bead width at 200 to 300 mm centres.

9.2.12 The top surface of the insulation must be primed using the IKOpro Easyseal Bonding Agent and allowed to dry, and the waterproofing underlay applied once the primer is dry and within the same working day.

9.2.13 The first strip of Underlay is laid out in the correct position on the substrate. The underlay is rolled back towards the centre, revealing the release paper underneath. At a point close to the centre of the roll, the release paper is carefully cut across the width of the roll without cutting through the underlay.

9.2.14 The underlay is bonded to the substrate in accordance with the Certificate holder's instructions.

9.2.15 Overlaps for the underlay must be a minimum of 75 mm, both for side laps and end laps.

9.2.16 IKO Easyseal Pro Cap Sheet is installed as described in sections 9.2.13 to 9.2.15, ensuring that the end laps and side joints do not coincide with those of the underlay.

9.2.17 The NHBC requires that the system, once installed, is inspected in accordance with *NHBC Standards 2024*, Chapter 7.1, Clause 7.1.11, and undergoes an appropriate integrity test, where required. Any damage to the system assessed in this Certificate must be repaired in accordance with section 9.4 of this Certificate and reinspected, in order to maintain system performance.

9.3 Workmanship

Practicability of installation was assessed by the BBA, on the basis of the Certificate holder's information. To achieve the performance described in this Certificate, installation of the system must be carried out by competent roofing contractors experienced with this type of system

9.4 Maintenance and repair

9.4.1 Ongoing satisfactory performance of the system in use requires that it is suitably maintained. The guidance provided by the Certificate holder was assessed by the BBA and found to be appropriate and adequate.

9.4.2 The following requirements apply in order to meet the performance assessed in this Certificate:

9.4.2.1 The system must be the subject of six-monthly inspections and maintenance in accordance with the recommendations in BS 6229 : 2018, Chapter 7, and the manufacturer's own maintenance requirements, where relevant, to ensure continued satisfactory performance.

9.4.2.2 In the event of damage to the waterproof layer, repairs can be carried out by cleaning the area around the damage and applying a patch of the membrane, as described in the Certificate holder's instructions.

9.4.2.3 The other system components, once installed, do not require any regular maintenance provided the roof waterproofing layers are maintained as described above.

10 Manufacture

10.1 The production processes for the system 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 rolls wrapped in paper bearing the Certificate holder and product names, the code number identifying the date of manufacture and the BBA logo incorporating the number of this Certificate. The rolls are delivered on pallets, shrink wrapped in polythene.

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

11.3 The primer and adhesive are delivered to site as shown in Table 12.

Table 12 Packaging information

Component	Packaging/size
IKOpro Easyseal Bonding Agent	Tins / 5 to 15 l
IKOpro PU Insulation Adhesive	Tins / 6.5 kg

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

11.4.1 Rolls must be stored on end on a clean, level surface and not exposed to excessive heat.

11.4.2 The insulation boards must be protected from prolonged exposure to sunlight and must be stored under cover or protected with opaque polythene sheeting. Where possible, packs must be stored inside. If stored outside, the boards must be stacked flat, raised above ground level and away from contact with ground moisture.

11.4.3 Care must be exercised to avoid crushing the edges or corners of insulation boards. If damaged, the boards must be discarded.

11.4.4 The insulation boards must not be exposed to open flame or other ignition sources, or to solvents or other chemicals.

11.4.5 IKOpro PU Insulation Adhesive and IKOpro Easyseal Bonding Agent must be stored in the original sealed containers in dry conditions at a temperature between 5°C and 25°C.

Supporting information in this Annex is relevant to the system 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 system components 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 waterproofing components in accordance with Designated Standard EN 13707 : 201, IKO enertherm ALU Insulation Boards to EN 13615 and IKO Easyseal Air and Vapour Control Layer to EN 13970 : 2004

CE marking

The Certificate holder has taken the responsibility of CE marking the system's waterproofing components in accordance with Designated Standard EN 13707 : 201, IKO enertherm ALU Insulation Boards to EN 13615 and IKO Easyseal Air and Vapour Control Layer to EN 13970 : 2004.

Management Systems Certification for production

The management system of the manufacturer has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2015 BY BSI and BS EN ISO 14001 : 2015 by Lucideon (Certificates Q05233 and No 24709 respectively).

Bibliography

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

BRE Report BR 443 : 2006 *Conventions for U-value calculations*

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

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

BS 8000-0 : 2014 *Workmanship on construction sites — Introduction and general principles*

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

BS EN 826 : 2013 *Thermal insulating products for building applications. Determination of compressive behaviour*

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

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— Wind actions*

BS EN 12086 : 2013 *Thermal insulating products for building applications. Determination of water vapour transmission properties*

BS EN 13501-5 : 2016 *Fire classification of construction products and building elements — Classification using data from external fire exposure to roof tests*

BS EN 13165 : 2012 + A2 : 2016 *Thermal insulation products for buildings — Factory made rigid polyurethane foam (PU) products — Specification*

BS EN 13707 : 2013 *Flexible sheets for waterproofing — Reinforced bitumen sheets for roof waterproofing — Definitions and characteristics*

BS EN 13970 : 2004 *Flexible sheets for waterproofing. Bitumen water vapour control layers — Definitions and characteristics*

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 10456 *Building materials and products — Hygrothermal properties — Tabulated design values and procedures for determining declared and design thermal values*

MOAT 64 : 2001 *UEAtc Technical guide for the assessment of roof waterproofing systems made of reinforced APP or SBS Polymer Modified Bitumen Sheets*

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.

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