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Agrément Certificate
02/3916
Product Sheet 1

IKO SELF-ADHESIVE ROOFING SYSTEMS

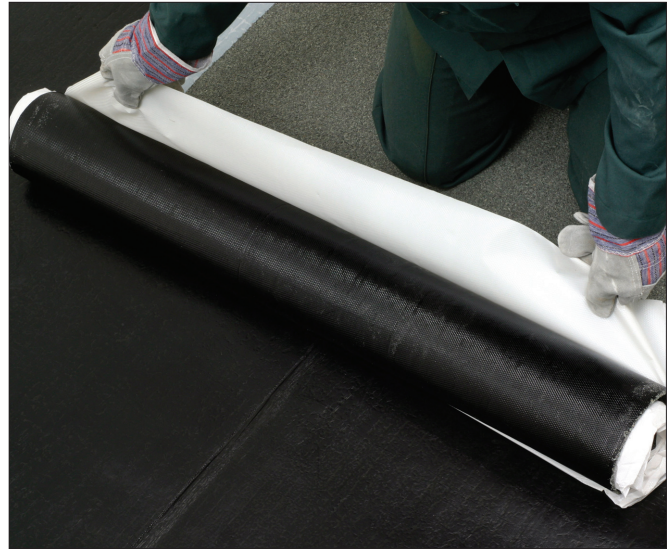
IKO EASY SEAL ROOF WATERPROOFING SYSTEM

This Agrément Certificate Product Sheet⁽¹⁾ relates to the IKO Easy Seal Roof Waterproofing System, for use as a fully-adhered waterproofing system on flat and low-pitched roofs with limited access.

(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
- formal three-yearly review.



KEY FACTORS ASSESSED

Weathertightness — the system will resist the passage of moisture to the interior of the building (see section 6).

Properties in relation to fire — in the opinion of the BBA, the system, when used in a suitable specification, will enable a roof to be unrestricted under Building Regulations (see section 7).

Resistance to wind uplift — when correctly specified, the system will resist the effects of any wind suction likely to occur in practice (see section 8).

Resistance to foot traffic — the system will accept without damage the limited foot traffic and loads associated with installation and maintenance (see section 9).

Durability — under normal service conditions, the system will provide a durable waterproof covering with a service life in excess of 20 years (see section 11).

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

A handwritten signature in black ink, appearing to read 'John Albon'.

Date of Fourth issue: 24 December 2015

John Albon — Head of Approvals
Construction Products

A handwritten signature in black ink, appearing to read 'Claire Curtis-Thomas'.

Claire Curtis-Thomas
Chief Executive

Originally certificated on 24 June 2002

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, the IKO Easy Seal Roof 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 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: B4(2)	External fire spread
Comment:	On suitable non-combustible substructures, the system will enable a roof to be unrestricted under this Requirement. See section 7 of this Certificate.
Requirement: C2(b)	Resistance to moisture
Comment:	Data for water resistance on the system, including joints, indicate that it meets this Requirement. See section 6.1 of this Certificate.
Regulation: 7	Materials and workmanship
Comment:	The system is acceptable. See section 11.1 and the <i>Installation</i> part of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation: 8(1)(2)	Durability, workmanship and fitness of materials
Comment:	The use of the system can satisfy the requirements of this Regulation. See sections 10 and 11.1 and the <i>Installation</i> part of this Certificate.
Regulation: 9	Building standards applicable to construction
Standard: 2.8	Spread from neighbouring buildings
Comment:	On suitable non-combustible substructures, the use of the system will be regarded as having low vulnerability under clause 2.8.1 ⁽¹⁾⁽²⁾ of this Standard. See sections 7.1 and 7.3 of this Certificate.
Standard: 3.10	Precipitation
Comment:	Data for water resistance on the system indicate that its use 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 6.1 of this Certificate.
Standard: 7.1(a)	Statement of sustainability
Comment:	The system can contribute to meeting 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.
Regulation: 12	Building standards applicable to conversions
Comment:	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(a)(i)(iii)(b)(i)	Fitness of materials and workmanship
Comment:	The system is acceptable. See section 11.1 and the <i>Installation</i> part of this Certificate.
Regulation: 28(b)	Resistance to moisture and weather
Comment:	Data for water resistance on the system indicate that it will enable a roof to satisfy the requirements of this Regulation. See section 6.1 of this Certificate.
Regulation: 36(b)	External fire spread
Comment:	On suitable non-combustible substructures, the use of the system will be unrestricted by the requirements of this Regulation. See section 7 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 sections: 1 *Description* (1.2) and 3 *Delivery and site handling* (3.3) of this Certificate.

Additional Information

NHBC Standards 2016

NHBC accepts the use of the IKO Easy Seal Roof Waterproofing System, 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 system in accordance with harmonised European Standard BS EN 13707 : 2013. An asterisk (*) appearing in this Certificate indicates that data shown are given in the manufacturer's Declaration of Performance.

Technical Specification

1 Description

1.1 The IKO Easy Seal Roof Waterproofing System comprises two self-adhesive membrane layers:

- IKO Easy Seal Capsheet — a polyester-reinforced ($170 \text{ g}\cdot\text{m}^{-2}$) SBS modified bitumen, self-adhesive membrane 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
- IKO Easy Seal Underlay — a glass-reinforced ($100 \text{ g}\cdot\text{m}^{-2}$) SBS modified bitumen, self-adhesive membrane, with a polyethylene film finish on the upper surface and a release film on the lower surface.

1.2 The membranes are manufactured to the nominal characteristics given in Table 1.

Characteristic (unit)	IKO Easy Seal Capsheet	IKO Easy Seal Underlay
Thickness (mm)	3.2	2.8
Roll width* (m)	1.0	1.0
Roll length* (m)	6.0	8.0
Mass per unit area* ($\text{kg}\cdot\text{m}^{-2}$)	3.23	2.25
Tensile strength* ($\text{N}\cdot 50 \text{ mm}^{-1}$)		
longitudinal direction	≥ 400	NPD ⁽¹⁾
transverse direction	≥ 400	NPD ⁽¹⁾
Elongation* (%)		
longitudinal direction	≥ 18	NPD ⁽¹⁾
transverse direction	≥ 18	NPD ⁽¹⁾
Resistance to tearing – nail* (N)		
longitudinal direction	≥ 160	NPD ⁽¹⁾
transverse direction	≥ 160	NPD ⁽¹⁾
Resistance to static loading* (kg)	20	NPD ⁽¹⁾
Low temperature flexibility* ($^{\circ}\text{C}$)		
upper face	≤ -25	NPD ⁽¹⁾
lower face	≤ -25	NPD ⁽¹⁾
Watertightness*	pass	pass

(1) No Performance Determined for CE marking.

1.3 Ancillary items necessary for the installation of the system, and included in the assessment, are:

- IKOpro SA Bitumen Primer — a cold-applied bituminous primer consisting of a blend of bitumens, solvents and additives for preparing substrates prior to application
- IKOpro Felt Lap Joint Mastic — a cold-applied modified bituminous mastic, used to seal end laps, details in the Capsheet and where the Capsheet overlays mineral finished sheets, eg at the bottom of upstands and around rooflights
- IKO Quick Trim — a range of prefabricated roof-edge detailing trims.

2 Manufacture

2.1 The membranes are manufactured by saturating and coating the reinforcement bases in a continuous process. The appropriate surface finish is then applied.

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 IKO PLC has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2008 by BSI (Certificate Q 05233).

3 Delivery and site handling

3.1 The membranes are delivered to site in rolls wrapped in paper bearing the manufacturing company's name, product name, code number identifying the date of manufacture and the BBA logo incorporating the number of this Certificate. The rolls are on pallets, shrink-wrapped in polythene.

3.2 Rolls should be stored on end on a smooth, clean and level surface away from excessive heat, and kept dry.

3.3 The Certificate holder has taken the responsibility of classifying and labelling the system components under the *CLP Regulation (EC) No 1272/2008 on the classification, labelling and packaging of substances and mixtures*. Users must refer to the relevant Safety Data Sheets.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on the IKO Easy Seal Roof Waterproofing System.

Design Considerations

4 General

4.1 The IKO Easy Seal Roof Waterproofing System is satisfactory for use as a fully-adhered waterproofing system on flat and low-pitched roofs with limited access.

4.2 Limited access roofs are defined for the purpose of this Certificate as those subjected only to pedestrian traffic for maintenance of the roof covering, cleaning of gutters, etc. Where traffic in excess of this is envisaged, special precautions, such as additional protection to the membrane, must be taken.

4.3 Flat roofs are defined for the purpose of this Certificate as those having a minimum finished fall of 1:80. Pitched roofs are defined for the purpose of this Certificate as those having falls greater than 1:6.

4.4 When designing flat roofs, twice the minimum finished fall should be assumed, unless a detailed analysis of the roof is available, including overall and local deflection and direction of falls.

4.5 Decks to which the system is to be applied must comply with the relevant requirements of BS 6229 : 2003, BS 8217 : 2005 and, where appropriate, *NHBC Standards 2016, Chapter 7.1 Flat roofs and balconies*.

4.6 Insulation used in conjunction with the system must be one of the following:

- IKO enertherm Universal, consisting of a rigid polyurethane foam board laminated to a 3 mm thick, tough-polymeric protection board on the upper surface, with a glass-reinforced perforated cellulose facing autohesively bonded to the lower surface
- polyurethane foam insulation board, faced with plywood on the top surface
- other insulation approved by the Certificate holder.

5 Practicability of installation

The system is designed to be installed by a competent roofing contractor experienced with this type of system.

6 Weathertightness



6.1 Results of test data confirm that the membranes and joints in the system, when completely sealed and consolidated, will adequately resist the passage of moisture to the inside of the building and so meet the requirements of the national Building Regulations.

6.2 The membranes are impervious to water and when used in the systems described will give a weathertight roofing capable of accepting minor structural movement without damage.

7 Properties in relation to fire



7.1 A system comprising a 19 mm thick exterior grade plywood primed with IKOpro SA Bitumen Primer, one layer of IKO Easy Seal Underlay and one layer of IKO Easy Seal Capsheet will be unrestricted.



7.2 When used for flat roofs with one of the surface finishes listed below, as defined in Part iii of Table A5 of Appendix A of the Building Regulations (England and Wales), and Technical Booklet E, Table 5.6, part IV, of the Building Regulations (Northern Ireland), the roof is deemed unrestricted:

- 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.



7.3 The designation of other specifications (eg on combustible substrates) should be confirmed by:

England and Wales — test or assessment in accordance with Approved Document B, Appendix A, clause 1

Scotland — tests to confirm compliance with Mandatory Standard 2.8, with reference to 2.8.1⁽¹⁾⁽²⁾

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

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

8 Resistance to wind uplift

Results of test data indicate that the adhesion of the bonded systems to the decking is sufficient to resist the effects of wind suction likely to occur in practice.

9 Resistance to foot traffic

Results of test data indicate that the membranes can accept, without damage, the limited foot traffic associated with installation and maintenance. Reasonable care must be taken to avoid sharp objects or concentrated loads. Where regular maintenance traffic is envisaged, a walkway must be provided, eg by using concrete slabs supported on bearing pads.

10 Maintenance



The system must be the subject of regular annual inspections and roof drains kept clear, as is good practice with all roofing membrane systems.

11 Durability



11.1 The IKO Easy Seal Roof Waterproofing System, when subjected to normal conditions of exposure and use, will retain its integrity for a period in excess of 20 years.

11.2 After some years, the capsheet may experience localised loss of the mineral surfacing, especially in areas where complex detailing of the roof design is incorporated.

12 Reuse and recyclability

The membranes comprise bitumen, glass and polyester, which can be recycled.

Installation

13 General

13.1 Installation of the IKO Easy Seal Roof Waterproofing System is carried out in accordance with the Certificate holder's instructions and the relevant clauses of BS 8000-0 : 2014, BS 8000-4 : 1989 and BS 8217 : 2005.

13.2 Deck surfaces must be dry, frost-free, clean and free from sharp projections such as nail heads. The substrate is primed using IKOpro SA Bitumen Primer prior to application of the system.

13.3 The membranes must not be laid in rain, snow or heavy fog.

13.4 At falls in excess of 5° (1:11), the normal precautions against slippage, and the provision for mechanical fixings as required by BS 8217 : 2005, should be observed.

13.5 If the roof is likely to be subjected to uncontrolled pedestrian access, the substructure must meet the requirements of clauses 6.12 and 6.13 of BS 8217 : 2005. To prevent damage to the roof covering, one of the surface finishes described in clauses 8.19.3 or 8.19.4 of the Code must be used.

13.6 It is recommended that IKO Easy Seal membranes should 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).

14 Procedure

14.1 The first strip of underlay is laid out in the correct position on the roof deck. 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.

14.2 The release paper is peeled back to expose part of the self-adhesive surface (see Figure 1), which is then pressed down onto the decking and the release paper gradually peeled back. Air bubbles are removed using a rag or soft broom.

Figure 1 Membrane laying process



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

14.4 Drip edges into gutters are installed after the underlay installation and prior to the application of the capsheet.

14.5 The capsheet is installed as described in sections 14.1 to 14.3, ensuring that the end laps and side joints do not coincide with those of the underlay.

14.6 All edge, upstand and penetration detailing should be carried out in accordance with the Certificate holder's instructions.

15 Repairs

In the event of damage to the waterproofing layer, repairs can be carried out by applying a patch of the capsheet in accordance with sections 14.1 to 14.3 and the Certificate holder's instructions.

Technical Investigations

16 Tests

16.1 An assessment was made of data to BS EN 13707 : 2013, in relation to:

- thickness*
- width*
- mass per unit area*
- watertightness*
- tensile force*
- elongation at break*
- static indentation (soft support)*
- nail tear*
- low temperature flexibility*
- dimensional stability.

16.2 An assessment was made of test data to determine:

- dynamic indentation
- heat resistance
- sliding resistance
- wind uplift
- water vapour permeability
- tensile strength of joints
- effect of heat ageing
- effect of water immersion

in order to assess:

- resistance to wind
- effect of temperature
- water vapour transmission properties
- durability.

17 Investigations

17.1 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.

17.2 Existing data on fire performance of the membranes were evaluated.

17.3 An assessment of the method of application was made.

Bibliography

BS 6229 : 2003 *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 8217 : 2005 *Reinforced bitumen membranes for roofing — Code of practice*

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

BS EN ISO 9001 : 2008 *Quality management systems — Requirements*

18 Conditions

18.1 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 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.

18.2 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.

18.3 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.

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

18.5 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.

18.6 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.