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Agrément Certificate
13/5030
Product Sheet 3

IIGO ROOF WATERPROOFING MEMBRANES

MONO ROOF WATERPROOFING MEMBRANE

This Agrément Certificate Product Sheet⁽¹⁾ relates to Mono Roof Waterproofing Membrane, for use as a partially- or fully-adhered SBS-modified bitumen waterproofing membrane on flat and pitched roofs.

(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 product will resist the passage of moisture into the building (see section 6).

Properties in relation to fire — the product will enable a roof to be unrestricted under Building Regulations (see section 7).

Resistance to wind uplift — the product will resist the effects of any likely wind suction acting on the roof (see section 8).

Resistance to foot traffic — the product will accept the limited foot traffic associated with installation and maintenance (see section 9).

Durability — under normal service conditions the product will provide a durable roof waterproofing with a service life in excess of 25 years (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

John Albon — Head of Approvals

Construction Products

Claire Curtis-Thomas

Chief Executive

Date of Second issue: 30 June 2016

Originally certificated on 28 August 2014

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, Mono Roof Waterproofing Membrane, 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 substructures the use of the product will enable a roof to be unrestricted under the requirements of this Regulation. See section 7 of this Certificate.
Requirement: C2(b)	Resistance to moisture
Comment:	The product, including joints, will enable a roof to meet this Requirement. See section 6.1 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.



The Building (Scotland) Regulations 2004 (as amended)

Regulation: 8(1)(2)	Durability, workmanship and fitness of materials
Comment:	The use of the product satisfies 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:	The product, when applied to a suitable substructure, is regarded as having low vulnerability and will enable a roof to be unrestricted under this Standard, with reference to clause 2.8.1 ⁽¹⁾⁽²⁾ . See sections 7.1, 7.2 and 7.4 of this Certificate.
Standard: 3.10	Precipitation
Comment:	The product, including joints, will enable a roof to satisfy the requirements of this Standard, with reference to clause 3.10.1 ⁽¹⁾⁽²⁾ . See section 6.1 of this Certificate.
Standard: 7.1(a)	Statement of sustainability
Comment:	The product 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 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(a)(i)(iii)(b)(i)	Fitness of materials and workmanship
Comment:	The product is acceptable. See section 11.1 and the <i>Installation</i> part of this Certificate.
Regulation: 28(b)	Resistance to moisture and weather
Comment:	The product, including joints, can 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 a suitable substructure, the use of the product will enable a roof to be unrestricted under 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 Mono Roof Waterproofing Membrane, 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 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 Mono Roof Waterproofing Membrane is a polyester-reinforced, SBS-modified bitumen roof waterproofing membrane with a mineral finish.

1.2 The membrane is manufactured to the nominal characteristics given in Table 1.

Table 1 Nominal characteristics

Characteristic (unit)	Mono
Thickness (mm)	4.2
Width (m)	1
Length (m)	8
Mass per unit area (kg·m ⁻²)	4.9
Roll weight (kg)	39.2
Tensile strength* (N·50 mm ⁻¹)	
longitudinal	1200
transverse	1000
Elongation* (%)	
longitudinal	40
transverse	40
Low temperature flexibility* (°C)	-30

1.3 Ancillary items for use with the product and included within the scope of this Certificate include:

- Eurorof PU Membrane Adhesive
- Alumasc bitumen primer — for preparation of the substrate.

1.4 Ancillary items for use with the product but outside the scope of this Certificate include:

- Eurorof Thermo-Adhesive Vapour Barrier
- Eurorof Torch-on Vapour Barrier
- Eurorof Self-Adhesive Vapour Barrier
- Eurorof Torchtite Vapour Barrier
- Eurorof Dual Bond Vapour Barrier
- Alumasc GTF PIR Insulation
- Eurorof PU Adhesive.

2 Manufacture

2.1 The product is manufactured using conventional continuous bitumen coating techniques.

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 9001 : 2008 and BS EN ISO 14001 : 2004 by SGS (Certificates IT97/9497 and IT05/1121 respectively).

3 Delivery and site handling

3.1 The product is delivered to site in rolls sealed with tape on pallets and shrink-wrapped in polythene. The tape bears the product name, Certificate holder's name, product size and batch number with appropriate CE marking.

3.2 Rolls must be stored upright in a clean, dry, level area.

3.3 The Certificate holder has taken the responsibility of classifying and labelling the product 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 Sheet(s).

3.4 Eurorof PU Membrane Adhesive is supplied in 6 kg tins.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Mono Roof Waterproofing Membrane.

Design Considerations

4 Use

4.1 Mono Roof Waterproofing Membrane is satisfactory for use as a roof waterproofing layer in fully-adhered or partially-adhered flat or 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, additional protection to the membrane must be provided (see section 9).

4.3 Flat roofs are defined for the purposes of this Certificate as those having a minimum finished fall of 1:80. For design purposes, twice the minimum finished fall should be assumed unless a detailed analysis of the roof is available, including overall and local deflection, direction of falls, etc. Pitched roofs are defined for the purpose of this Certificate as those having a fall greater than 1:6.

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

4.5 Insulation materials used in conjunction with the product must be in accordance with the Certificate holder's instructions and be either:

- as described in the relevant clauses of BS 8217 : 2005, or
- the subject of a current BBA Certificate and used in accordance with that Certificate.

5 Practicability of installation

Installation must only be carried out by installers trained and approved by the Certificate holder and/or the distributor.

6 Weathertightness



6.1 The membrane, including joints, when completely sealed and consolidated, will adequately resist the passage of moisture into the building and enable a roof to comply with the requirements of the national Building Regulations:

England and Wales — Approved Document C, Requirement C2(b), section 6

Scotland — Mandatory Standard 3.10, clauses 3.10.1⁽¹⁾⁽²⁾ and 3.10.7⁽¹⁾⁽²⁾

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

Northern Ireland — Regulation 28(b).

6.2 The membrane is impervious to water and will achieve a weathertight roof capable of accepting minor structural movement.

7 Properties in relation to fire



7.1 A system comprising an 18 mm thick plywood deck, one layer of typical torch-on vapour barrier, 30 mm thick tissue-faced PIR insulation and one layer of Mono Roof Waterproofing Membrane as a fully bonded cap sheet, will be unrestricted by the requirements of the national Building Regulations.

7.2 The membrane, when used in protected specifications, including an inorganic covering listed in the Annex of Commission Decision 2000/553/EC, can be considered to be unrestricted under the national Building Regulations.



7.3 When used on flat roofs with one of the surface finishes defined in the Building Regulations (England and Wales), Appendix A, Table A5, Part iii, or the Building Regulations (Northern Ireland), Technical Booklet E, Table 4.6, Part IV, and listed below, the roof is deemed to be of designation B_{ROOF} (t4):

- 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, or macadam.



7.4 The designation of other specifications should be confirmed by:

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

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, or an independent consultant with appropriate experience.

8 Resistance to wind uplift

8.1 The adhesion of the fully-bonded membrane is sufficient to resist the effects of wind suction, thermal cycling or other minor structural movements likely to occur in service.

8.2 Where the product is bonded to insulation boards, the resistance to wind uplift will be dependent on the cohesive strength of the insulation and the method by which it is secured to the roof deck. This must be taken in to account when selecting a suitable insulation material.

9 Resistance to foot traffic

The product can accept the limited foot traffic and light concentrated loads associated with installation and maintenance. Reasonable care should be taken to avoid puncture by sharp objects or concentrated loads. Where traffic in excess of this is envisaged, such as for maintenance of lift equipment or pedestrian access, suitable protection must be provided, for example using concrete slabs supported on bearing pads.

10 Maintenance



10.1 Systems using the product must be the subject of annual inspections and maintenance to ensure continued performance.

10.2 Maintenance should include checks and operations to ensure, where applicable, that:

- adequate ballast is in place and evenly distributed over the membrane
- protection layers are in good condition
- exposed membrane is free from the build-up of silt and other debris, and unwanted vegetation is cleared.

10.3 Where damage has occurred, it should be repaired in accordance with section 15 and the Certificate holder's instructions.

11 Durability



11.1 Mono Roof Waterproofing Membrane, where subjected to normal conditions of exposure and use, will retain its integrity for a period of at least 25 years.

11.2 Some localised loss of mineral surfacing may occur over time in areas where complex detailing of the roof design is incorporated.

12 Reuse and recyclability

The product is made from bitumen and polyester, which can be recycled.

Installation

13 General

13.1 Installation of Mono Roof Waterproofing Membrane must be carried out by installers trained and approved by the Certificate holder and/or the distributor in accordance with the relevant clauses of BS 8000-4 : 1989 and BS 8217 : 2005, the Certificate holder's instructions and this Certificate.

13.2 Substrates to which the product is to be applied must be sound, dry, clean and free from sharp projections such as nail heads and concrete nibs. When used over a rough substrate, a suitable protection layer must be placed first.

13.3 Installation should not be carried out during inclement weather (eg rain, fog or snow) nor when the temperature is below 5°C.

13.4 If the roof is likely to be subjected to uncontrolled pedestrian access, the substructure must meet the requirements of BS 8217 : 2005 and, to prevent damage to the roof covering, one of the appropriate surface finishes referred to in clause 6.12 of the Code must be used.

13.5 At falls in excess of 1 : 11, the provision for mechanical fixings as required by BS 8217 : 2005 must be observed.

13.6 On completion of the roof, the product, when used as a top layer in flat roof specifications, may have a surface finish applied in accordance with BS 8217 : 2005, clause 8.19. Surface finishes in the Code of Practice include:

- precast concrete paving slabs
- proprietary tiles on bonding compound.

13.7 Additional surface protection is not required when using the product on roofs with limited access.

13.8 Detailing must be formed in accordance with the Certificate holder's instructions.

14 Procedure

Fully- and partially-adhered applications

14.1 The membrane is folded back half of the length of the roll. For partially-adhered applications, Eurorof PU Membrane Adhesive is applied to the substrate at a coverage rate of 40-60 m² per 6 kg tin for central areas and 30-40 m² per 6 kg tin at perimeters, and the membrane is rolled into the wet adhesive. This is repeated for the other end of the membrane.

14.2 When required, the membrane can be fully adhered by melting the lower surface by torching, and pressing the membrane down. Care must be taken not to overheat the coating.

Lap joints

14.3 Side and end laps should be a minimum of 100 mm and 150 mm respectively.

14.4 Joints are sealed by torching and consolidating using a roller of suitable width and weight.

14.5 A bead of molten material must exude from all laps to indicate a satisfactory seal.

15 Repair

In the event of damage, the sheets can be effectively repaired after cleaning, with pieces of the membrane torch-welded over the damaged area.

Technical Investigations

16 Tests

16.1 Tests were carried out on Mono Roof Waterproofing Membrane and the results assessed to determine:

- water vapour transmission
- low temperature flexibility
- heat resistance
- resistance to wind uplift
- resistance to peel from support
- effects of heat ageing followed by low temperature flexibility and heat resistance.

16.2 An assessment was made of data in relation to:

- dimensions
- watertightness
- tensile strength and elongation
- static loading
- dynamic indentation
- tear resistance
- peel resistance of joints
- shear resistance of joints.

17 Investigations

17.1 An evaluation was made of fire test reports.

17.2 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 6229 : 2003 *Flat roofs with continuously supported coverings — Code of practice*

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*

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

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.