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**Agrément Certificate**
**10/4739**
Product Sheet 2

# ICOPAL SINGLE-PLY ROOF WATERPROOFING SYSTEMS

# MONARPLAN G AND GF SINGLE-PLY PVC ROOF WATERPROOFING MEMBRANES

This Agrément Certificate Product Sheet(1) relates to Monarplan G and GF Single-Ply PVC Roof Waterproofing Membranes, glass-reinforced PVC roofing membranes. Monarplan G is for use loose-laid and ballasted on flat roofs with limited access, and Monarplan GF is for use as fully adhered on flat or pitched roofs, including inverted and green (extensive) 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 membranes will resist the passage of moisture into the building (see section 6).
**Properties in relation to fire** — the membranes can enable a roof to be unrestricted under the national Building Regulations (see section 7).
**Resistance to wind uplift** — the membranes will resist the effects of any likely wind suction acting on the roof (see section 8).
**Resistance to mechanical damage** — the membranes will accept the limited foot traffic and loads associated with installation and maintenance (see section 9).
**Durability** — the membranes will have a service life in excess of 35 years (see section 11).

The BBA has awarded this Certificate to the company named above for the products described herein. These products have been assessed by the BBA as being fit for their intended use provided they are installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of Third issue: 4 June 2019

Originally certificated on 21 July 2014

John Albon
Chief Scientific Officer

Claire Curtis-Thomas
Chief Executive

*This Certificate was amended on 22 May 2024 as part of a transition of The BBA Agrément Certificate scheme delivered under the BBA's ISO/IEC 17020 accreditation. This Certificate was issued originally under accreditation to ISO/ IEC 17065. Sections marked with the symbol † are not issued under accreditation. Full conversion to the ISO/IEC 17020 format will take place at the next Certificate review. The BBA is a UKAS accredited Inspection Body (No.4345).* ***Readers MUST check the validity of this Agrément Certificate by either referring to the BBA website or contacting the BBA directly.*** *Any photographs are for illustrative purposes only, do not constitute advice and must not be relied upon.*

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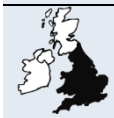
## Regulations

In the opinion of the BBA, Monarplan G and GF Single-Ply PVC Roof Waterproofing Membranes, 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: The membranes, when used with a suitable surface protection, can enable a roof to be unrestricted under this Requirement. See sections 7.1 to 7.4 of this Certificate.

**Requirement:** **C2(b)** **Resistance to moisture**
Comment: The membranes, including joints, will enable a roof to satisfy this Requirement. See section 6.1 of this Certificate.

**Regulation:** **7** **Materials and workmanship (applicable to Wales only)**
**Regulation:** **7(1)** **Materials and workmanship (applicable to England only)**
Comment: The membranes are acceptable. See section 11 and the *Installation* 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 membranes satisfies the requirements of this Regulation. See sections 10.1 and 11 and the *Installation* part of this Certificate.

**Regulation:** **9** **Building standards applicable to construction**
Standard: 2.8 Spread from neighbouring buildings
Comment: The membranes, when used with a suitable surface protection, can be regarded as having low vulnerability under clause 2.8.1(1)(2) of this Standard. See sections 7.1 to 7.4 of this Certificate.

Standard: 3.10 Precipitation
Comment: The membranes, including joints, will enable a roof to satisfy the requirements of this Standard with references 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 membranes 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: Comments in relation to the products 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)** **Fitness of materials and workmanship**
Comment: **(iii)(b)(i)** The membranes are acceptable. See section 11 and the *Installation* part of this Certificate.

| | | |
|---|---|---|
| **Regulation:** | **28(b)** | **Resistance to moisture and weather** |
| Comment: | | The membranes, 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: | | The membranes, when used with a suitable surface protection, can enable a roof to be unrestricted under this Requirement. See sections 7.1 to 7.4 of this 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.

See sections: 1 *Description* (1.2) and 3 *Delivery and site handling* (3.3) of this Certificate.

# Additional Information

## NHBC Standards 2019

In the opinion of the BBA, Monarplan G and GF Single-Ply PVC Roof Waterproofing Membranes, 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 and balconies*.

## CE marking

The Certificate holder has taken the responsibility of CE marking the products, in accordance with harmonised European Standard BS EN 13956 : 2012. 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 Monarplan G and GF Single-Ply PVC Roof Waterproofing Membranes are a range of glass-reinforced (50 $g \cdot m^{-2}$), PVC roofing membranes. Monarplan GF includes a polyester fleece backing (250 $g \cdot m^{-2}$).

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

*Table 1 Nominal characteristics*

| Characteristic (unit) | Membrane | | | | | |
|---|---|---|---|---|---|---|
| | G 1.2 | G 1.5 | G 1.8 | G 2.0 | GF 1.2 | GF 1.5 |
| Thickness* (mm) | 1.2 | 1.5 | 1.8 | 2.0 | 1.2(1) | 1.5(1) |
| Width* (m) | 2.12 | 2.12 | 2,12 | 2.12 | 2.12 | 2.12 |
| Length* (m) | 15 | 15 | 15 | 15 | 15 | 15 |
| Mass per unit area* ($kg \cdot m^{-2}$) | 1.80 | 2.00 | 2.32 | 2.47 | 2.00 | 2.20 |
| Watertightness | pass | Pass | pass | pass | pass | pass |
| Tensile strength* ($N \cdot m^{-2}$) Method B | | | | | | |
| longitudinal | ≥ 9.0 | ≥ 9.0 | ≥ 9.0 | ≥ 9.0 | — | — |
| transverse | ≥ 8.5 | ≥ 8.5 | ≥ 8.5 | ≥ 8.5 | — | — |
| Tensile strength* (N per 50 mm)Method A | | | | | | |
| longitudinal | — | — | — | — | ≥ 600 | ≥ 600 |
| transverse | — | — | — | — | ≥ 600 | ≥ 600 |
| Elongation* (%) | | | | | | |
| longitudinal | ≥ 200 | ≥ 200 | ≥ 200 | ≥ 200 | ≥ 30 | ≥ 30 |
| transverse | ≥ 200 | ≥ 200 | ≥ 200 | ≥ 200 | ≥ 30 | ≥ 30 |
| Tear strength (trapezoidal)* (N) | ≥ 125 | ≥ 125 | ≥ 125 | ≥ 125 | NPD | NPD |
| Low temperature foldability* (°C) | ≤ –25 | ≤ –25 | ≤ –25 | ≤ –25 | ≤ –25 | ≤ –25 |
| Resistance to static loading* (kg) | | | | | | |
| substrate A | ≥ 20 | ≥ 20 | ≥ 20 | ≥ 20 | NPD | NPD |
| substrate B | ≥ 20 | ≥ 20 | ≥ 20 | ≥ 20 | NPD | NPD |
| Resistance to dynamic loading* (mm) | | | | | | |
| substrate A | ≥ 600 | ≥ 600 | ≥ 800 | ≥ 800 | ≥ 500 | ≥ 500 |
| substrate B | ≥ 1000 | ≥ 1000 | ≥ 1250 | ≥ 1250 | ≥ 500 | ≥ 500 |
| Dimensional stability* (%) | ≤ 0.1 | ≤ 0.1 | ≤ 0.1 | ≤ 0.1 | ≤ 0.3 | ≤ 0.3 |
| Joint peel resistance* (N per 50 mm) | ≥ 200 | ≥ 200 | ≥ 200 | ≥ 200 | ≥ 185 | ≥ 185 |
| Joint shear resistance* (N per 50 mm) | ≥ 700 | ≥ 700 | ≥ 700 | ≥ 700 | ≥ 600 | ≥ 600 |
| Reaction to fire* | Class E | Class E | Class E | Class E | Class E | Class E |
| Colour | light grey (RAL 7001) | | | | light grey (RAL 7001) anthracite (RAL 7015)(2) | |

(1) Excluding fleece.
(2) Other colours are available on request, subject to a minimum order.

1.3 Adhesives used in conjunction with the membranes are:

- Monarplan Contact Adhesive — for use in bonding Monarplan FM at upstands and details
- Icopal Single-Ply Fleeceback Adhesive — for use in bonding Monarplan GF to substrates.

1.4 Ancillary items for use with the products, but which are outside the scope of this Certificate, include:

- Thermazone Roofboard PIR Insulation
- PVC coated metal — a 0.6 mm galvanized steel sheet, coated with 0.6 mm of Monarplan PVC compound, for use in detailing
- Monarplan PVC internal and external corners — prefabricated corner units
- polyester fleeces 120 and 300 $g \cdot m^{-2}$ — for use as separation layers
- glass fleece 120 $g \cdot m^{-2}$ — for use as a separation layer between the membranes and EPS insulation boards
- Monarplan Reinforced Strip — a 150 mm strip of Monarplan FM (see Product Sheet 1 of this Certificate), for use in sealing butt joints in Monarplan GF.

## 2 Manufacture

2.1 The membranes are manufactured by a two-pass extrusion coating process of the glass reinforcement. For Monarplan GF, the polyester fleece is laminated to the PVC membrane.

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.

## 3 Delivery and site handling

3.1 The membranes are delivered to site in rolls wrapped in polythene, on pallets with labels bearing the Certificate holder's name and address, product identification, dimensions, batch number and the BBA logo incorporating the number of this Certificate.

3.2 Rolls should be stored on their side, on a clean, level surface and under cover.

3.3 The Certificate holder has taken the responsibility of classifying and labelling the products 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).

# Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Monarplan G and GF Single-Ply PVC Roof Waterproofing Membranes.

## Design Considerations

## 4 General

4.1 Monarplan G is satisfactory for use as a roof waterproofing membrane in the following specifications:

- loose-laid and ballasted on flat roofs with limited access
- on flat inverted roofs with limited or pedestrian access
- green roofs (extensive planting) on flat roofs with limited access.

4.2 Monarplan GF is satisfactory for use as a roof waterproofing membrane in fully adhered flat and pitched roofs with limited access.

4.3 For the purpose of this Certificate, green roofs (extensive planting) are defined as those with a shallow layer of growing medium planted with low-maintenance plants such as mosses, sedums, grasses and some wild flower species.

4.4 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, such as pedestrian access roofs, additional protection to the membranes must be provided (see section 9 of this Certificate and the relevant clauses of the Certificates holder's installation instructions).

4.5 Flat roofs are defined for the purpose of this Certificate as those having a minimum finished fall of 1:80(1). 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.

(1) *NHBC Standards* 2019 require a minimum fall of 1:60 for green roofs and roof gardens.

4.6 Structural decks for loose-laid and ballasted, inverted roofs and green roofs must be suitable to transmit the dead and imposed loads experienced in service.

4.7 Imposed loads, dead loading and wind load specifications should be calculated by a suitably experienced and competent individual in accordance with BS EN 1991-1-1 : 2002, BS EN 1991-1-3 : 2003 and BS EN 1991-1-4 : 2005, and their UK National Annexes.

4.8 Decks to which the products are to be applied must comply with the relevant requirements of BS 6229 : 2018, BS 8217 : 2005 and, where appropriate, *NHBC Standards* 2019, Chapter 7.1.

4.9 Recommendations for the design of green roof specifications are available within the latest edition of *The GRO Green Roof Code — Green Roof Code of Best Practice for the UK,* issued by The Green Roof Organisation (GRO).

4.10 The drainage system for green roofs must be correctly designed, and provision made for access for maintenance purposes. Dead loads for green roofs can increase if the drains become partially or completely blocked causing waterlogging of the drainage layer.

4.11 In inverted roof specifications, the ballast requirements should be calculated in accordance with the relevant parts of BS EN 1991-1-4 : 2005 and its UK National Annex. Additional guidance for inverted roof specifications is given in BBA Information Bulletin No 4 *Inverted roofs — Drainage and U value corrections*.

4.12 Insulation materials to be used in conjunction with the membranes 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 be used in accordance with, and within the limitations of, that Certificate.

4.13 Contact with bituminous, coal tar and oil-based products must be avoided as the membranes are not compatible with lower grades of bitumen. If contact with such products is likely, a separating layer must be interposed before installing the waterproofing sheet. Where doubt arises, the advice of Certificate holder must be sought.

## 5 Practicability of installation

Installation of the membranes must be only carried out by installers trained and approved by the Certificate holder.

## 6 Weathertightness

6.1 The membranes, 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.

6.2 The membranes are impervious to water and will provide a weathertight roof capable of accepting minor structural movement.

## 7 Properties in relation to fire

7.1 When tested in accordance with DD CEN/TS 1187 : 2012, Test 4, and classified to BS EN 13501-5 : 2005(1), a system consisting of an 18 mm plywood substrate primed with Icopal SA Primer, a layer of Micoral SK Heat Activated Self Adhesive Vapour Control Layer, a 90 mm thick polyisocyanurate (PIR) Thermazone Roofboard bonded with Icopal TK395 Polyurethane Adhesive and a layer of Monarplan GF 1.5 mm bonded with Icopal Single-Ply Fleeceback Adhesive, achieved class $B_{ROOF}(t4)$(2).

(1) Report reference 296697-3, conducted by the Building Research Establishment. Report available from the Certificate holder.
(2) Report reference 296697-2, conducted by the Building Research Establishment. Report available from the Certificate holder.

7.2 In the opinion of the BBA, a roof incorporating the membranes will be unrestricted under the national Building Regulations in the following circumstances:

- a roof garden covered with a drainage layer of gravel 100 mm thick and a soil layer 300 mm thick
- when protected by an inorganic covering (eg gravel or paving slabs) listed in the Annex of Commission Decision 2000/553/EC.

7.3 In the opinion of the BBA, irrigated green roofs and roof gardens will also be unrestricted under the national Requirements.

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.

7.5 If allowed to dry, the plants used may allow the spread of flame across the roof. This must be taken into consideration when selecting suitable plants. Appropriate planting, irrigation and/or protection must be applied to ensure the overall fire-rating of the roof is not compromised. Further guidance is available in the Department for Communities and Local Government publication, *Fire Performance of Green Roofs and Walls* – August 2013.

## 8 Resistance to wind uplift

8.1 The adhesion of Monarplan GF will be limited by the cohesive strength of the substrate. On substrates of high cohesive strength, the adhesion of the membranes is sufficient to resist the effect of wind suction, thermal cycling and minor structural movements occurring in practice.

8.2 The ballast requirements for loose-laid roof systems must be calculated by a suitably experienced and competent individual in accordance with the relevant parts of BS EN 1991-1-4 : 2005 and its UK National Annex. When using gravel ballast, the roof system must always be loaded with a minimum depth of 50 mm of aggregate. In areas of high wind exposure, the Certificate holder's advice should be sought. Alternatively, concrete slabs on suitable supports can be used.

8.3 The ballast on inverted/protected roofs must not be of a type that will be removed or become delocalised owing to wind scour experienced on the roof.

## 9 Resistance to mechanical damage

The membranes 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, a walkway should be provided.

## 10 Maintenance

10.1 The roof system must be the subject of biannual inspections and maintenance in accordance with BS 6229 : 2018, Chapter 7.

10.2 Guidance is available within the latest edition of *The GRO Green Roof Code – Green Roof Code of Best Practice for the UK.*

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

## 11 Durability

Under normal service conditions, the membranes will have a service life in excess of 35 years.

## 12 Reuse and recyclability

The membranes contain PVC, which can be recycled.

# Installation

## 13 General

13.1 Installation of Monarplan G and GF Single-Ply PVC Roof Waterproofing Membranes must be carried out by installers trained and approved by the Certificate holder in accordance with the relevant clauses of BS 8000-0 : 2014, BS 8000-4 : 1989, BS 8217 : 2005, the Certificate holder's instructions and this Certificate.

13.2 Substrates to which the membranes are applied must be sound, dry, clean and free from sharp projections such as nail heads and concrete nibs. Rough substrates must first be overlaid with a suitable protection layer.

13.3 Installation should not be carried out during inclement weather (eg rain, fog or snow). When the temperature is below 0°C, suitable precautions against surface condensation must be taken.

13.4 All detailing must be formed in accordance with the Certificate holder's instructions.

13.5 Ballast or other bulk material must not be stored on one area of the roof prior to installation, to ensure that localised overloading does not occur.

## 14 Procedure

**Loose-laid applications**

14.1 Monarplan G is laid flat onto the substrate without folds or ripples, with 50 mm minimum side laps and 50 mm minimum end laps.

14.2 The membrane is mechanically fastened at the perimeter of the roof in accordance with the Certificate holder's instructions. The lap joint in these areas extends 50 mm past the fixing bar or plate.

14.3 The lap joints are hot-air welded in accordance with sections 14.8 to 14.13 and the Certificate holder's instructions.

14.4 The membrane must be covered by at least a 50 mm depth of well-rounded gravel or other suitable ballast, depending on the specification being installed. In areas of high wind exposure, paving slabs set on a suitable support may be considered.

**Fully adhered**

14.5 Monarplan GF is laid flat onto the substrate without folds or ripples, with 50 mm minimum side laps and butted at the end of the roll.

14.6 The membrane is folded or rolled back to its centre and Icopal Single-Ply Fleeceback Adhesive applied to the substrate in accordance with the Certificate holder's recommendations, ensuring that no adhesive is applied to the weld area of the membrane. The membrane is rolled out into the wet adhesive. The process is repeated for the other end of the membrane.

14.7 The side lap joints are hot air welded in accordance with sections 14.8 to 14.13 and the Certificate holder's instructions. The end of the Monarplan GF membrane is butt jointed and sealed using Monarplan Reinforced Strip hot-air welded along the joint.

**Hot-air welding**

14.8 Hot-air welded lap joints are produced by using either an automated welding machine or a hand-held welder, in accordance with the Certificate holder's instructions.

14.9 The lap area must be dry and clean. If the membrane in the weld area has become contaminated, it must be cleaned in accordance with the Certificate holder's instructions.

14.10 The welded width of the joint must be a minimum of 40 mm for field welds and detailing. Care should be taken that overheating of the membrane does not occur, as possible impairment of the membrane may result.

14.11 When hand welding, the joint must be rolled immediately using a silicone rubber seam-roller, to ensure an even bond.

14.12 Flashings are to be formed in accordance with the Certificate holder's instructions.

14.13 The seam is tested with a metal probe to highlight poorly welded areas. Any such areas must be made good using hot-air welding.

## 15 Repair

Any damage must be repaired by cleaning around the affected area and welding a patch of the membrane over it, as described in sections 14.8 to 14.13.

# Technical Investigations

## 16 Tests

16.1 Tests were carried out on Monarplan G and GF Single-Ply PVC Roof Waterproofing Membranes and the results assessed to determine:

- peel from substrate
- fatigue cycling
- static indentation
- dynamic indentation.

16.2 Tests were conducted on samples of 1.2 mm Monarplan FM, which uses the same formulation, taken from an existing site more than 35 years old, and the results assessed to determine:

- thickness
- mass per unit area
- low temperature foldability
- dynamic indentation.

16.3 Data from tests of membranes using the same compound formulation were assessed to determine:

- low temperature foldability
- shear strength of joints
- peel strength of joints
- resistance to water pressure
- percentage weight loss
- percentage plasticiser
- effects of long-term heat ageing
- effects of long-term UV ageing.

## 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 An assessment was made of existing data on fire performance.

17.3 Visits to existing sites, one installed during the mid-1970s and two in the early 1990s, were carried out and samples were taken to assess the durability of the products under normal service conditions.

## Bibliography


BS 6229 : 2018 *Flat roofs with continuously supported flexible waterproof 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 1991-1-1 : 2002 *Eurocode 1: Actions on structures — General actions — Densities, self-weight, imposed loads for buildings*
NA to BS EN 1991-1-1 : 2002 UK National Annex to *Eurocode 1: Actions on structures — General actions — Densities, self-weight, imposed loads for buildings*
BS EN 1991-1-3 : 2003 + A1 : 2015 *Eurocode 1 : Actions on structures — General actions — Snow loads*
NA + A1 : 15 to BS EN 1991-1-3 : 2003 + A1 : 2015 UK National Annex to *Eurocode 1: Actions on structures — General actions — Snow loads*
BS EN 1991-1-4 : 2005 + A1 : 2010 *Eurocode 1 : Actions on structures — General actions — Wind actions*
NA to BS EN 1991-1-4 : 2005 + A1 : 2010 UK National Annex to *Eurocode 1 : Actions on structures — General actions — Wind actions*

BS EN 13501-5 : 2005 + A1 : 2009 *Fire classification of construction products and building elements — Classification using data from external fire exposure to roofs tests*

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

DD CEN/TS 1187 : 2012 *Test methods for external fire exposure to roofs*

## 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, UKNI or 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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