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Agrément Certificate
24/7262
Product Sheet 2 Issue 1

STRATAPLAN SINGLE-PLY ROOF WATERPROOFING MEMBRANES

STRATAPALAN GF SYSTEM

This Agrément Certificate Product Sheet(1) relates to the StrataPlan GF System, a range of reinforced polyvinyl chloride (PVC) membranes for use in fully bonded, exposed, loose-laid and ballasted, protected, inverted, roof garden/green roof and blue roof, including a stormwater attenuation system(2), specifications on pitched, flat and protected zero fall roofs.

(1) Hereinafter referred to as 'Certificate'.
(2) The stormwater attenuation system is outside the scope of this 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 issue: 14 January 2025

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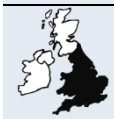
SUMMARY OF ASSESSMENT AND COMPLIANCE

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 StrataPlan GF 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:	**B4(1)**	**External fire spread**
Comment:		The system is 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 enable a roof to be unrestricted by 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.
Regulation:	**7(1)**	**Materials and workmanship**
Comment:		The system is acceptable. See sections 8 and 9 of this Certificate.

The Building (Scotland) Regulations 2004 (as amended)

Regulation:	**8(1)(2)**	**Fitness and durability of materials and workmanship**
Comment:		The use of the system satisfies this Regulation. See sections 8 and 9 of this Certificate.
Regulation:	**9**	**Building standards – construction**
Standard:	2.8	Spread from neighbouring buildings
Comment:		When applied to a suitable substructure, the system may enable a roof to be unrestricted by this Standard with reference to clause 2.8.1(1)(2). See section 2 of this Certificate.
Standard:	3.10	Precipitation
Comment:		The system, including joints, will enable a roof to satisfy this Standard with reference to clauses 3.10.1(1)(2) and 3.10.7(1)(2). See section 3 of this Certificate.
Standard:	7.1(a)	Statement of sustainability
Comment:		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.
Regulation:	**12**	**Building standards – conversion**
Comment:		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 this Regulation. See section 3 of this Certificate.
Regulation:	**36(a)**	**External fire spread**
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 system may enable a roof to be unrestricted by this Regulation. See section 2 of this Certificate.

Additional Information

NHBC Standards 2025

In the opinion of the BBA, the StrataPlan GF 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, used and maintained 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 StrataPlan GF System to be satisfactory for use as a roof waterproofing system in fully bonded, loose-laid and ballasted, protected, inverted, roof garden/green roof and blue roof specifications on pitched, flat and protected zero fall roofs, as described in this Certificate.

ASSESSMENT

Product description and intended use

The Certificate holder provided the following description for the system under assessment. The StrataPlan GF System consists of polyester-mesh reinforced PVC single-ply roofing membranes with a non-woven polyester-fleece backing and hot-air welded lap joints.

The membranes have the nominal characteristics given in Table 1.

Table 1 Nominal characteristics of StrataPlan GF membranes

Characteristic (unit)	StrataPlan GF	
Thickness (excluding fleece) (mm)	1.5	2.0
Roll length (m)	16.0	13.0
Roll width (m)	1.65	2.05
Mass per unit area ($kg \cdot m^{-2}$)	2.04	2.52
Colours	Dark grey, light grey and anthracite	

Ancillary Items

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

- StrataPlan PVC Liquid Sealant — used to seal site-cut edges of the StrataPlan GF membrane
- StrataPlan GF Membrane Adhesive — a moisture-curing polyurethane (PU) adhesive
- StrataPlan GF Detail Membrane — a non-fleece backed polyester-mesh reinforced PVC membrane, for use at detailing and upstands
- StrataPlan 150 gsm Separation Fleece — a 150 $g \cdot m^{-2}$ non-woven, geotextile polyester fleece for use as separation layer
- StrataPlan 300 gsm Separation Fleece — a 300 $g \cdot m^{-2}$ non-woven, geotextile polyester fleece for use as separation or protection layer.

The Certificate holder recommends the following ancillary items for use with the system, but these materials have not been assessed by the BBA and are outside the scope of this Certificate:

- StrataPlan Gutter System — a membrane coated gutter system
- StrataPlan PVC Internal and External Corners — for use as internal and external corners
- StrataPlan PVC Metal — a range of membrane coated galvanized steel profiles for parapets, edge details and upstands
- StrataPlan Walkway — a slip-resistant, textured walkway membrane in 650 mm widths
- StrataShield SA ALU VB — a self-adhesive aluminium-foil air and vapour control layer (AVCL)
- StrataPrime SA — a bituminous primer solution for self-adhesive membranes
- StrataShield SA BIT VB — a self-adhesive sanded AVCL
- StrataPlan Protect — a membrane designed for use as a protective/sacrificial layer in Strata ballasted or sedum roof applications
- FO Rainwater Outlets — a range of vertical and horizontal outlets
- StrataPlan Slab Pedestals — for use with paving slabs in loose-laid applications
- StrataPlan Standing Seam— triangular PVC profile designed to be applied to Strata membrane covered roofs to reproduce the appearance of a traditional metal roof
- StrataPlan Detail Membrane — an unreinforced membrane used around penetrations and details where movement of the structure is likely
- StrataPlan Lightning Clip — a specialist lightning conductor clip
- StrataPlan IFP250 — a fixing point for providing a structural connection to the building substrate
- StrataPlan Coverstrip Reinforced — a reinforced strip of membrane for concealing joints in laminated materials, edge detailing, and seamless membrane joints
- StrataPlan Coverstrip Unreinforced — an unreinforced strip of membrane for concealing joints in laminated materials, edge detailing, and seamless membrane joints.

Applications

The system is satisfactory for use as a fully bonded roof waterproofing layer in the following specifications:

- exposed pitched or flat roofs with limited access
- protected zero falls roofs
- blue roofs, including a stormwater attenuation system(1)
- protected roofs
- inverted roofs
- green roofs on pitched or flat roofs with limited access
- roof gardens on flat roofs.

(1) The stormwater attenuation system is outside the scope of this Certificate.

Additionally, the system may also be used in loose-laid roof waterproofing in the following specifications:

- ballasted roofs
- inverted roofs
- green roofs on pitched or flat roofs with limited access
- roof gardens on flat roofs.

Definitions for products and applications inspected:

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

- limited access roof — a roof subjected only to pedestrian traffic for maintenance of the roof covering, cleaning of gutters, etc
- flat roof — a roof having a minimum finished fall of 1:80(1)
- pitched roof — a roof having a fall in excess of 1:6
- zero fall roof — a roof having a minimum finished fall between 0 and 1:80(1)
- roof garden (intensive) – a roof with a substantial layer of growing medium with planting that can include shrubs and trees, and generally accessible to pedestrians
- green roof (extensive) — a roof with a shallow layer of growing medium planted with low-maintenance plants such as mosses, sedums, grasses and some wildflower species
- invasive plant species — vegetation species having vigorous and/or invasive root systems likely to cause damage to components of the inverted roof insulation system and roof waterproofing
- blue roof — a flat roof designed to allow controlled attenuation of rain fall during heavy and storm events, as part of sustainable urban drainage systems (SUDS).

(1) *NHBC Standards* 2025 require a minimum fall of 1:60 for green roofs and roof gardens.

Product assessment – key factors

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

1 Mechanical resistance and stability

Not applicable.

2 Safety in case of fire

Data were assessed for the following characteristics.

2.1 External fire spread

2.1.1 When tested to CEN/TS 1187 : 2012, Test 4 and classified to EN 13501-5 : 2016 the constructions(1) given in Table 2 of this Certificate achieved B_{ROOF}(t4) for slopes below 10°.

Table 2 External fire spread

Substrate	AVCL	Insulation	Waterproofing
18 mm plywood(1)	0.6 mm self-adhesive vapour barrier(1)	120 mm polyisocyanuate (PIR) insulation(1)	1.5 mm StrataPlan GF with fleece, fully adhered

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

2.1.2 On the basis of data assessed, the construction listed in Table 2 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 A roof incorporating the system will be similarly unrestricted with respect to proximity to a relevant boundary under the national Building Regulations when used in the following circumstances:

- protected or inverted roof specifications, including inorganic covering (eg gravel or paving slabs) listed in the Annex of Commission Decision 2000/553/EC
- a roof garden covered with a drainage layer of gravel 100 mm thick and a soil layer 300 mm thick
- irrigated roof gardens, green roofs.

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.

2.1.5 If allowed to dry, plants used may allow the spread of flame across the roof. This must be taken into consideration when selecting suitable plants for the roof. Appropriate planting, irrigation and/or protection must be applied to ensure the overall fire-rating of the roof is not compromised.

2.2 Reaction to fire

2.2.1 The Certificate holder has declared a reaction to fire classification of Class E to BS EN 13501-1 : 2018 for the system.

2.2.2 On the basis of data assessed, the system will be restricted in use under the documents supporting the national Building Regulations in some cases.

2.2.3 In England, the system, when used in pitches greater than 70°, excluding upstands, must not be used less than 1 m from a relevant boundary, or on residential buildings more than 11 m in height or on other buildings more than 18 m in height. Restrictions apply on assembly and recreation buildings. These constructions must also be included in calculations of unprotected area.

2.2.4 In Wales and Northern Ireland, the system, when used in pitches greater than 70°, excluding upstands, must not be used less than 1 m from a relevant boundary, or on other buildings more than 18 m in height. Restrictions apply on assembly and recreation buildings. These constructions must also be included in calculations of unprotected area.

2.2.5 In Scotland, the use of the system is unrestricted with respect to building height and proximity to a relevant boundary. However, restrictions on the overall construction may apply, depending on the reaction to fire classification achieved by the build-up, which must be established on a case-by-case basis.

3 Hygiene, health and the environment

Data were assessed for the following characteristics.

3.1 Weathertightness

3.1.1 Results of weathertightness tests are given in Table 3.

Table 3 Weathertightness

Product assessed	Assessment method	Requirement	Result
StrataPlan GF	Water vapour transmission rate at 25°C and 75% RH to BS 3177 : 1959	Value declared	1.20 $g \cdot m^{-2} \cdot day^{-1}$
Representative Related System	Watertightness under 10 kPa pressure to BS EN 1928 : 2000, Method B	No leakage	Pass
Representative Related System - on concrete	Peel from substrate to MOAT 27 : 5.1.3 : 1983	≥ 25 $N \cdot (50\ mm)^{-1}$	Pass

3.1.2 The peel strength of joints of the system was assessed on the basis of test data from a representative related system.

3.1.3 On the basis of data assessed, the system, including joints, when completely sealed and consolidated, will adequately resist the passage of moisture to the interior of a building and enable a roof to comply with the requirements of the national Building Regulations.

3.1.4 The adhesion of bonded system is sufficient to resist the effects of wind suction, thermal cycling or other minor structural movement likely to occur in service.

3.1.5 The resistance to wind uplift of the system, when it is adhered to insulation boards, 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 considered when the insulation material is selected.

3.2 Resistance to mechanical damage

3.2.1 The tensile properties, resistance to tearing, resistance to static and dynamic indentation, and low temperature flexibility of the system were assessed on the basis of test data from a representative related system.

3.2.2 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. Reasonable care must be taken to avoid puncture by sharp objects or concentrated loads.

3.2.3 Where regular traffic is envisaged, such as for maintenance of lift equipment, a walkway must be provided, eg using concrete slabs supported on bearing pads or a protective walkway with a textured finish. The advice of the Certificate holder must be sought on the most appropriate method to be used with the amount of traffic involved, but such advice is outside the scope of this Certificate.

3.2.4 The system is capable of accepting minor structural movement while remaining weathertight.

3.3 Resistance to root penetration

3.3.1 Results of a resistance to root penetration test is given in Table 4.

Table 4 Resistance to root penetration

Product assessed	Assessment method	Requirement	Result
StrataPlan GF	Resistance to root penetration FLL Method	No root penetration after 2 years	Pass

3.3.2 On the basis of data assessed, the system will adequately resist penetration by plant roots and can be used as a waterproofing system in green roof and roof garden specifications.

3.3.3 For green roofs in inverted roof specifications, when installed in accordance with this Certificate, the inverted roof insulation and water-flow-reducing layer (WFRL) will be adequately protected against root damage, subject to routine maintenance being carried out in accordance with this Certificate and as recommended by the Green Roof Organisation (GRO) *Code of Best Practice.*

3.3.4 For roof gardens in inverted roof specifications, when installed in accordance with this Certificate, the inverted roof insulation and water-flow-reducing layer (WFRL) must be protected from damage from invasive plant roots, for example, by using root resistant planter boxes or tree pits lined with an effective root barrier.

4 Safety and accessibility in use

Not applicable.

5 Protection against noise

Not applicable.

6 Energy economy and heat retention

Not applicable.

7 Sustainable use of natural resources

The system comprises PVC and polyester which can be recycled.

8 Durability

8.1 The potential mechanisms for degradation and the known performance characteristics of the materials in the system were assessed.

8.2 The dimensional stability, peel from substrate after heat ageing and long-term water exposure, low temperature flexibility after heat ageing and UV ageing, and peel strength of joints after long-term water exposure of the system were assessed on the basis of test data of a representative related system.

8.3 Visits were carried out to existing sites for representative related systems and tests performed on samples taken from those sites.

8.4 Service life

Under normal service conditions, the system will have a life of at least 30 years, provided they are designed, installed and maintained in accordance with this Certificate and the Certificate holder's instructions.

PROCESS ASSESSMENT

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 and, where appropriate, *NHBC Standards* 2025, Chapter 7.1.

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

9.1.4 For loose-laid and ballasted, green roofs and roof gardens, structural decks to which the system is to be applied must be suitable to transmit the dead and imposed loads experienced in service. Allowance must be made for loading deflections to ensure that the free drainage of water is maintained.

9.1.5 The ballast requirements for loose-laid specifications using the systes must be calculated by a suitably competent and experienced individual in accordance with the relevant parts of BS EN 1991-1-4 : 2005 and its UK National Annex. The membranes must always be ballasted with a minimum depth of 50 mm of aggregate. In areas of high-wind exposure, the Certificate holder's advice must be sought, but such advice is outside the scope of this Certificate. Alternatively, concrete slabs on suitable supports can be used.

9.1.6 Imposed loads, dead loading and wind loads must 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.

9.1.7 Any ballast used in roofing specifications and growing medium used in green roofs and roof gardens must not be of a type that will be removed or become delocalised due to wind scour experienced on the roof.

9.1.8 It must be recognised that the type of plants used in roof gardens could significantly affect the expected wind loads experienced in service.

9.1.9 For green roofs and roof gardens, invasive non-native alien plant species as defined by UK Government guidance must not be used.

9.1.10 For green roof and roof garden finishes, to protect the roof waterproofing, invasive plant species must not be used. In particular, the following species must be excluded:

- invasive weeds including buddleia
- plants and grasses with aggressive rhizomes such as bamboo
- self-setting woody weeds such as sycamore and ash seedlings should be removed at early germination stage
- other woody plants which spread aggressively including rhododendron.

9.1.11 The Green Roof Organisation (GRO) can provide guidance on species not included in section 9.1.10 but such advice is outside the scope of this Certificate.

9.1.12 The drainage system for inverted roofs, zero fall roofs, green roofs or roof gardens must be correctly designed, and the following points must be addressed:

- provision made for access for maintenance purposes
- for zero fall roofs, it is particularly important to identify the correct drainage points, to ensure that drainage is sufficient and effective
- dead loads for green roof and roof gardens can increase if the drains become partially or completely blocked causing waterlogging of the drainage layer.

9.1.13 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 the Certificate holder must be sought, but such advice is outside the scope of this Certificate.

9.1.14 StrataPlan GF must not be laid directly over cellular glass insulation, polystyrene insulation products, bituminous roofing membranes or asphalt.

9.1.15 Insulation materials used in conjunction with the membranes must be in accordance with the manufacturer'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 scope of, that Certificate.

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

9.2.3 In all cases, an AVCL must be used directly over the deck.

9.2.4 The membranes must be applied over tissue-faced insulation materials and fixed to the sub-structure in such a way as not to impair the performance of the waterproofing.

9.2.5 Conditions on site must be those for normal roof waterproofing work. Deck surfaces must be 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 over the substrate.

9.2.6 Installation must not be carried out during wet weather (eg rain, fog or snow) nor when the temperature is below 0°C, unless suitable precautions against surface condensation are taken in accordance with the Certificate holder's instructions.

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

9.2.8 When installed fully bonded, an appropriate bituminous AVCL must be installed on to a dry, clean deck.
9.2.9 An appropriate insulation adhesive is applied to the substrate in 5 mm beads at 300 mm centres in the centre of the roof area and 150 mm beads in the perimeter areas.

9.2.10 The tissue-faced thermal insulation boards are laid in a staggered bond pattern onto the adhesive, whilst applying pressure to the board. Only the insulation that can be waterproofed on the day must be laid.

9.2.11 The membrane is then rolled out loose over the insulation board ensuring that the membrane is running straight and the selvedge is lapped correctly.

9.2.12 StrataPlan GF Membrane Adhesive must be applied to the insulation/substrate at a rate of no more than 4 m^2 per litre.

9.2.13 The solvents must be allowed to evaporate from the adhesive layer for a minimum of five minutes. The membrane must be laid into the wet adhesive within 5 to 10 minutes and consolidated within the next 10 to 20 minutes. Pressure must be applied to roll the membrane into the StrataPlan GF Membrane Adhesive by using a roller or a soft brush.

9.2.14 When installed loose-laid and ballasted over a rough substrate a layer of StrataPlan 300 gsm Separation Fleece is loose-laid over the deck prior to installation of the membranes.

9.2.15 The membranes must be unrolled over the substrate on top of any protective or isolating layer, taking care not to stretch the material and ensuring adequate overlaps for jointing (see section 9.2.11).

9.2.16 A suitable protection layer must be laid over the membrane prior to application of the ballast.

9.2.17 Loose-laid applications must be covered by at least a 50 mm depth of well-rounded gravel. In areas of high wind exposure, paving slabs set on a suitable support (eg StrataPlan Slab Pedestals) may be considered.

9.2.18 When using a loose-laid application, normal account must be taken in the design of the deck of the extra dead loading due to the weight of the aggregate and/or paving.

9.2.19 In green roof and roof garden specifications, subsequent layers such as separation layers, drainage layers and growing medium are installed in accordance with the Certificate holder's instructions. Guidance is also available within The GRO Green Roof Code — *Green Roof Code of Best Practice for the UK.*

9.2.20 When forming joints, lap joints in the membrane must be a minimum of 50 mm wide at sheet ends and details. Edge overlaps with adjacent sheets must be a minimum of 50 mm, welded over the last 40 mm as described in sections 9.2.21 and 9.2.22.

9.2.21 When hot-air welding a lap joint, a minimum of 40 mm of the lap width must be welded. The rear of the lap must be pre-welded using a heat gun and the seam closed with a silicone roller, crossing over the lap in a diagonal motion.

9.2.22 After the pre-weld, the gun nozzle is placed under the overlap, leaving 5 mm projecting. The joint is continually rolled back and forth diagonally across the edge of the lap and down the full length of the seam to produce the final homogenous weld and weatherproof seal.

9.2.23 After the welded seams have cooled, the seams must be visually checked for a thin dark line of extrusion from under the membrane and mechanically tested by running a steel hand probe along the joint by applying pressure to the seam at all times. If any weak welds are found, the membrane must be peeled back to fully open and re-welded with a hand gun.

9.2.24 The Certificate holder supplies a range of prefabricated external or internal PVC corners, pipe collars, butt-straps and cover tape for use at details.

9.2.25 The NHBC requires that the system, once installed, is inspected in accordance with *NHBC Standards* 2025, Chapter 7, Clause 7.1.11, including undergoing 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 contractors who have been trained and approved by the Certificate holder.

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 system must be the subject of six-monthly inspections and maintenance in accordance with the recommendations in BS 6229 : 2018, and the Certificate holder's own maintenance recommendations, where relevant, to ensure continued satisfactory performance. These inspections must be carried out by a suitably experienced and competent individual to ensure continued satisfactory performance. This must include an examination of the condition of the roof finishes and ensure that drain outlets and gutters are kept clear and unblocked.

9.4.3 Green roofs and roof gardens must be the subject of regular inspections, particularly in autumn after leaf fall and in spring, to ensure unwanted vegetation and other debris is cleared from the roof and drainage outlets. Guidance is available within the latest edition of *The GRO Green Roof Code of Best Practice*.

9.4.4 For green roofs, to protect the roof waterproofing and any system components above the waterproofing, such as insulation or water flow reducing layer, invasive plant species (see sections 9.1.10 and 9.1.11 of this Certificate) must be eliminated through maintenance.

9.4.5 The control and removal of invasive plant species is carried out by hand. Where this is not possible, any chemicals used, such as chemical fertilisers, must be checked for compatibility with the roof waterproofing layer and any system components above the waterproofing. The Certificate holder can advise on the suitability of a particular product, but such advice is outside the scope of this Certificate. Note, if using chemicals on a green roof or roof garden rainwater outlets may need to be disconnected from the main drainage system to prevent contamination of the local water system and/or harm to flora and fauna.

9.4.6 If a leak occurs in the roof waterproofing membrane, it must be repaired following removal of the gravel ballast, paving ballast, green roof or roof garden layer, water-flow-reducing layer and the insulation boards.

9.4.7 Where damage has occurred it must be repaired in accordance with this Certificate and the Certificate holder's instructions.

9.4.8 In the event of damage, repairs can be carried out by cleaning around the damaged area and hot air welding a new patch of membrane. The patch must have rounded corners and be larger than the damaged area by at least 50 mm in each direction.

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 membranes are delivered to site in rolls wrapped in paper, bearing the Certificate holder's name, batch number, product name, surface colour and the BBA logo incorporating the number of this Certificate.

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

11.2.1 Rolls must be stored horizontally on a clean, dry, level surface and under cover until required.

ANNEX A – SUPPLEMENTARY INFORMATION †

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).

Additional information on installation

Design

A.1 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.*

A.2 For design purposes of zero falls roofs, reference must be made to appropriate clauses in the Liquid Roofing and Waterproofing Association (LRWA) Note 7 – *Specifier Guidance for Flat Roof Falls.*

A.3 Guidance for the design and construction of blue roofs is available in the *NFRC Technical Guidance Note for the construction and design of Blue Roof – Roofs and podiums with controlled temporary water attenuation*.

A.4 Additional guidance for inverted roof specifications is given in BBA Information Bulletin No 4 *Inverted roofs – Drainage and U value corrections.*

Installation

A.5 The system may be applied over foil-faced insulation materials and fixed to the sub-structure in such a way as not to impair the performance of the waterproofing. Polystyrene-based insulation products may also be used in conjunction with a suitable isolation layer to separate the insulation from the roof covering, to reduce the risk of plasticiser migration.

Maintenance

A.6 Additional guidance on maintenance for green roofs is available within the latest edition of the GRO Green Roof Code – *Green Roof Code of Best Practice for the UK.*

Bibliography

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

BS 8000-0 : 2014 + A1 : 2024 *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 roofings — 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 + A2 : 18 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*

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

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

EN 13501-1 : 2018 *Fire classification of construction products and building elements — Classification using data from reaction to fire tests*

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- relates only to the product that is named and described on the front page
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