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Agrément Certificate
11/4871
Product Sheet 1 Issue 5

ALSAN LIQUID-APPLIED ROOF WATERPROOFING SYSTEMS

ALSAN 770

This Agrément Certificate Product Sheet(1) relates to Alsan 770, a reinforced polymethyl methacrylate waterproofing kit for use as a liquid-applied roof waterproofing on flat, pitched and protected zero fall roofs with limited access, and on flat and zero fall blue roofs with limited access.

(1) Hereinafter referred to as 'Certificate'.

The assessment includes

Product factors:

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

Process factors:

- compliance with Scheme requirements
- installation, delivery, handling and storage
- production and quality controls
- maintenance and repair

Ongoing contractual Scheme elements†:

- regular assessment of production
- formal 3-yearly review

KEY FACTORS ASSESSED

Section 1. Mechanical resistance and stability
Section 2. Safety in case of fire
Section 3. Hygiene, health and the environment
Section 4. Safety and accessibility in use
Section 5. Protection against noise
Section 6. Energy economy and heat retention
Section 7. Sustainable use of natural resources
Section 8. Durability

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

On behalf of the British Board of Agrément

Date of Fifth issue: 4 March 2024
Originally certificated on 18 November 2011

Hardy Giesler
Chief Executive Officer

This BBA Agrément Certificate is issued under the BBA's Inspection Body accreditation to ISO/IEC 17020. Sections marked with † are not issued under accreditation.

The BBA is a UKAS accredited Inspection Body (No. 4345), Certification Body (No. 0113) and Testing Laboratory (No. 0357).

Readers MUST check that this is the latest issue of this Agrément Certificate by either referring to the BBA website or contacting the BBA directly.

The Certificate should be read in full as it may be misleading to read clauses in isolation.

Any photographs are for illustrative purposes only, do not constitute advice and should not be relied upon.

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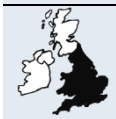
SUMMARY OF ASSESSMENT AND COMPLIANCE

This section provides a summary of the assessment conclusions; readers should refer to the later sections of this Certificate for information about the assessments carried out.

Compliance with Regulations

Having assessed the key factors, the opinion of the BBA is that Alsan 770, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements of the following Building Regulations:



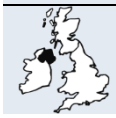
The Building Regulations 2010 (England and Wales) (as amended)

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 suitable substructures, 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 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 system can satisfy the requirements of this Regulation. See sections 8 and 9 of this Certificate.
Regulation:	**9**	**Building standards - construction**
Standard:	2.8	Spread from neighbouring buildings
Comment:		The system, when applied to a suitable substructure, may enable a roof to be unrestricted by clause 2.8.1[(1)(2)] of this Standard. See section 2 of this Certificate.
Standard:	3.10	Precipitation
Comment:		The system will enable a roof to satisfy the requirements of this Standard, with reference to clauses 3.10.1[(1)(2)] and 3.10.6[(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 - conversions**
Comment:		Comments in relation to 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)(ii) (iii)(iv)(b)(i)**	**Fitness of materials and workmanship**
Comment:		The system is acceptable. See sections 8 and 9 of this Certificate.
Regulation:	**28(b)**	**Resistance to moisture and weather**
Comment:		The system will enable a roof to satisfy the requirements of 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 suitable substructures, the system may enable a roof to be unrestricted by this Regulation. See section 2 of this Certificate.

Additional Information

NHBC Standards 2023

In the opinion of the BBA, Alsan 770, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards*, Chapter 7.1 *Flat roofs, terraces and balconies*.

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

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

Fulfilment of Requirements

The BBA has judged ALSAN 770 to be satisfactory for use as described in this Certificate. The system has been assessed as a liquid-applied roof waterproofing on flat, pitched and protected zero fall roofs with limited access, and on flat and zero fall blue roofs with limited access.

ASSESSMENT

Product description and intended use

The Certificate holder provided the following description for the system under assessment. Alsan 770 consists of:

- Alsan 770 — a polymethyl methacrylate (PMMA) waterproofing component
- Alsan 770 TX — a thixotropic version, for use in detailing at upstands, corners, connections and other details
- Alsan RS Fleece — a polyester fleece, for use as a reinforcement in the system
- Alsan Fleece 110P — a perforated polyester fleece, for use as a reinforcement in the system
- Alsan 172 — a primer based on a two-part reactive polymethyl methacrylate, for the preparation of asphaltic and bituminous substrates
- Alsan 170 — a primer based on a two-part reactive polymethyl methacrylate, for the preparation of absorbent substrates such as concrete, screeds and timber
- Alsan CAT — a peroxide powder catalyst component that triggers the curing reaction of ALSAN PMMA resins

Ancillary Items

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:

- Alsan 870 RS self-levelling mortar — for use in levelling rough substrates of less than 10 mm depth, levelling of gradients, and as additional protection in heavily trafficked areas
- Alsan 072 RS mortar — for use in levelling rough substrates of greater than 10 mm depth and levelling of gradients
- Alsan 970 F — pigmented surface sealant, based on polymethyl methacrylate
- Alsan Deco Chips — stone chips, available in black, grey and white, for use as a decorative surface sealant coat
- Alsan 972 F — a surface finish, based on polymethyl methacrylate
- Alsan Joint (sliding) Tape — for use in providing a bond breaker at expansion/construction joints
- Alsan 074 — for use in filling small cracks and areas of joints in the substrates
- Alsan 076 Cleaner — for use in cleaning the substrate prior to the installation of the system
- Alsan 075 — a thixotropic and fibre-filled PMMA-based waterproofing product for sealing minor penetrations, eg screws
- Alsan 171 — a PMMA primer for mixed substrate applications
- Alsan 103 — a single-component thermoplastic polyolefin (TPO) primer for PMMA applications
- Alsan 104 — a single-component metal primer for PMMA applications
- Alsan 176 — a scratch-filling PMMA primer for porous substrates
- Alsan 970 FT — a transparent PMMA resin seal
- Alsan 971 F — a PMMA primer textured coating
- Alsan 973 F — a white reflective layer for the Alsan PMMA Reflect Roof system
- Aquadere — cold-applied bitumen emulsion primer
- Sopraboard – bituminous protection board reinforced with glass mat
- Sopravap Stick A15 — a self-adhesive styrene-butadiene-styrene (SBS) modified bitumen membrane with a composite aluminium reinforcement (polyester and aluminium)
- Sopravap Stick S16 — a self-adhesive SBS modified bitumen membrane with a composite glass grid polyester/glass fleece reinforcement
- Sopralene Stick 30 DuO — self-adhesive SBS membrane reinforced with glass fibre
- Soprabond 525 — a single-component polyurethane liquid applied adhesive
- Coltack Evolution CA or Coltack Evolution 750 — a single-component polyurethane spray-applied adhesive
- Sopratherm G — PU insulation covered with mineral coated glass fibre
- Blue Roof Filtration fleece
- Sopra XPS SL— extruded polystyrene (XPS) foam rigid thermal insulation board
- water-reducing layers
- Soprema Paving Support Pads
- quartz sand, 0.7 to 1.2 mm.

Applications

The system is suitable for use on the following substrates:

- concrete
- roofing screeds
- asphalt
- timber
- existing bitumen coatings
- existing single-ply waterproofing
- existing bitumen waterproofing membranes
- metal
- plastic
- glass.

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
- pedestrian access roof — a roof that is not subjected to vehicular traffic
- blue roofs — flat and zero fall roofs, designed to allow controlled attenuation of rain fall during heavy and storm events, as part of sustainable urban drainage systems (SUDS)(1)
- zero fall roofs — a roof having a fall which can vary between 0 and 1:80
- flat roof — a roof having a minimum finished fall of 1:80
- pitched roof — a roof having a fall in excess of 1:6.

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

Product assessment – key factors

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

1 Mechanical resistance and stability

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 systems given in Annex B of this Certificate achieved B_{ROOF}(t4) for slopes below 10°.

2.1.2 On the basis of data assessed, the systems listed in Annex B of this Certificate 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 When used in conjunction with one of the inorganic coverings listed in the Annex of Commission Decision 2000/553/EC, the system can also be considered to be unrestricted with respect to the proximity to a relevant boundary under the national Building Regulations.

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

2.2 Reaction to fire

2.2.1 The Certificate holder has not declared a reaction to fire classification to BS EN 13501-1 : 2018 for Alsan 770.

2.2.2 On the basis of data assessed, Alsan 770 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 for roof pitches of 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, the system, when used for roof 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 Northern Ireland, for systems incorporating the system in pitches greater than 70°, excluding upstands, that do not achieve the minimum Class E reaction to fire classification to BS EN 13501-1 : 2018, designers must seek guidance on the proposed use of the system from the relevant Building Control Body.

2.2.6 In Scotland, the use of the systems 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 1.

Table 1 Weathertightness results

Product assessed	Assessment method	Requirement	Result (mean)
Alsan 770 System	Watertightness by exposure to 60 kPa of water pressure for 24 hours to BS EN 1928 : 2000	No evidence of water leakage	Pass
Alsan 770 System	Water vapour transmission properties to BS EN 1931 : 2000	Value achieved	μ = 5107
Alsan 770 System(1)	Delamination from concrete to EOTA TR 004 : 2004	≥50 kPa	Pass
Alsan 770 System(1)	Delamination from a cement screed to EOTA TR 004 : 2004	≥50 kPa	Pass
Alsan 770 System(1)	Delamination from a ceramic tile to EOTA TR 004 : 2004	≥50 kPa	Pass
Alsan 770 System(1)	Delamination from a bitumen sheet (mineral surface) to EOTA TR 004 : 2004	≥50 kPa	Pass
Alsan 770 System(1)	Delamination from steel to EOTA TR 004 : 2004	≥50 kPa	Pass
Alsan 770 System(1)	Delamination from galvanized steel to EOTA TR 004 : 2004	≥50 kPa	Pass
Alsan 770 System(1)	Delamination from aluminium to EOTA TR 004 : 2004	≥50 kPa	Pass
Alsan 770 System(1)	Delamination from copper to EOTA TR 004 : 2004	≥50 kPa	Pass
Alsan 770 System(1)	Delamination from timber to EOTA TR 004 : 2004	≥50 kPa	Pass
Alsan 770 System(1)	Delamination from medium density fibreboard (MDF) to EOTA TR 004 : 2004	≥50 kPa	Pass
Alsan 770 System(1)	Delamination from oriented strand board (OSB) to EOTA TR 004 : 2004	≥50 kPa	Pass
Alsan 770 System(1)	Delamination from concrete to EOTA TR 004 : 2004 (effects of day joints)	≥50 kPa	Pass

(1) Alsan 172 was used to prime flexible substrates and Alsan 170 was used to prime non-compressible substrates.

3.1.1 On the basis of data assessed, the system will adequately resist the passage of moisture to the inside of a building and so satisfy the requirements of the national Building Regulations.

3.1.2 The adhesion of the system to the substrates given in the *Product description and intended use* section of this Certificate is sufficient to resist the effects of wind suction, thermal cycling or other minor structural movements likely to occur in service.

3.2 Resistance to mechanical damage

3.2.1 Results of resistance to mechanical damage tests are given in Table 2.

Table 2 Mechanical resistance results

Product assessed	Assessment method	Requirement	Result
Alsan 770 System	Dynamic indentation to EOTA TR 006 : 2004 (on steel)	Value achieved	
	Tested at 23°C		I_4
	Tested at -30°C		I_4
Alsan 770 System	Dynamic indentation to EOTA TR 006 : 2004 (on bitumen sheet on concrete)	Value achieved	
	Tested at 23°C		I_4
Alsan 770 System	Dynamic indentation to EOTA TR 006 : 2004 (on bitumen sheet on EPS)	Value achieved	
	Tested at 23°C		I_4
Alsan 770 System	Static indentation to EOTA TR 007 : 2004 (on steel)	Value achieved	
	Tested at 20°C		L_4
	Tested at 90°C		L_4
Alsan 770 System	Static indentation to EOTA TR 007 : 2004 (on bitumen sheet on concrete)	Value achieved	
	Tested at 20°C		L_4
Alsan 770 System	Static indentation to EOTA TR 007 : 2004 (on bitumen sheet on EPS)	Value achieved	
	Tested at 20°C		L_4
Alsan 770 System	Fatigue to EOTA TR 008 : 2004 (on concrete) 1000 cycles at -10°C	No evidence of leakage after 24 hours exposure to a 100 mm head of water. No debonding or, if any, not exceeding 75 mm in total or 50 mm on one side of the gap	Pass

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, maintenance and the effects of minor movement likely to occur in practice while remaining weathertight.

3.2.3 Where traffic in excess of the examples given in section 3.2.2 is envisaged, such as for maintenance of lift equipment, a walkway must be provided (for example, using concrete slabs supported on bearing pads). Reasonable care must be taken to avoid puncture by sharp objects or concentrated loads.

4 Safety and accessibility in use

Not applicable.

5 Protection against noise

Not applicable.

6 Energy economy and heat retention

Not applicable.

7 Sustainable use of natural resources

Not applicable.

8 Durability

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

8.2.1 Specific test data were assessed as given in Table 3.

Table 3 Results of durability tests

Product assessed	Assessment method	Requirement	Result
Alsan 770 System(1)	Delamination to EOTA TR 004 : 2004 (on concrete) Water exposure for 60 days at 60°C	≥50 kPa	Pass
Alsan 770 System	Dynamic indentation to EOTA TR 006 : 2004 (on steel) Heat aged at 80°C for 200 days Tested at -30°C	Value achieved	I_4
	UV aged (1000 MJ·m^{-2} and 60°C) Tested at -10°C		I_4
Alsan 770 System	Static indentation to EOTA TR 007 : 2004 (on steel) Water exposure for 180 days at 60°C Tested at 90°C	≥50 kPa	L_4
Alsan 770 System(1)	Fatigue to EOTA TR 008 : 2004 (on concrete) Heat aged at 80°C for 200 days (50 cycles)	No evidence of leakage after 24 hours exposure to 100 mm head of water. No debonding, or if any not exceeding 75 mm in total or 50 mm on one side of the gap	Pass

(1) Alsan 172 was used to prime flexible substrates and Alsan 170 was used to prime non-compressible substrates.

8.2.2 The tensile properties of Alsan 770 were tested after heat ageing (for 200 days at 80°C), UV ageing (1000 MJ·m^{-2} and 60°C) and water ageing (for 60 days at 60°) and compared to the tensile properties of the control samples where it was determined that there was no significant difference and therefore satisfactory.

8.3 Service life

8.3.1 Under normal service conditions, the system will have a life of at least 25 years, provided it is designed, installed and maintained in accordance with this Certificate and the Certificate holder's instructions.

8.3.2 Where the system is used in a fully protected specification and is subjected to normal service conditions, it will provide an effective barrier to the transmission of liquid water and water vapour for the design life of the roof in which it is incorporated, provided it is 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, and the following requirements apply in order to satisfy the performance assessed in this Certificate.

9.1.2 Decks to which the system is to be applied must comply with the relevant requirements of BS 6229 : 2018, BS 8217 : 2005 Sections 5.1.2 and 6.7 and, where appropriate, *NHBC Standards* 2023, Chapter 7.1. Attention is drawn to the requirements of these Standards to ensure that reinforced concrete roof slabs are finished to an acceptable standard, allow free drainage of water and are allowed to dry prior to the installation of the waterproofing. When these conditions are not met, appropriate remedial treatment is essential.

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

9.1.4 Imposed loads, dead loading and wind load specifications 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.

9.1.6 The drainage system for zero fall and blue roofs must be correctly designed, and the following points should 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.

9.1.6 Insulation materials used in conjunction with the system must be in accordance with the manufacturer's instructions and be either:

- as described in the relevant clauses of BS 6229 : 2018, or
- the subject of a current BBA Certificate and 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 in accordance with the relevant clauses of BS 8000-0 : 2014 and BS 8000-4 : 1989, the Certificate holder's instructions and this Certificate. A summary of instructions and guidance is provided in Annex A of this Certificate.

9.2.3 Substrates to which the system is to be applied must be sound, dry, clean and free from sharp projections such as nail heads and concrete nibs. Rough substrates must be made good using the appropriate levelling compound in accordance with the Certificate holder's instructions.

9.2.4 Installation must not be carried out during inclement weather (eg rain, fog or snow). When the temperature is below 5°C, suitable precautions against surface condensation on the substrate must be taken. The substrate and ambient air temperature for the application of Alsan 770 standard formulation and Alsan 770 TX must be between 0 and 35°C.

9.2.5 Expansion or construction joints must be additionally reinforced prior to the application of the main waterproofing layer in accordance with the Certificate holder's instructions.

9.2.6 Contact with skin, eyes and clothing must be avoided. The manufacturer's instructions and the relevant safety regulations for working procedures must be adhered to at all times.

9.2.7 The system components must not be allowed to get into the waste drainage system. Care must also be taken to prevent vapours entering the inside of the building, eg by closing doors and windows.

9.2.8 Once the substrate has been primed and joint treatments have cured, Alsan 770(1) resin is roll applied at an approximate application rate of 1.5 $kg \cdot m^{-2}$.

9.2.9 Alsan RS Fleece is applied into the wet resin and embedded using sheepskin rollers, ensuring any trapped air pockets are removed.

9.2.10 A further layer of Alsan 770(1) resin is immediately roll applied to the substrate at an approximate application rate of 1.0 to 1.5 $kg \cdot m^{-2}$, ensuring that the fleece is saturated. The material is spread over the entire surface using the sheepskin roller.

9.2.11 For exposed systems, once the waterproofing has cured, an additional covering layer of Alsan 770(1) is applied at an approximate application rate of 1.5 $kg \cdot m^{-2}$ and topped with 0.7 to 1.2 mm quartz sand while still wet. The excess/loose sand is be vacuumed off after the surface has hardened.

9.2.12 For loose-laid systems , once the waterproofing has cured, an additional covering layer of Alsan 770(1) is applied at an approximate application rate of 1.5 $kg \cdot m^{-2}$.

(1) Alsan 770 TX is used when applying over upstands.

9.2.13 The NHBC requires that Alsan 770, once installed, is inspected in accordance with *NHBC Standards* 2023, 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 following requirements apply in order to satisfy the performance assessed in this Certificate:

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

9.4.2.2 If minor damage occur, it must be rectified by cleaning back to unweathered material and recoating the damaged area with the membrane at the total application rate stated in section 9.2.

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 system 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 system is delivered to site in packaging bearing the Certificate holder's name, logo, system name, batch number, health and safety data.

11.2 The primer and waterproofing resin components are delivered to site in 10 kg drums. The catalyst for the resin components is supplied in a 100 g plastic bag.

11.3 Resins must be stored in ventilated, dry locations, away from heat and oxidising agents and out of direct sunlight, within a storage temperature range of 0 to 25°C.

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 CLG Regulation* and 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).

CE marking

The Certificate holder has taken the responsibility of CE marking the system in accordance with European Technical Approval ETA-12/0510 issued under ETAG 005 : 2004, Parts 1 and 4.

Management Systems Certification for production

The management system of the manufacturer has been assessed and registered as meeting the requirements of EN ISO 9001 : 2015 by SGS (Certificate FR 18/81842815).

Additional information on installation

Design

A.1 Guidance on the design of blue roofs is available in the NFRC *Technical Guidance Note for the construction and design of Blue Roofs – Roofs and podiums with controlled temporary water attenuation.*

General

A.2 Where necessary, substrate priming is carried out in accordance with the Certificate holder's instructions using a sheepskin roller.

A.3 Detailing (eg upstands), should be carried out in accordance with the Certificate holder's instructions.

A.4 Vapours from the system may cause sensitisation and irritation to the respiratory system, eyes and skin. The system should be used only in areas with sufficient ventilation to prevent the build-up of vapours.

ANNEX B – SUPPLEMENTARY INFORMATION

Supporting information in this Annex is relevant to the system.

SUBSTRATE	PRIMER (optional)	VAPOUR BARRIER (optional)	INSULATION LAYER 1	INSULATION LAYER 2 (Optional)	SEPARATION LAYER	PRIMER	WATERPROOFING LAYER	SYSTEMS[2]	FIRE REPORTS ASSESSED
Wood Particle Board (density: 680 kg·m^{-3}; thickness ≥ 16 mm) or non-combustible (A1) substrate with a density of 1850 g·m^{-3} or more	• Aquadere[1] (bituminous primer) 200 – 350 g·m^{-2}	SOPRAVAP STICK S16[1] self adhered or Sopravap Stick Alu KSD[1] or other bituminous vapour barriers with a reaction to fire classification E or better	• Sopratherm G[1] 40-140 mm thickness Coltackk CA[1] (cold applied PU adhesive) or Soprabond 525[1]	• Sopratherm G[1] 40-140 mm thickness Coltackk CA[1] (cold applied PU adhesive) or Soprabond 525	• SOPRABOARD[1] 3.2 mm thickness mechanically fastened	• Alsan 172 Roll applied application rate of 500 g·m^{-2}	• Alsan 770 Roll applied First layer: application rate of 2000 g·m^{-2} RS Fleece P embedded into the first layer Second layer: application rate of 2000 g·m^{-2}	Systems A-1[2]	20388C/D
		SOPRAVAP STICK S16[1] self adhered	• Sopratherm G[1] 40 - 140 mm thickness Coltackk CA[1] (cold applied PU adhesive) or Soprabond 525[1]	• Sopratherm G[1] 40 - 140 mm thickness Coltackk CA[1] (cold applied PU adhesive) or Soprabond 525[1]	• Sopralene Stick 30 DuO[1] 2.9 mm thickness self adhesive			Systems A-2[2]	
		—	• Sopratherm G[1] 140 mm thickness Coltackk CA[1] (cold applied PU adhesive) or Soprabond 525[1]	—	• Sopralene Stick 30 DuO[1] 2.9 mm thickness self adhesive			Systems A-3[2]	
		—	• Sopratherm G[1] 40 mm thickness Coltackk CA[1] (cold applied PU adhesive)	• Sopratherm G[1] 140 mm thickness Coltackk CA[1] (cold applied PU adhesive)	• Sopralene Stick 30 DuO[1] 2.9 mm thickness self adhesive			Systems A-4[2]	
		—	• Sopratherm G[1] 140 mm thickness Coltackk CA[1] (cold applied PU adhesive)	• Sopratherm G[1] 140 mm thickness Coltackk CA[1] (cold applied PU adhesive)	• Sopralene Stick 30 DuO[1] 2.9 mm thickness self adhesive			Systems A-5[2]	

SUBSTRATE	PRIMER (optional)	VAPOUR BARRIER (optional)	INSULATION LAYER 1	INSULATION LAYER 2 (Optional)	SEPARATION LAYER	PRIMER	WATERPROOFING LAYER	SYSTEMS[2]	FIRE REPORTS ASSESSED
Wood Particle Board (density: 680 kg·m^{-3}; thickness ≥ 16 mm) or non-combustible (A1) substrate with a density of 1850 g·m^{-3} or more	• Aquadere[1] (bituminous primer) 200 – 350 g·m^{-2}	—	• Sopratherm G[1] 40 mm thickness Coltackk CA[1] (cold applied PU adhesive)	—	• Sopralene Stick 30 DuO[1] 2.9 mm thickness self adhesive	• Alsan 172 Roll applied, application rate of 500 g·m^{-2}	• Alsan 770 Roll applied First layer: application rate of 2000 g·m^{-2} RS Fleece P embedded into the first layer Second layer: application rate of 2000 g·m^{-2}	Systems A-6[2]	20388C/D
		—	• Sopratherm G[1] 40 mm thickness Coltackk CA[1] (cold applied PU adhesive)	—	• Sopralene Stick 30 DuO[1] 2.9 mm thickness self adhesive			Systems A-7[2]	20388C/D
		—	• Sopratherm G[1] 40 mm thickness Soprabond 525[1] (liquid PU adhesive)	—	• Sopralene Stick 30 DuO[1] 2.9 mm thickness self adhesive			Systems A-8[2]	
Fibre cement board (density: 1850 kg·m^{-3} ; thickness ≥ 8 mm)		—	• Sopratherm G[1] 40 mm thickness Soprabond 525[1] (liquid PU adhesive)	—	• Sopralene Stick 30 DuO[1] 2.9 mm thickness self adhesive			Systems A-9[2]	

(1) This component is outside the scope of this Certificate.

(2) An independently tested system within the classification report 20388C, conducted by Warrington Fire.

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