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## Agrément Certificate

09/4668

Product Sheet 4 Issue 7

### SIKA WATERPROOFING MEMBRANES

### SIKAPLAN G AND VG MECHANICALLY FASTENED MEMBRANES

This Agrément Certificate Product Sheet<sup>(1)</sup> relates to Sikaplan G and VG Mechanically Fastened Membranes, a range of polyvinyl chloride (PVC) sheets for use as waterproofing layers on pitched, flat and curved roofs of less than 20 m radius 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 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 Seventh issue: 11 November 2024

Originally certificated on 3 June 2009

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 the Sikaplan G and VG Mechanically Fastened 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 Building Regulations 2010 (England and Wales) (as amended)

<b>Requirement:</b>	<b>B4(1)</b>	<b>External fire spread</b>
<b>Comment:</b>	The products are restricted by this Requirement in some circumstances. See section 2 of this Certificate.	
<b>Requirement:</b>	<b>B4(2)</b>	<b>External fire spread</b>
<b>Comment:</b>	When applied to suitable substructures, the products may enable a roof to be unrestricted by this Requirement. See section 2 of this Certificate.	
<b>Requirement:</b>	<b>C2(b)</b>	<b>Resistance to moisture</b>
<b>Comment:</b>	The products, including joints, will enable a roof to satisfy this Requirement. See section 3 of this Certificate.	
<b>Regulation:</b>	<b>7(1)</b>	<b>Materials and workmanship</b>
<b>Comment:</b>	The products are acceptable. See sections 8 and 9 of this Certificate.	



#### The Building (Scotland) Regulations 2004 (as amended)

<b>Regulation:</b>	<b>8(1)(2)</b>	<b>Fitness and durability of materials and workmanship</b>
<b>Comment:</b>	The use of the products satisfies the requirements of this Regulation. See sections 8 and 9 of this Certificate.	
<b>Regulation:</b>	<b>9</b>	<b>Building standards – construction</b>
<b>Standard:</b>	<b>2.8</b>	<b>Spread from neighbouring buildings</b>
<b>Comment:</b>	The products, when used with a suitable surface protection, may enable a roof to be unrestricted by this Standard with reference to clause 2.8.1 <sup>(1)(2)</sup> . See section 2 of this Certificate.	
<b>Standard:</b>	<b>3.10</b>	<b>Precipitation</b>
<b>Comment:</b>	The products, including joints, will enable a roof to satisfy the requirements of this Standard with references to clauses 3.10.1 <sup>(1)(2)</sup> and 3.10.7 <sup>(1)(2)</sup> . See section 3 of this Certificate.	
<b>Standard:</b>	<b>7.1(a)</b>	<b>Statement of sustainability</b>
<b>Comment:</b>	The products 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.	
<b>Regulation:</b>	<b>12</b>	<b>Building standards – conversion</b>
<b>Comment:</b>	Comments given for the products under Regulation 9, Standards 1 to 6, also apply to this Regulation, with reference to clause 0.12.1 <sup>(1)(2)</sup> and Schedule 6 <sup>(1)(2)</sup>	

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).



## The Building Regulations (Northern Ireland) 2012 (as amended)

<b>Regulation:</b>	<b>23(1)(a)(i)</b>	<b>Fitness of materials and workmanship</b>
<b>Comment:</b>	<b>(iii)(b)(i)</b>	The products are acceptable. See sections 8 and 9 of this Certificate.
<b>Regulation:</b>	<b>28(b)</b>	<b>Resistance to moisture and weather</b>
<b>Comment:</b>		The products, including joints, will enable a roof to satisfy this Regulation. See section 3 of this Certificate.
<b>Regulation:</b>	<b>36(a)</b>	<b>External fire spread</b>
<b>Comment:</b>		The products are restricted by this Regulation in some circumstances. See section 2 of this Certificate.
<b>Regulation:</b>	<b>36(b)</b>	<b>External fire spread</b>
<b>Comment:</b>		On a suitable substructure, the products may enable a roof to be unrestricted by the requirements of this Regulation. See section 2 of this Certificate.

## Additional Information

### NHBC Standards 2024

In the opinion of the BBA, the Sikaplan G and VG Mechanically Fastened 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, terraces and balconies*.

In addition, in the opinion of the BBA, the products, 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 products.

The *NHBC Standards* do not cover the refurbishment of existing roofs.

## Fulfilment of Requirements

The BBA has judged the Sikaplan G and VG Mechanically Fastened Membranes to be satisfactory for use as described in this Certificate. The products have been assessed as mechanically fastened PVC membranes for use as waterproofing layers on pitched, flat and curved roofs of less than 20 m radius with limited access.

## ASSESSMENT

### Product description and intended use

The Certificate holder provided the following description for the products under assessment. The Sikaplan G and VG Mechanically Fastened Membranes are PVC roof waterproofing membranes reinforced with polyester.

The products have the nominal characteristics given in Table 1.

*Table 1 Nominal characteristics of Sikaplan G and VG Mechanically Fastened Membranes*

Characteristic (unit)	Sikaplan G		Sikaplan VG
Thickness (mm)	1.8	1.5	1.5
Mass per unit area (kg·m <sup>-2</sup> )	2.2	1.9	1.9
Roll length (m)	20	15	15
Roll width (m)	1.54	2.0	2.0
Colour			
upper	light grey, white	light grey, white	lead grey
lower	grey	grey	grey

#### Ancillary items

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

- proprietary pressure plates — manufactured from either plastic or galvanized steel, used to secure the membranes against wind uplift forces by positioning the fixing along the edge of the sheet through the membrane, insulation and into the decking
- proprietary pressure plate systems with their appropriate fasteners — for mechanical fixing of the products
- Sika-L100 Cleaning Agent — an ethyl acetate-based solution for the cleaning of heavily soiled membrane prior to welding.

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

- Sikaplan WBP — a walkway, to define the walkway routes
- Sika S-Vap 500E Vapour Check — an air and vapour control layer (AVCL)
- S Vap HD SA — a self-adhered AVCL.
- Sikaplan Metal Sheets — Used to produce profiles for perimeter flashings, connections and fixings
- SikaShield VB E71 PESa — a self-adhered AVCL.

#### Applications

The products are intended for use as roof waterproofing membrane in the following specifications:

- mechanically fixed roof waterproofing on pitched, flat and curved roofs of less than 20 m radius and with limited access
- applied to vertical surfaces up to 1 m.

#### Definitions for products and applications inspected

- 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
- pitched roof — a roof having a fall in excess of 1:6.

## **Product assessment – key factors**

The products were 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 given in Table 2 achieved B<sub>ROOF</sub>(t4) for slopes below 10°:

**Table 2 Systems given B<sub>ROOF</sub>(t4) classification**

Layer	System 2 <sup>(1)</sup>	System 3 <sup>(2)</sup>
Substrate <sup>(4)</sup>	Plywood of thickness ≥ 18 mm of density 670 kg·m <sup>-3</sup>	Plywood of thickness ≥ 18 mm
AVCL <sup>(4)</sup>	Sikaplan S-Vap 500E Vapour Check	Sikaplan S-Vap 500E Vapour Check
Insulation board fixing method <sup>(4)</sup>	Mechanical fastening	Mechanical fastening
Insulation <sup>(4)</sup>	A 255 mm, two layer Rockwool mineral fibre, density 30 kg·m <sup>-3</sup>	100 mm PIR
Membrane fixing method	Mechanically fastening	Mechanical fastening
Membrane	Sikaplan G Membrane thickness 1.5 mm	Sikaplan VG Mechanically Fastened Membrane thickness 1.5 mm

(1) Classification report reference P124846-1001, conducted by BRE Global Ltd, available from the Certificate holder on request.

(2) Classification report reference 288586-3, conducted by BRE Global Ltd, available from the Certificate holder on request.

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

2.1.2 When tested to BS 476-3 : 2004, the following construction<sup>(1)</sup> given below achieved an external fire spread classification of EXT.F.AC:

**Table 3 System tested to BS 476-3 : 2004**

Substrate <sup>(2)</sup>	AVCL <sup>(2)</sup>	Insulation board fixing method <sup>(2)</sup>	Insulation <sup>(2)</sup>	Membrane fixing method	Membrane
≥ 18 mm plywood of density 590 kg·m <sup>-3</sup>	0.16 Sika S-Vap 500E Vapour Check	Mechanically fastened	100 mm foil faced foam	Mechanically fastened	Sikaplan G 1.5 mm
≥ 18 mm plywood	0.16 Sika S-Vap 500E Vapour Check	Thermally broken insulation washers and fasteners	90 mm foil faced foam	Thermally broken 'in seam' lap fasteners	Sikaplan G 1.2 mm

(1) Fire test report reference 291179-1, conducted by BRE Global, available from the Certificate holder on request

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

2.1.3 On the basis of data assessed, the constructions given in Tables 2 and 3 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.

2.1.4 The designation and permissible areas of use of other specifications must be established 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 declared a reaction to fire classification of Class E<sup>(1)</sup> to BS EN 13501-1 : 2018 for Sikaplan G-15 and G-18 . The Certificate holder has not declared a reaction to fire classification for Sikaplan VG.

(1) Test report and classification reports reference EUI-22-000312-C and EUI-22-SFB--000312-C, conducted by EFACTIS UK/Ireland Limited, available from the Certificate holder on request.

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

2.2.3 In England, the products, when used in pitches greater than 70°, excluding upstands, must not be used less than 1 m from a 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 product, when used in pitches greater than 70°, excluding upstands, must not be used less than 1 m from a relevant boundary, or on 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 products 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 4.

<i>Table 4 Weathertightness</i>			
Product assessed	Assessment method	Requirement	Result
Sikaplan G/VG	Water vapour permeability to BS 3177 : 1959	Value achieved	2.01 g·m <sup>-2</sup> ·day <sup>-1</sup>
Sikaplan G/VG	Water vapour resistance to BS 3177 : 1959	Value achieved	102 MN·s·g <sup>-1</sup>
Sikaplan G/VG	Watertightness to MOAT 27 : 5.1.4 : 1983	No leakage	Pass
Sikaplan G/VG	Tensile strength of joints to MOAT 27 : 4.17.1 : 1983	Break outside joint area or equal to tensile strength of membrane	Pass
Sikaplan G/VG	Peel resistance of joints to MOAT 29 : 4.17.2 : 1984	≥ 150 N·(50 mm) <sup>-1</sup>	Pass
Sikaplan G/VG	Air pressure of joints to MOAT 27 : 1983	No leakage at 10 kPa	Pass
Sikaplan G	Dynamic wind uplift to MOAT 27 : 5.1.2 1983	Value achieved	6 kPa

3.1.2 On the basis of data assessed, the products, including joints, when completely sealed and consolidated, will adequately resist the passage of moisture to the interior of a building and so satisfy the requirements of the national Building Regulations.

3.1.3 The products will resist the effects of wind suction likely to occur in practice and remain weathertight.

3.1.4 The resistance to wind uplift of a mechanically fastened waterproofing layer is provided by the fasteners passing through the membranes into the substrate. The number and position of fixings will depend on a number of factors including:

- wind uplift forces to be restrained
- pull-out strength of the fasteners
- tensile properties of the membranes
- appropriate calculation of safety factors.

3.1.5 The wind uplift forces must be calculated by a suitably competent and experienced individual in accordance with BS EN 1991-1-4 : 2005 and its UK National Annex. On this basis, the number of fixings required must be established using a maximum permissible load of 0.40 kN per fixing.

### 3.2 Resistance to mechanical damage

3.2.1 Results of resistance to mechanical damage tests are given in Table 5.

Table 5 Resistance to mechanical damage			
Product assessed	Assessment method	Requirement	Result
Sikaplan G/VG - on perlite - on expanded polystyrene (EPS) insulation	Dynamic indentation to MOAT 27 : 5.1.10 : 1983	Value achieved	I <sub>3</sub>
			I <sub>4</sub>
Sikaplan G/VG - on concrete - on EPS insulation	Static indentation to MOAT 27 : 5.1.9 : 1983	Value achieved	L <sub>4</sub>
			L <sub>4</sub>
Sikaplan G/VG	Tensile strength to MOAT 29 : 4.8 : 1984 Longitudinal direction Transverse direction	Value achieved	1400 N·(50 mm) <sup>-1</sup>
			1250 N·(50 mm) <sup>-1</sup>
Sikaplan G/VG	Elongation to MOAT 29 : 4.8 : 1984 Longitudinal direction Transverse direction	Value achieved	23.8%
			21.3%
Sikaplan G/VG	Tear strength to BS 2782-3 : 360B : 1970 Longitudinal direction Transverse direction	Value achieved	164 mm <sup>-1</sup>
			145·mm <sup>-1</sup>
Sikaplan G/VG	Low temperature flexibility to MOAT 29 : 4.14 : 1984	≤ -25°C	Pass

3.2.2 On the basis of data assessed, the products 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 roof-mounted plant or for regular access to plant rooms, walkways must be provided (eg using concrete slabs supported on bearing pads). The advice of the Certificate holder must be sought on the most appropriate method to be used but such advice and products are outside the scope of this Certificate.

3.2.4 The products are capable of accepting minor structural movement while remaining weathertight.

## 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 products comprise PVC and glass, which can be recycled.

## 8 Durability

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

8.2 Specific test data were assessed as given in Table 6.

<i>Table 6 Results of durability tests</i>			
Product assessed	Assessment method	Requirement	Result
Sikaplan G/VG	Low temperature flexibility to MOAT 29 : 4.14 : 1984 After heat ageing at 80°C for 180 days	$\leq -25^{\circ}\text{C}$	Pass
	After UV ageing for 1500 light hours QUV 313 lamps, cycle 4 hours UV at 45°C, 4 hours condensation at 40°C		Pass
Sikaplan G/VG	Unrolling at low temperature to MOAT 27 : 5.4.3 : 1983	No damage to membrane when unrolled at 0°C	Pass
Sikaplan G/VG	Tensile strength to MOAT 29 : 4.8 : 1984 After heat ageing at 80°C for 180 days Longitudinal direction	No significant loss of properties after ageing	Pass
	Transverse direction		Pass
	After water soak at 20°C for 180 days Longitudinal direction		Pass
	Transverse direction		Pass
Sikaplan G/VG	After UV ageing for 1515 light hours QUV 313 lamps, cycle 4 hours UV at 45°C, 4 hours condensation at 40°C Longitudinal direction		Pass
	Transverse direction		Pass
	Elongation to MOAT 29 : 4.8 : 1984 After heat ageing at 80°C for 180 days Longitudinal direction	No significant loss of properties after ageing	Pass
	Transverse direction		Pass
Sikaplan G/VG	After water soak at 20°C for 180 days Longitudinal direction		Pass
	Transverse direction		Pass
	UV aged for 1515 light hours QUV 313 lamps, cycle 4 hours UV at 45°C, 4 hours condensation at 40°C Longitudinal direction		Pass
	Transverse direction		Pass
Sikaplan G/VG	Tensile strength of joints to MOAT 27 : 5.2.2 : 1983 After heat ageing at 80°C for 28 days	No significant loss of properties after ageing	Pass
	After water immersion at 60°C for 7 days		Pass
Sikaplan G/VG	Resistance to peel to MOAT 27 : 5.1.3 : 1983 After heat ageing at 80°C for 28 days	No significant loss of properties after ageing	Pass



8.3 Visits to existing sites were carried out to assess the long-term performance of a representative related products in use. The conclusion of the visits was that the products retained sufficient physical characteristics to maintain their intended function.

#### 8.4 Service life

Under normal service conditions, the products will have a life in excess of 35 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 satisfy the performance assessed in this Certificate.

9.1.2 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 2024*, 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 The products must not be laid directly onto certain materials, eg reinforced bituminous membranes, polystyrene insulation boards or timber substrates which have been impregnated with oil-based preservatives. If contact with such products is likely, a separating layer must be used. Where doubt arises, the advice of the Certificate holder must be sought, but such advice is outside the scope of this Certificate.

9.1.5 Insulation systems or materials used in conjunction with the products must be approved by the Certificate holder and 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 limitations 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 products must be carried out in accordance with the relevant clauses of the Certificate holder's instructions, BS 8000-0 : 2014 and BS 8000-4 : 1989, and this Certificate.

9.2.3 The products must be laid in conditions normal to roofing work and must not be laid in wet or damp weather, or at temperatures below 5°C, unless suitable precautions are taken.

9.2.4 Deck surfaces must be clean, dry and free from sharp projections such as nail heads and concrete nibs.

9.2.5 The requirement of an AVCL must be established in accordance with BS 6229 : 2018 and the Certificate holder's instructions.

9.2.6 The products may be applied over insulation boards, provided the insulation material has been fixed to the substructure by methods that will not impair the performance of the products. EPS or extruded polystyrene (XPS) insulation boards require a suitable isolating layer to prevent the risk of plasticiser migration. The boards must be firm, of uniform density and, where appropriate, capable of spanning the deck flute space under foot traffic

9.2.7 The products must be unrolled over the substrate, on top of any protective or isolating layer, taking care to remove any folds or ripples. The edge overlap with adjacent sheets must be a minimum of 100 mm.

9.2.8 The position of the fixing elements and the number of fixings required must be in accordance with the specifications and the Certificate holder's instructions.

9.2.9 When pressure plates are used, the products must be fixed in the joint overlaps. The plates must be installed with their longitudinal side parallel to the outer edge of the membrane sheet, a minimum of 10 mm from the edge. The adjacent sheet is overlapped by a minimum of 100 mm width and jointed with a hot-air weld in accordance with the Certificate holder's instructions.

9.2.10 At the edges, the products must be fixed with mechanical fixings or solvent, or hot-air welding to laminated profiles and lap jointed as described.

9.2.11 At upstands, the products must be welded to laminated profiles, mechanically fixed or bonded with Sarnacol 2170.

9.2.12 Solvent welding must be carried out using Sika THF Welding Agent in accordance with the Certificate holder's instructions. These products have a low flashpoint and, where they are to be used in enclosed spaces, adequate ventilation must be provided.

9.2.13 The lap joint areas on both sheets must be cleaned to a minimum width of 50 mm and then dried.

9.2.14 Both surfaces are coated with Sika THF Welding Agent, to a minimum width of 30 mm and welded together. The welded laps are consolidated by the application of firm, even pressure to ensure a watertight seal.

9.2.15 All seams must be tested at least 15 minutes after welding using a metal probe drawn along the seam edge to confirm the integrity of the welded areas.

9.2.16 Finally, all laps must have a bead of Sika PVC Solution applied to the exposed edge and injected into voids to close capillaries.

9.2.17 Hot-air welding can be carried out by automatic or hand-operated hot-air welding machines, with a temperature set in accordance with the Certificate holder's instructions.

9.2.18 If the surface has become badly contaminated, lap joint areas on both sheets must be cleaned, using a cleaning product recommended by the Certificate holder, but such products are outside the scope of this Certificate.

9.2.19 The welded area in the seam must not be less than 40 mm wide. When using a hand-held welding machine, the seam must be rolled immediately using a seam roller.

9.2.20 All seams must be tested, at least 15 minutes after welding, with a metal needle drawn along the seam edge to highlight poorly welded areas. These must be rectified immediately using hot-air welding techniques.

9.2.21 A range of flashing profiles and shapes can be fabricated from metal sheets for application to parapet, edge and gully details. These are mechanically fixed to the substructure and the products are continuously welded to them.

9.2.22 The NHBC requires that the products, once installed, are inspected in accordance with *NHBC Standards 2024*, Chapter 7.1, Clause 7.1.11, and undergo an appropriate integrity test, where required. Any damage to the products assessed in this Certificate must be repaired in accordance with section 9.4 of this Certificate and reinspected, in order to maintain product performance.

### 9.3 Workmanship

Practicability of installation was assessed by the BBA on the basis of the Certificate holder's information and a site visit to witness an installation in progress. To achieve the performance described in this Certificate, installation of the products 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 products in use requires that they are 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 achieve the performance assessed in this Certificate:

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

9.4.3 In the event of damage, repairs must be carried out in accordance with the Certificate holder's instructions. Repairs are made by applying a patch of the products extending at least 50 mm beyond the defect. The damaged area must be cleaned back to the unweathered material and the patch hot-air or solvent welded to the product.

## 10 **Manufacture**

10.1 The production processes for the products 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 products are delivered to site in rolls on pallets either with a corrugated cardboard outer or wrapped in polythene film. The wrapper bears the Certificate holder's name, product identification, roll width and length, colour and the BBA logo incorporating the number of this Certificate.

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

11.2.1 Rolls must be stored horizontally under cover and on a clean, level surface in a dry environment. Pallets must not be stacked more than three high.

11.2.2 Ancillary products must be stored in a similar environment.

## ANNEX A – SUPPLEMENTARY INFORMATION †

Supporting information in this Annex is relevant to the products 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 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).

### CE marking

The Certificate holder has taken the responsibility of CE marking the products in accordance with harmonised European Standard EN 13956 : 2012.

### Management Systems Certification for production

The management system of the manufacturer has been assessed and registered as meeting the requirements of DIN EN ISO 9001 : 2015 by SQS (Certificate 31982).

The products are manufactured in Switzerland and marketed in the UK by the Certificate holder.

### Registered Contractor Scheme<sup>(1)</sup>

The Certificate holder operates a Registered Contractor Scheme for the products under which contractors are trained, registered and regularly reviewed by the Certificate holder to demonstrate that they are competent to carry out installation in accordance with this Certificate. Details of Registered Contractors are available from the Certificate holder. Registered Contractors are responsible for each installation of the products they undertake.

(1) The Certificate holder's records relating to the Registered Contractors Scheme will be audited annually by the BBA as part of its programme of surveillance.

### Additional information on installation

A.1 The guidance given in 2020 SPRA Single Ply Design Guide (S1/2020) must be followed during installation.

## Bibliography

- BS 476-3 : 2004 *Fire tests on building materials and structures — Part 3 : Classification and method of test for external fire exposure to roofs*
- BS 2782-3 : 1970 *Methods of testing plastics — Method 308 tear strength*
- BS 3177 : 1959 *Method for determining the permeability of water vapour of flexible sheet materials used for packaging*
- 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 site — Code of practice for waterproofing*
- BS 8217 : 2005 *Reinforced bitumen membranes for roofing — Code of practice*
- 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 13501-1 : 2018 *Fire classification of construction products and building elements — Classification using data from reaction to fire tests*
- CEN/TS 1187 : 2012 *Test methods for external fire exposure to roofs*
- DIN EN ISO 9001 : 2015 *Quality management systems — Requirements*
- EN 13501-5 : 2016 *Fire classification of construction products and building elements — Classification using data from external fire exposure to roofs test*
- EN 13956 : 2012 *Flexible sheets for waterproofing — Plastic and rubber sheets for roof waterproofing — Definitions and characteristics*
- MOAT 27 : 1983 *UEAtc General Directive for the Assessment of Roof Waterproofing Systems*
- MOAT 29 : 1984 *UEAtc Directives for the Assessment of Roofing Systems using PVC sheets without reinforcement, loose laid under heavy protection and not compatible with bitumen*

## Conditions of Certificate

### 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 marking and 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.

#### British Board of Agrément

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