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Agrément Certificate

19/5682

Product Sheet 1 Issue 2

SIKA WATERPROOFING SYSTEMS

SIKASHIELD HOT MELT STRUCTURAL WATERPROOFING SYSTEM

This Agrément Certificate Product Sheet⁽¹⁾ relates to the SikaShield Hot Melt Structural Waterproofing System⁽²⁾, a hot-applied reinforced polymer-modified bitumen, applied in two layers, for use as a protected waterproofing system on flat (including those with zero fall), inverted and other protected roofs, including green roofs and roof gardens.

(1) Hereinafter referred to as 'Certificate'.

(2) SikaShield is a registered trademark.

The assessment includes

Product factors:

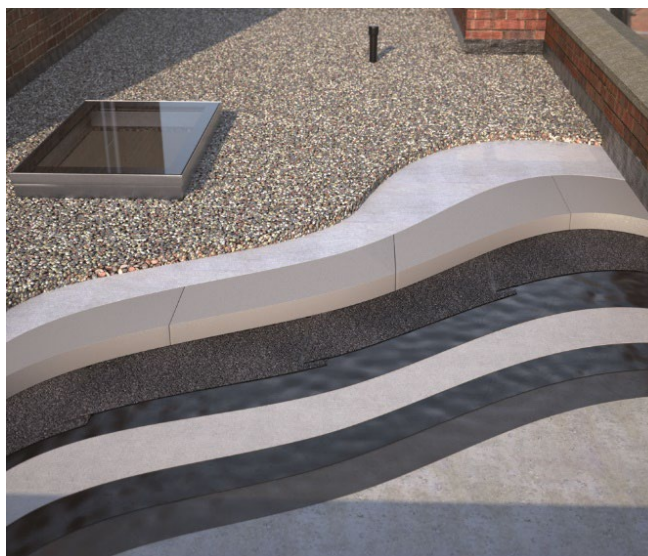
- compliance with Building Regulations
- compliance with additional regulatory or non-regulatory information where applicable
- evaluation against technical specifications
- assessment criteria and technical investigations
- uses and design considerations

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 Second issue: 27 April 2023

Originally certificated on 21 February 2020

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 SikaShield Hot Melt Structural Waterproofing 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(2)	External fire spread
Comment:		Roofs incorporating the system, when used with suitable surface protection, may be unrestricted under this Requirement. See section 2 of this Certificate.
Requirement:	C2(b)	Resistance to moisture
Comment:		The membranes can 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 the requirements of this Regulation. See sections 8 and 9 of this Certificate.
Regulation:	9	Building standards applicable to construction
Standard:	2.8	Spread from neighbouring buildings
Comment:		Roofs incorporating the system, when used with suitable surface protection, may enable a roof to be unrestricted under this Standard, with reference to clause 2.8.1 ⁽¹⁾⁽²⁾ . See section 2 of this Certificate.
Standard:	3.10	Precipitation
Comment:		The membranes can enable a roof to satisfy the requirements of 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 applicable to conversions
Comment:		All 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 membranes can enable a roof to satisfy the requirements of this Regulation. See section 3 of this Certificate.
Regulation:	36(b)	External fire spread
Comment:		Roofs incorporating the system, when used with suitable surface protection, may be unrestricted under the requirements of this Regulation. See section 2 of this Certificate.

NHBC Standards 2023

In the opinion of the BBA, the SikaShield Hot Melt Structural Waterproofing 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, 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 Standard 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 SikaShield Hot Melt Structural Waterproofing System to be satisfactory for use as a protected roof waterproofing system on flat (including those with zero fall), inverted and other protected roofs, including green roofs and roof gardens, as described in this Certificate.

ASSESSMENT

Product description and intended use

The Certificate holder provided the following description for the system under assessment. The SikaShield Hot Melt Structural Waterproofing System consists of:

- SikaShield Hot Melt 50/70 — a polymer-modified bitumen, blended with synthetic rubbers and other additives, which is hot-applied in two layers to provide a waterproofing membrane with a total thickness of 6 mm
- SikaShield Roof F-50 — a non-woven polyester reinforcement fleece with a nominal weight of 50 g·m⁻² which is embedded between the two layers of SikaShield Hot Melt 50/70
- SikaShield Roof Access Layer — a sand surfaced, glass fibre-reinforced SBS-modified bitumen access layer with a nominal weight of 1.8 kg·m⁻², for use as a protection membrane
- SikaShield Hot Melt Cap Sheet — a mineral surfaced, polyester base coated with SBS-modified bitumen membrane with a nominal weight of 4.8 kg·m⁻², for use as a protection membrane for areas exposed to UV.

Ancillary Items

The following ancillary items must be used with the system and have been assessed with the system:

- Sika Igoflex P-15 UK — a cold-applied, solvent-based bitumen solution primer for use on concrete and other porous substrates prior to the application of the SikaShield Hot Melt Structural Waterproofing System
- SikaShield Hot Melt Root Barrier — a torch-on, SBS-modified bitumen waterproofing membrane with root-resistant properties, for use in roof garden applications.

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:

- drainage membranes
- expansion joint systems

- extruded polystyrene (XPS) insulation boards
- other protection boards or membranes
- mastic asphalt screed for use as a protection layer, levelling coat or to add falls
- polypropylene geotextile root barriers
- retaining profiles
- paving and other ballast
- concrete repair products
- drainage outlet components
- attenuation crates
- water-flow-reducing layers
- cold-applied membranes
- upstand boards
- EPS insulation
- sedum blanket/plug plant growing mediums
- decking
- cellular glass insulation
- Vacuum Pack Insulation (VIP)
- mastic asphalt
- PU adhesives
- drainage matts
- mineral wool insulation
- fibre particle boards.

Applications

The system is intended for use as a protected waterproofing system on flat roofs (including those with zero fall) and podiums with limited access in:

- inverted roof specifications
- protected roof specifications, eg covered by paving or other suitable protection
- green roofs (extensive) and roof garden (intensive) specifications.

Definitions for products and applications inspected

The following terms are 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
- zero fall roof — a roof having a finished fall which can vary between 0 and 1:80⁽¹⁾
- 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
- roof garden (intensive) — a roof with a substantial layer of growing medium with planting that can include shrubs and trees, 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 wild flower species.

(1) *NHBC Standards 2023* 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 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.

External fire spread

2.1 A roof incorporating the system will be unrestricted under the national Building Regulations with respect to a boundary in the following circumstances:

- protected or inverted roof specifications, including an 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 and green roofs.

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

2.3 If allowed to dry, plants used in a roof garden may allow flame spread 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.

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 tests

Product assessed	Assessment method	Requirement	Result
SikaShield Hot Melt 50/70 reinforced with SikaShield Roof F-50	Watertightness to MOAT 27 : 1983	No leakage after 24-hour exposure to 60 kPa	Pass
SikaShield Hot Melt 50/70 reinforced with SikaShield Roof F-50	Water vapour permeability to BS 3177 : 1959	Value achieved	0.21 g·m ⁻² ·day ⁻¹

3.1.2 On the basis of data assessed, the waterproofing membranes will adequately resist the passage of moisture into the interior of a building and so satisfy the relevant requirements of the national Building Regulations.

3.1.3 Results of resistance to wind uplift tests are given in Table 2.

Table 2 Wind uplift tests

Product assessed	Assessment method	Requirement	Result
Built-up system: <ul style="list-style-type: none">• Sika Igolflex P-15 UK• SikaShield Hot Melt 50/70• SikaShield Roof F-50• SikaShield Hot Melt 50/70• SikaShield Hot Melt Cap Sheet• XPS insulation• Geotextile filter layer• Retention layer• Root barrier membrane• Growing medium• Stone washed ballast	Dynamic wind uplift to EOTA TR 005 : 2003	Maximum suction pressure not causing failure of the specimen	Pass at 6.0 kPa

3.1.4 On the basis of data assessed, the SikaShield Hot Melt Structural Waterproofing System will resist the effects of wind suction, elevated temperature and thermal shock conditions likely to occur in practice and remain weathertight.

3.2 Resistance to mechanical damage

3.2.1 Results of resistance to mechanical damage tests are given in Table 3.

<i>Table 3 Resistance to mechanical damage tests</i>			
Product assessed	Assessment method	Requirement	Result
SikaShield Roof F-50	Tensile strength to BS EN 29073-3 : 1992 Longitudinal direction	Manufacturer's Declared Value \pm 20%	Pass
	Tensile strength to BS EN 29073-3 : 1992 Transverse direction		Pass
SikaShield Roof F-50	Elongation at break to BS EN 29073-3 : 1992 Longitudinal direction	Manufacturer's Declared Value \pm 15%	Pass
	Elongation at break to BS EN 29073-3 : 1992 Transverse direction		Pass
SikaShield Hot Melt 50/70 reinforced with SikaShield Roof F-50 protected with SikaShield Hot Melt Cap Sheet	Resistance to static indentation to EOTA TR 007 : 2004 on steel substrate (23 °C and 60 °C)	Static load not causing perforation	200 N Level L3
SikaShield Hot Melt 50/70 reinforced with SikaShield Roof F-50 protected with SikaShield Roof Access Layer	Resistance to static indentation to EOTA TR 007 : 2004 on steel substrate (60 °C)		150 N Level L2
SikaShield Hot Melt 50/70 reinforced with SikaShield Roof F-50 protected with SikaShield Hot Melt Cap Sheet	Resistance to dynamic indentation to EOTA TR 006 : 1999 on steel substrate (21 °C and -10 °C)	Type of indenter not causing perforation	6 mm Type I4

3.2.2 On the basis of data assessed, the SikaShield Hot Melt Structural Waterproofing System can accept, without damage, the limited foot traffic and light concentrated loads associated with installation and maintenance and the effects of minor structural movement 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 or the Certificate holder's walkway sheets). Reasonable care must be taken to avoid puncture of the membranes by sharp objects or concentrated loads.

3.2.4 When used over construction joints and minor cracks, the system can accommodate the minor structural movements likely to occur in service.

3.3 Resistance to root penetration

3.3.1 Results of resistance to root penetration tests are given in Table 4.

Product assessed	Assessment method	Requirement	Result
SikaShield Hot Melt 50/70 reinforced with SikaShield Roof F-50 protected with SikaShield Hot Melt Cap Sheet SikaShield Hot Melt Root Barrier	Resistance to root penetration to BS EN 13948 : 2007	No root penetration after two years	Pass

3.3.2 On the basis of data assessed, the system, when used with SikaShield Hot Melt Root Barrier, will resist penetration by plant roots and remain weathertight.

3.3.3 SikaShield Hot Melt Root Barrier can be used as a layer in the waterproofing system in green roof and roof garden specifications acting as the root protection layer.

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 this system were assessed.

8.2 Specific test data were assessed as given in Table 5:

Table 5 Durability tests

Product assessed	Assessment method	Requirement	Result
SikaShield Hot Melt 50/70	Flexibility at low temperature to BS EN 15813 : 2011	Lowest temperature not causing any cracking	-15°C
	Flexibility at low temperature to BS EN 15813 : 2011 Heat aged 7 days at 70°C		0°C
	Flexibility at low temperature to BS EN 15813 : 2011 Heat aged 28 days at 70°C		0°C
SikaShield Hot Melt 50/70 reinforced with SikaShield Roof F-50 protected with SikaShield Hot Melt Cap Sheet	Resistance to static indentation to EOTA TR 007 : 2004 on steel substrate (60°C) Surface water 180 days at 60°C	Static load not causing perforation	70 N Level L1
SikaShield Hot Melt 50/70 reinforced with SikaShield Roof F-50 protected with SikaShield Hot Melt Cap Sheet	Resistance to dynamic indentation to EOTA TR 006 : 1999 on steel substrate (-10°C) Heat aged 200 days at 70°C	Type of indentor not causing perforation	6 mm Type I4
SikaShield Hot Melt 50/70 reinforced with SikaShield Roof F-50	Fatigue movement to EOTA TR 008 : 2004 (1000 cycles, -10°C)	No evidence of leakage after 24-hour 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
	Fatigue movement to EOTA TR 008 : 2004 (50 cycles, -10°C) Heat aged 200 days at 70°C		Pass

8.3 Service life

Under normal service conditions, the system will have a life at least equivalent to the structure 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

The design process was assessed by the BBA and the following requirements apply in order to meet the performance assessed in this Certificate:

9.1.1 Decks to which the system is to be applied must comply with the relevant requirements of BS 6229 : 2018, BS 8217 : 2005 and, where appropriate, *NHBC Standards 2023*, Chapter 7.1.

9.1.2 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, direction of falls.

9.1.3 Structural decks to which the system is to be applied must be suitable to transmit the dead and imposed loads experienced in service. Allowance needs to be made for loading deflections to ensure that the free drainage of water is maintained.

9.1.4 Imposed loads, dead loading and wind loads must be calculated by a suitably experienced and competent individual in accordance with the principles of BS EN 1991-1-1 : 2002, BS EN 1991-1-3 : 2003, BS EN 1991-1-4 : 2005 and their UK National Annexes.

9.1.5 The drainage systems for green roofs, roof gardens, inverted roofs and zero fall 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 in accordance with the relevant clauses of BS 6229 : 2018
- dead loads for green roofs and roof gardens can increase if the drains become partially or completely blocked causing waterlogging of the drainage layer.

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

- as described in the relevant clauses of BS 6229 : 2018, or
- the subject of a current BBA Certificate and be used in accordance with, and within the limitations of, that Certificate.

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

9.1.8 The soil used in intensive plantings on roof gardens must not be of a type that will be removed, or become localised, owing to wind scour experienced on site.

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

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 must be carried out in accordance with this Certificate, the Certificate holder's instructions and the relevant clauses of BS 6229 : 2018, BS 8000-0 : 2014, BS 8000-4 : 1989, BS 8217 : 2005 and *Liquid Roofing and Waterproofing Association (LRWA) Note 7 – Specifier Guidance for Flat Roof Falls*. A summary of instructions and guidance are provided in Annex A.

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.

9.2.4 Adhesion checks must be carried out to ensure that the system is compatible with the existing surfaces. The Certificate holder must be consulted for details of suitable test methods and requirements before use.

9.2.5 Prior to the application of the waterproofing membrane, defects in the substrate such as cracks, irregularities and other areas of potential weakness must be repaired using a suitable repair mortar, and the substrate cleaned in accordance with the Certificate holder's instructions. Additional membrane may be used to fill minor depressions in the substrate.

9.2.6 Cementitious substrates must be primed with a suitable primer and allowed to dry before application of the waterproofing membrane. All substrates must be free from contamination that may affect the adhesion of the waterproofing membrane. Acceptable adhesion must be confirmed by test.

9.2.7 The waterproofing membrane must be protected using one of the protection membranes immediately after installation.

9.2.8 Detailing must be carried out in accordance with the Certificate holder's instructions.

9.2.9 The NHBC requires that the SikaShield Hot Melt Structural Waterproofing System, once installed, is inspected in accordance with *NHBC Standards 2023*, Chapter 7.1, 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 product performance.

9.3 Workmanship

Practicability of installation was assessed on the basis of the Certificate holder's information and BS 8217 : 2005. To achieve the performance described in this Certificate, installation of the system must be carried out by installers who have been trained and approved by the Certificate holder.

9.4 Maintenance and repair

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.

The following requirements apply in order to satisfy the performance assessed in this Certificate:

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

9.4.2 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 are cleared from the roof and drainage outlets (see section 9.1).

9.4.3 Any damage to the system must be repaired as soon as possible to ensure that the integrity of the waterproofing is maintained. Repairs must be carried out to reinstate the damaged area to the original specification in accordance with the Certificate holder's instructions.

9.4.4 Where maintenance or repair of any of the roof components above the waterproofing system are necessary, care must be taken to avoid damage to the system. If damage occurs, it must be repaired as soon as is practicable by the installer.

† 9.4.5 Should the system become contaminated by chemicals, oils or grease, the advice of the Certificate holder must be sought on whether any remedial action is required but such advice is outside of the scope of this Certificate.

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.

† 10.1.6 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 product name, company name and batch number.

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 should be stored upright, on a clean and level surface, away from excessive heat and kept under cover, protected from physical damage and contamination.

Supporting information in this Annex is relevant to the product 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 and/or components under the *GB CLP Regulation* and *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).

Additional information on installation

General

A.1 Soil or other bulk material should not be stored on one area of the roof prior to installation, to ensure that localised overloading does not occur.

A.2 Recommendations for the design of green roofs and roof garden specifications are available within the latest edition of *The GRO Green Roof Code – Green Roof Code of Best Practice for the UK*.

A.3 Additional guidance for inverted roof specifications is given in BBA Information Bulletin No 4 *Inverted roofs – Drainage and U value corrections*.

Procedure

A.4 SikaShield Hot Melt 50/70 must be heated in a hot melt cooker, fitted with a mechanical agitator and thermostatic controls. The product must not be subjected to direct flame during melting.

A.5 The application temperature range for the molten SikaShield Hot Melt 50/70 is 140°C to 190°C. The temperature must not exceed 220°C.

A.6 Once molten, SikaShield Hot Melt 50/70 compound should be discharged from the heater into a suitable container and applied to the roof using a long-handled squeegee.

A.7 Construction joints and cracks must be pre-treated with additional localised reinforcement as per the Certificate Holder's recommendation.

A.8 At expansion joints, a proprietary joint-sealing system must be used. The Certificate holder must be consulted for details of suitable joint systems and for the detailing of the waterproofing membrane to the joint system.

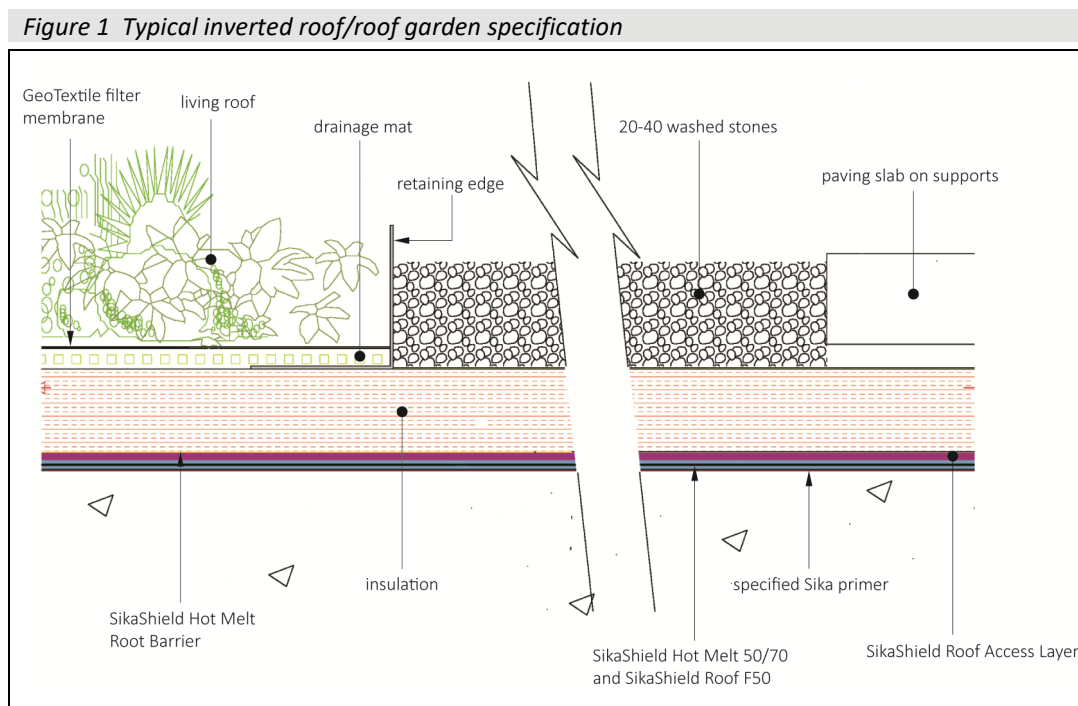
A.9 A first coat of SikaShield Hot Melt 50/70 is applied at a minimum thickness of 3 mm.

A.10 SikaShield Roof F-50 is embedded into the first layer of the membrane whilst it is still warm and tacky. Adjacent sheets of SikaShield ProMelt Fleece must be overlapped by a minimum of 75 mm.

A.11 A second layer of SikaShield Hot Melt 50/70 is then applied over the reinforced first layer at a minimum thickness of 3 mm, to provide a membrane with a minimum total thickness of 6 mm.

A.12 The system must then be immediately protected with the specified protection membrane prior to laying ballast, paving slabs or other specified surface finish in accordance with the Certificate holder's instructions.

A.13 In green roof and roof garden specifications, a layer of SikaShield Hot Melt Root Barrier anti-root membrane is applied fully bonded using traditional torching techniques and ensuring minimum 60 mm side laps and 100 mm end laps, prior to installing the specified finish. See Figure 1 for typical inverted/roof garden specifications.



Maintenance

A.14 Additional guidance on maintenance for green roofs and roof gardens is available within the latest edition of *The GRO Green Roof Code – Green Roof Code of Best Practice for the UK*.

Bibliography

- BS 3177 : 1959 *Method for determining the permeability to 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 sites — Code of practice for waterproofing*
- BS 8217 : 2005 *Reinforced bitumen membranes for roofing — Code of practice*
- BS EN 1991-1-1 : 2002 *Eurocode 1 — Actions on structures — General actions — Densities, self-weight, imposed loads for buildings*
- NA to BS EN 1991-1-1 : 2002 UK National Annex to *Eurocode 1 — Actions on structures — General actions — Densities, self-weight, imposed loads for buildings*
- BS EN 1991-1-3 : 2003 + A1 : 2015 *Eurocode 1 — Actions on structures — General actions — Snow loads*
- NA + 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*
- BS EN 1992-1-1 : 2004 + A1 : 2014 *Eurocode 2: Design of concrete structures — General rules and rules for buildings*
- NA + A2 : 14 to BS EN 1992-1-1 : 2004 + A1 : 2014 UK National Annex to *Eurocode 2 — Design of concrete structures — General rules and rules for buildings*
- BS EN 13948 : 2007 *Flexible sheets for waterproofing — Bitumen, plastic and rubber sheets for roof waterproofing — Determination of resistance to root penetration*
- BS EN 15813 : 2011 *Polymer modified bituminous thick coatings for waterproofing — Determination of flexibility at low temperatures*
- BS EN 29073-3 : 1992 *Methods of test for nonwovens — Methods of test for nonwovens — Determination of tensile strength and elongation*
- EOTA TR 005 : 2003 *Determination of the resistance to wind loads of partially bonded roof waterproofing membranes*
- EOTA TR 006 : 1999 *Determination of the resistance to dynamic indentation*
- EOTA TR 007 : 2004 *Determination of the resistance to static indentation*
- EOTA TR 008 : 2004 *Determination of the resistance to fatigue movement*
- MOAT 27 : 1983 *General directive for the assessment of roof waterproofing systems*

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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