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Agrément Certificate

09/4668

Product Sheet 1

SIKA WATERPROOFING MEMBRANES

SIKA-TROCAL S AND SG MECHANICALLY FASTENED MEMBRANES

This Agrément Certificate Product Sheet⁽¹⁾ relates to Sika-Trocral S and SG Mechanically Fastened Membranes, PVC sheets for use as waterproofing layers on pitched, flat and curved roofs with limited access.

(1) Hereinafter referred to as 'Certificate'.

CERTIFICATION INCLUDES:

- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.



KEY FACTORS ASSESSED

Weathertightness — the products, including joints, will resist the passage of moisture into the interior of a building (see section 6)

Properties in relation to fire — the products may contribute to a roof being unrestricted under the national Building Regulations (see section 7)

Resistance to wind uplift — the products will resist the effects of any wind suction likely to occur in practice (see section 8).

Resistance to mechanical damage — the products will accept, without damage, the limited foot traffic and loads associated with installation and maintenance (see section 9).

Durability — under normal service conditions, the products will provide a durable roof waterproofing with a service life in excess of 35 years (see section 11).



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

On behalf of the British Board of Agrément

Date of Fifth issue: 3 February 2021

Originally certificated on 3 June 2009

Hardy Giesler
Chief Executive Officer

The BBA is a UKAS accredited certification body – Number 113.

*The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at www.bbacerts.co.uk
Readers MUST check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA directly.*

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

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Regulations

In the opinion of the BBA, Sika-Trocal S and SG 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 presence of a UK map indicates that the subject is related to the Building Regulations in the region or regions of the UK depicted):



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

Requirement:	B4(1)	External fire spread
Comment:		The products are restricted by this Requirement in some circumstances. See section 7.3 of this Certificate.
Requirement:	B4(2)	External fire spread
Comment:		On suitable substrates, the use of the products can enable a roof to be unrestricted under this Requirement. See sections 7.1 and 7.2 of this Certificate
Requirement:	C2(b)	Resistance to moisture
Comment:		The products, including joints, will enable a roof to satisfy this Requirement. See section 6 of this Certificate.
Regulation:	7(1)	Materials and workmanship
Comment:		The products are acceptable. See section 11 and the <i>Installation</i> part of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)(2)	Durability, workmanship and fitness of materials
Comment:		Use of the products satisfies the requirements of this Regulation. See sections 10.1 and 11 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards applicable to construction
Standard:	2.6	Spread to neighbouring buildings
Comment:		The products are restricted under clause 2.6.4 ⁽¹⁾⁽²⁾ of this Standard in some circumstances. See section 7.4 of this Certificate.
Standard:	2.8	Spread from neighbouring buildings
Comment:		On suitable non-combustible substructures, the use of the products can be regarded as having low vulnerability under clause 2.8.1 ⁽¹⁾⁽²⁾ of this Standard. See sections 7.1 and 7.2 of this Certificate.
Standard:	3.10	Precipitation
Comment:		The products, including joints, will 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 6 of this Certificate.
Standard:	7.1(a)	Statement of sustainability
Comment:		The products 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:		Comments in relation to the products under Regulation 9, Standards 1 to 6, also apply to this Regulation, with reference to clause 0.12.1 ⁽¹⁾⁽²⁾ and Schedule 6 ⁽¹⁾⁽²⁾ .

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).



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

Regulation:	23(a)(i)	Fitness of materials and workmanship
Comment:	(iii)(b)(i)	The products are acceptable. See section 11 and the <i>Installation</i> part of this Certificate.
Regulation:	28(b)	Resistance to moisture and weather
Comment:		The products, including joints, can enable a roof to satisfy the requirements of this Regulation. See section 6 of this Certificate.
Regulation:	36(b)	External fire spread
Comment:		On suitable substructures, the use of the products can enable a roof to be unrestricted under this Regulation. See sections 7.1 and 7.2 of this Certificate.

Construction (Design and Management) Regulations 2015

Construction (Design and Management) Regulations (Northern Ireland) 2016

Information in this Certificate may assist the client, designer (including Principal Designer) and contractor (including Principal Contractor) to address their obligations under these Regulations.

See sections: 1 *Description* (1.1), 3 *Delivery and site handling* (3.2 and 3.4) and 14 *Procedure* (14.10) of this Certificate.

Additional Information

NHBC Standards 2021

In the opinion of the BBA, Sika-Trocal S and SG 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 and balconies*.

The NHBC Standards do not cover the use of the products in the refurbishment of existing roofs.

CE marking

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

Registered Contractors Scheme⁽¹⁾

The Certificate holder operates a Registered Contractors 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.

Technical Specification

1 Description

1.1 Sika-Trocal S is an unreinforced PVC roof waterproofing membrane, available in two thicknesses, and Sika-Trocal SG is a PVC membrane reinforced with a layer of random glass fibres. The membranes are manufactured to the nominal characteristics given in Table 1.

Table 1 Nominal characteristics

Characteristic (unit)	Sika-Trocal S		Sika-Trocal SG
Thickness (mm)	1.5	2.0	1.5
Mass per unit area (g·m ⁻²)	1.5	2.0	1.5
Roll length (m)	15, 20	15	15, 20
Roll width (m)	1.1 and 2.0	1.1 and 2.0	1.1 and 2.0
Colour			
upper	light grey, lead grey	light grey	light grey, lead grey
lower	medium grey	medium grey	medium grey
Tensile strength (N·mm ⁻²)			
longitudinal	≥ 12	≥ 12	≥ 9.5
transverse	≥ 12	≥ 12	≥ 8.5
Elongation (%)			
longitudinal	≥ 250	≥ 250	≥ 200
transverse	≥ 250	≥ 250	≥ 200
Tear resistance (N)			
longitudinal	≥ 100	≥ 100	≥ 100
transverse	≥ 100	≥ 100	≥ 100
Watertightness	pass	pass	pass
Low temperature foldability (°C)	≤ -25	≤ -25	≤ -25

1.2 Ancillary items for use with the products include:

- Sika-Trocal THF Welding Agent — tetrahydrofuran (THF) for the cold welding of laps between individual sheets and for securing the discs to the underside of the membrane
- Sika-Trocal PVC Solution — plasticised PVC dissolved in tetrahydrofuran, used for sealing lap joints
- Sika-Trocal L100 Cleaning Agent — ethyl acetate-based solution for the cleaning of heavily soiled membrane prior to welding
- Sika-Trocal Metal Discs — round washers, manufactured from Sika-Trocal Laminated Metal with a mechanical fastener through the centre, used to secure the Sika-Trocal S and SG Mechanically Fastened Membranes against wind uplift forces by welding them to the underside of the sheet. Provision has been made for the use of thermally broken types of fastener. Suitable fasteners are as recommended by the Certificate holder
- proprietary pressure plate systems with their appropriate fasteners — for mechanical fixing of the system
- Sika-Trocal Metal Sheets — 0.6 mm thick galvanized steel sheet, the upper side coated with a 0.8 mm thick layer of plasticised PVC, coloured light grey and lead grey, used to produce profiles for perimeter flashings, connections and fixings.

1.3 Other items which may be used with the products, but which are outside the scope of this Certificate, are:

- Sika-Trocal Polyester Fleece (Type T) — a needle-punched non-woven layer (300 g·m⁻²) for use as a protective and separating layer, preventing contact between the waterproofing sheets and any rough/abrasive surfaces or incompatible materials
- Sika-Trocal Polypropylene Fleece (Type A) — (300 g·m⁻²) for use as a protective and separating layer preventing contact between the waterproofing sheets and any rough/abrasive surfaces or incompatible materials, only suitable for use under membranes
- Sika-Trocal SBV — a PVC-skinned polyester fleece for use as a heavy-duty protective sheet
- Sika-Trocal WBP — a 2.0 mm thick layer of embossed plasticised PVC, to clearly define the walkway routes, available in lead grey and brick red
- Sika-Trocal HD — a heavy-duty 4.0 mm thick version of Sika-Trocal WBP, available in lead grey
- Sika-Trocal S Vap 500E Vapour Check — a polyethylene sheet, providing resistance to the passage of water vapour into the roof construction from below
- Sika-Trocal S Vap 5000E SA — a self-adhered bituminous vapour control layer
- Sika-Trocal S Vap HD SA — a self-adhered bituminous vapour control layer
- Sika-Trocal Corner Pieces — S membrane preformed corner pieces, for ensuring the waterproofing integrity of the corner detail.

2 Manufacture

2.1 Sika-Trocal S and SG Mechanically Fixed Membranes are manufactured by calendering plasticised PVC into sheets. Two calendered sheets are thermally fused into one homogeneous sheet. Sika-Trocal SG membrane has an additional centrally placed layer of random orientated glass fibres. The sheets are cut to width and reeled onto cardboard cores.

2.2 As part of the assessment and ongoing surveillance of product quality, the BBA has:

- agreed with the manufacturer the quality control procedures and product testing to be undertaken
- assessed and agreed the quality control operated over batches of incoming materials
- monitored the production process and verified that it is in accordance with the documented process
- evaluated the process for management of nonconformities
- checked that equipment has been properly tested and calibrated
- undertaken to carry out the above measures on a regular basis through a surveillance process, to verify that the specifications and quality control operated by the manufacturer are being maintained.

2.3 The management system of Sika-Trocal GmbH has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2015 by SQS (Certificate 31982).

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

3 Delivery and site handling

3.1 The membranes 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.

3.2 Rolls should be stored horizontally under cover and on a clean, level surface in a dry environment. Pallets may be stacked to a maximum of three high.

3.3 Ancillary items should be stored in a similar environment.

3.4 The Certificate holder has taken the responsibility of classifying and labelling the products under the *CLP Regulation (EC) No 1272/2008 on the classification, labelling and packaging of substances and mixtures*. Users must refer to the relevant Safety Data Sheet(s).

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Sika-Trocal S and SG Mechanically Fastened Membranes.

Design Considerations

4 General

4.1 Sika-Trocal S and SG Mechanically Fastened Membranes are satisfactory for use as mechanically fixed roof waterproofing on pitched, flat and curved roofs of less than 20 m radius and with limited access.

4.2 Sika-Trocal S membrane can be applied to vertical surfaces up to 1 m. For other applications, the Certificate holder's advice regarding the fire performance should be sought.

4.3 Limited access roofs are defined for the purpose of this Certificate as those subjected only to pedestrian traffic for maintenance of the roof covering, cleaning of gutters, etc. Where traffic in excess of this is envisaged, special precautions, such as additional protection to the membranes, must be taken.

4.4 Flat roofs are defined for the purpose of this Certificate as those having a minimum finished fall of 1:80. For design purposes, twice the minimum finished fall should be assumed, unless a detailed analysis of the roof is available,

including overall and local deflection, direction of falls, etc. Pitched roofs are defined as those having falls in excess of 1:6.

4.5 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 2021*, Chapter 7.1.

4.6 Insulation materials used in conjunction with the products must satisfy the requirements stated by the Certificate holder and must be one of the following:

- as described in the relevant clauses of BS 8217 : 2005, and/or
- the subject of a current BBA Certificate, and used in accordance with, and within the limitations of, that Certificate.

4.7 The products must not be laid directly onto certain materials, eg bituminous felts, certain insulation boards or timber substrates which have been impregnated with oil-based preservatives. If contact with such products is likely, a separating layer should be used. Where doubt arises, the advice of the Certificate holder should be sought.

5 Practicability of installation

The products must only be installed by installers who have been trained and approved by the Certificate holder. The records relating to this will be audited by the BBA as part of its programme of surveillance on the Certificate.

6 Weathertightness



The products, including joints, when completely sealed and consolidated, will adequately resist the passage of moisture into the building and enable a roof to comply with the requirements of the national Building Regulations.

7 Properties in relation to fire



7.1 The following systems will be unrestricted under the national Building Regulations:

- when classified in accordance with BS EN 13501-5 : 2016 a mechanically fastened system comprising of an 18 mm plywood deck, a layer of Sika-Trocal S-Vap 500E Vapour Check layer, an aluminium foil faced insulation board (100-140 mm) and a layer of 1.5 mm Sika Trocal membrane achieved a B_{ROOF}(t4) classification⁽¹⁾
- when classified in accordance with BS EN 13501-5 : 2016 a mechanically fastened system comprising of an 18mm plywood deck, a layer of Sika-Trocal S-Vap 500E Vapour Check layer, an aluminium foil faced insulation board (100-140 mm) and a layer of 2.0 mm Sika Trocal membrane achieved a B_{ROOF}(t4) classification⁽¹⁾
- when classified in accordance with BS EN 13501-5 : 2016 a mechanically fastened system comprising of an 18 mm plywood deck, a layer of Sika-Trocal S-Vap 500E Vapour Check layer, a double layer of aluminium foil faced insulation board (200 mm or more) and a layer of 1.5 mm Sika Trocal membrane achieved a B_{ROOF}(t4) classification⁽¹⁾
- when classified in accordance with BS EN 13501-5 : 2016 a mechanically fastened system comprising of an 18 mm plywood deck, a layer of Sika-Trocal S-Vap 500E Vapour Check layer, a double layer of aluminium foil faced insulation board (200 mm or more) and a layer of 2.0 mm Sika Trocal membrane achieved a B_{ROOF}(t4) classification⁽¹⁾
- when tested to BS 476-3 : 2004, a system comprising an 18 mm thick plywood deck, Sika-Trocal S-Vap 500E Vapour Check layer, a 145 mm thick high-density mineral fibre insulation board faced with glass fibre tissue and 1.5 mm Sika-Trocal S membrane, achieved a fire classification of EXT.F.AB⁽²⁾
- when tested to BS476 -3 : 2004, a system comprising an 18 mm thick plywood deck, Sika-Trocal S-Vap 500E Vapour Check layer, a 100 mm thick foil-faced rigid polyisocyanurate foam insulation board and 2 mm Sika-Trocal S membrane, achieved a fire classification of EXT.F.AB⁽³⁾
- when tested to BS476 -3 : 2004, a system comprising an 18 mm thick plywood deck, Sika-Trocal S-Vap 500E Vapour Check layer, a 100 mm thick foil-faced rigid polyisocyanurate foam insulation board and 2 mm Sika-Trocal S membrane, achieved a fire classification of EXT.F.AB⁽⁴⁾

- when tested to BS476 -3 : 2004, a system comprising an 18 mm thick plywood deck, Sika-Trocal S-Vap 500E Vapour Check layer, a 100 mm thick rigid polyisocyanurate foam insulation board and 1.5 mm Sika-Trocal S membrane, achieved a fire classification of EXT.F.AC⁽⁵⁾

- (1) Fire test report reference 20500E issued by Warrington Fire. A copy of the report is available from the Certificate holder.
- (2) Fire test report reference 239556 issued by BRE Testing. A copy of the report is available from the Certificate holder.
- (3) Fire test report reference 239557 issued by BRE Testing. A copy of the report is available from the Certificate holder.
- (4) Fire test report reference P101714-1002-4 Issue 1 issued by BRE Global Ltd. A copy of the report is available from the Certificate holder
- (5) Fire test report reference 239554 issued by BRE Testing. A copy of the report is available from the Certificate holder.

7.2 The designation of other specifications should be confirmed by reference to the requirements of the documents supporting the national Building regulations.



7.3 The products, when used in pitches greater than 70°, should not be used on buildings in England and Wales that have a storey at least 18 m above ground level and contain: one or more dwellings, an institution, a room for residential purposes (excluding any room in a hostel, hotel or boarding house), student accommodation, care homes, sheltered housing, hospitals or dormitories in boarding schools.



7.4 The products when used in pitches greater than 70°, excluding upstands, should not be used on buildings in Scotland that have a storey at least 11 m above ground level.

8 Resistance to wind uplift

8.1 The resistance to wind uplift is provided by mechanical fasteners secured to the deck and passing through the membrane. The number of fixings and their position will depend on:

- wind uplift forces to be resisted
- pull-out strength of fasteners
- elastic limit of the sheet
- appropriate safety factors.

8.2 The number of fixings used should be established by reference to the wind uplift forces and calculated by a suitably experienced and competent individual in accordance with BS EN 1991-1-4 : 2005 and its UK National Annex, on the basis of maximum permissible loads of 0.40 kN per fixing.

9 Resistance to mechanical damage

9.1 The products can withstand, without damage, the limited foot traffic and light concentrated loads associated with installation and maintenance. Reasonable care should be taken to avoid puncture by sharp objects or concentrated loads.

9.2 Where traffic in excess of this is envisaged, such as for maintenance of roof-mounted plant or for regular access to plant rooms, walkways must be provided (eg using SikaTrocal WBP or Sika-Trocal HD), as recommended by the Certificate holder.

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

10 Maintenance



10.1 The roof systems should be the subject of six-monthly inspections and maintenance in accordance with BS 6229 : 2018, Chapter 7, to ensure continued satisfactory performance.

10.2 Any damage must be repaired in accordance with section 16 and the Certificate holder's instructions.

11 Durability



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

12 Reuse and recyclability

The products contain PVC and glass, which can be recycled.

Installation

13 General

13.1 Installation of Sika-Trocal S and SG Mechanically Fastened Membranes must be carried out by trained and licensed installers in accordance with the Certificate holder's instructions, the relevant clauses of BS 8000-0 : 2014, BS 8000-4 : 1989 and BS 8217 : 2005, the 2020 SPRA Single Ply Design Guide (S1/2020) and this Certificate.

13.2 The products may be laid in conditions normal to roofing work and should not be laid in wet or damp weather, nor at temperatures below 5°C, unless suitable precautions are taken.

13.3 Deck surfaces should be clean, dry and free from sharp projections such as nail heads and concrete nibs. The products are not compatible with bitumen, coal tar, pitch or oil-based products, and contact with such materials must be avoided. Where necessary, the appropriate separation layer must be interposed between the substrate and the membranes to avoid such contact. The requirement of a vapour control layer should be established in accordance with BS 6229 : 2018 and the Certificate holder's instructions.

13.4 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 membranes. EPS/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.

14 Procedure

14.1 Installation of the roofing system should commence from the roof perimeters, with sufficient underlayers and insulation boards installed to permit the fixing of Sika-Trocal Metal Sheets.

14.2 Sika-Trocal Metal Sheets are fixed in place, over any insulation when present, at the roof perimeters and internal corners and penetrations as work progresses.

14.3 The installation of the membranes is started from a suitable Sika-Trocal metal section at the perimeter. The products are installed in stages, rather than by fully completing one layer before starting the next.

14.4 The product is unrolled over the substrate and on top of any separating layers, taking care not to stretch it. Edge and end laps must be a minimum width of 50 mm.

14.5 The product is initially loose-laid without folds or ripples. Only the UV-stabilised upper surface, which is the inside face of the roll, should be exposed to the elements.

14.6 The membrane is secured to the Sika-Trocal Metal Sheets at edges and upstands. The lap joints are made by solvent or hot air-welding in the manner described in sections 14.10 and 14.18. Prefabricated corner sections are used where possible for detail work.

14.7 The loose-laid membrane is mechanically fixed using Sika-Trocal Metal Discs. Proprietary pressure plate systems may also be used, with their appropriate fasteners.

14.8 If using Sika-Trocal Metal Discs, the lower surface of the membrane is welded to the PVC surface of the disc. If using pressure plates, these are located in the seams between the individual sheets; however, when extra fasteners are required, the plates may be located on the general surface of the membrane and subsequently covered with straps or roundels of membrane.

14.9 The discs/plates must be fixed to the substrate by means of corrosion-resistant fittings through the thermal insulation and the protective or separating layer to the supporting substructure. In the case of a trapezoidal metal decking substructure, the fixing must be made in the top web.

Solvent welding

14.10 Welding must be carried out using Sika-Trocal THF Welding Agent. The THF chemical used in welding laps has a low flashpoint and, where it is to be used in enclosed spaces, adequate ventilation must be provided.

14.11 The lap joint areas on both sheets are cleaned to a minimum width of 50 mm and then dried.

14.12 Both surfaces are coated with Sika-Trocal 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.

14.13 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.

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

Hot-air welding

14.15 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.

14.16 Lap joint areas on both sheets must be cleaned, using a cleaner recommended by the Certificate holder, if the surface has become badly contaminated.

14.17 The welded area in the seam must not be less than 50 mm wide. When using a hand-held welding machine, the seam must be rolled immediately using a seam roller.

14.18 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.

Flashing

14.19 A range of profiles and shapes can be fabricated from Sika-Trocal Metal Sheets for application to parapet, edge and gully details. These are mechanically fixed to the substructure and the membrane is continuously welded to them.

15 Repair

In the event of damage, repairs must be carried out in accordance with the Certificate holder's instructions. A patch of the relevant membrane is applied, extending at least 50 mm beyond the defect. The damaged area is cleaned back to the unweathered material and the patch is hot-air or solvent welded to the roofing sheet.

Technical Investigations

16 Tests

An assessment was made of data to BS EN 13956 : 2012 in relation to:

- dimensions and tolerances
- water vapour transmission

- tensile strength and elongation
- tear resistance
- low-temperature flexibility
- resistance to impact
- resistance to static loading
- joint strength
- watertightness
- dimensional stability.

17 Investigations

17.1 The manufacturing process was evaluated, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

17.2 Existing data on the fire performance of the membranes were examined.

17.3 Visits were made to sites in progress to assess the methods of application.

17.4 Visits were made to existing sites to assess the products' performance in use.

17.5 Existing data on the mechanical fixings, and wind uplift testing on the mechanically fixed system, were assessed.

17.6 A survey of known users of Sika-Trocac S membrane was carried out to assess the product's performance in use.

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

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

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

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

EN ISO 9001 : 2015 *Quality management systems — Requirements*

18 Conditions

18.1 This Certificate:

- relates only to the product/system 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.

18.2 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.

18.3 This Certificate will remain valid for an unlimited period provided that the product/system 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.

18.4 The BBA has used due skill, care and diligence in preparing this Certificate, but no warranty is provided.

18.5 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/system or any other product/system
- the right of the Certificate holder to manufacture, supply, install, maintain or market the product/system
- actual installations of the product/system, including their nature, design, methods, performance, workmanship and maintenance
- any works and constructions in which the product/system is installed, including their nature, design, methods, performance, workmanship and maintenance
- any loss or damage, including personal injury, howsoever caused by the product/system, including its manufacture, supply, installation, use, maintenance and removal
- any claims by the manufacturer relating to CE marking.

18.6 Any information relating to the manufacture, supply, installation, use, maintenance and removal of this product/system which is contained or referred to in this Certificate is the minimum required to be met when the product/system 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.