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Agrément Certificate
13/5075
Product Sheet 2

SIKA TANKING MEMBRANES

SIKAPROOF P

This Agrément Certificate Product Sheet⁽¹⁾ relates to SikaProof P⁽²⁾, a flexible polyolefin (FPO) sheet for use as a waterproofing membrane for solid concrete floors and walls, underground structures and for internally and externally applied tanking below ground, which will also contribute to restricting the ingress of radon, carbon dioxide and methane.

- (1) Hereinafter referred to as 'Certificate'.
(2) SikaProof P is a registered trade mark.

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

Resistance to water and water vapour — the product, including joints, will resist the passage of moisture into a structure (see section 6).

Resistance to underground gases — the product can contribute to restricting the ingress of radon, carbon dioxide and methane into buildings (see section 7).

Resistance to mechanical damage — the product, including joints, will accept without damage the limited foot traffic and loads associated with installation and the effects of thermal or other minor movement likely to occur in practice (see section 8).

Adhesion and stability — the product has satisfactory adhesion to the substrate and to itself, and will accommodate minor movements likely to occur under normal service conditions (see section 9).

Durability — under normal service conditions the product will provide an effective barrier to the transmission of moisture for the life of the structure in which it is incorporated (see section 12).



The BBA has awarded this Certificate to the company named above for the product described herein. This product 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: 17 May 2017

John Albon – Head of Approvals
Construction Products

Originally certificated on 16 August 2016

Claire Curtis-Thomas
Chief Executive

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 are advised to check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA direct.*

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Regulations

In the opinion of the BBA, SikaProof P, 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: Comment:	C1(2)	Site preparation and resistance to contaminants The product, can contribute to a structure satisfying this requirement. See section 7.1 of this Certificate.
Requirement: Comment:	C2(a)	Resistance to moisture When properly installed in a correctly-designed structure, the product forms an effective barrier to the movement of water within the ground slab, enabling compliance with this Requirement. See section 6.1 of this Certificate.
Regulation: Comment:	7	Materials and workmanship The product is acceptable. See section 12 and the <i>Installation</i> part of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation: Comment:	8(1)	Durability, workmanship and fitness of materials The product satisfies the requirements of this Regulation. See section 12 and the <i>Installation</i> part of this Certificate.
Regulation: Standard: Comment:	9 3.1	Building standards applicable to construction Site preparation — harmful and dangerous substances The product will enable a floor to satisfy the requirements of these Standards, with reference to clauses 3.1.2 ⁽¹⁾⁽²⁾ , 3.1.6 ⁽¹⁾⁽²⁾ , 3.1.7 ⁽¹⁾⁽²⁾ , 3.1.8 ⁽¹⁾⁽²⁾ , 3.2.1 ⁽²⁾ and 3.2.2 ⁽¹⁾⁽²⁾ . See section 7.1 of this Certificate.
Standard: Comment:	7.1(a)	Statement of sustainability The product 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.
Regulation: Comment:	12	Building standards applicable to conversions Comments in relation to the product 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: Comment:	23(a)(i) (iii)(b)(i)	Fitness of materials and workmanship The product is acceptable. See section 12 and the <i>Installation</i> part of this Certificate.
Regulation: Comment:	28(a)	Resistance to moisture and weather The product will enable a floor to satisfy this Regulation. See section 6.1 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 (1.2)* and 3 *Delivery and site handling (3.3 and 3.5)* of this Certificate.

Additional Information

NHBC Standards 2017

NHBC accepts the use of SikaProof P, provided it is installed, used and maintained in accordance with this Certificate in relation to NHBC Standards, Technical Requirement R3 and Chapters 4.1 *Land quality – managing ground conditions*, 5.1 *Substructure and ground bearing floors* clause 5.1.20 *Damp-proofing concrete floors, for use below the slab and in sandwich constructions* and 5.4 *Waterproofing of basements and other below ground structures*.

Where Grade 3 waterproofing protection is required and the below ground wall retains more than 600 mm measured from the top of the retained ground to the lowest finished floor level, the product must be used in combination with either a Type B or Type C waterproofing protection, as defined in BS 8102 : 2009. The Certificate holder should be consulted for approved Type B and Type C solutions.

CE marking

The Certificate holder has taken the responsibility of CE marking the product in accordance with harmonised European Standard BS EN 13967 : 2012. An asterisk (*) appearing in this Certificate indicates that data shown are given in the manufacturer's Declaration of Performance.

Technical Specification

1 Description

1.1 SikaProof P is a fully-bonded, self-adhesive, post-applied sheet waterproofing membrane for concrete structures. It consists of a flexible polyolefin (FPO) based membrane, pre-coated on the underside with an adhesive sealant layer which is protected by a release liner. The membrane is cold-applied by a peel-and-stick process on hardened concrete structures.

1.2 The membrane has the following nominal characteristics:

Thickness* (mm)	1.2
Length* (mm)	20
Mass per unit area (kg·m ⁻²)	1.2
Width* (m)	1
Roll weight* (kg)	24
Tensile strength (N·mm ⁻²)	
MD	6
CD	6
Elongation at break (%)	
MD	350
CD	350
Tear resistance* (N)	200
Watertightness	pass
Water vapour transmission* (g·m ⁻² ·day ⁻¹)	50
Resistance to impact* (mm)	200
Resistance to static loads* (kg)	≥20
Low temperature flexibility (°C)	-20.

1.3 Ancillary materials for use with the product and included in the scope of this Certificate are:

- SikaProof Primer-01 — a ready-to-use, solvent-dispersed primer used to increase adhesion and bond between the substrate and the membrane
- SikaProof ExTape-150 — a 150 mm wide, butyl rubber-based, self-adhesive tape used to seal joints and details
- SikaProof Patch-200B — a 200 mm wide self-adhesive tape, consisting of SikaProof membrane coated with a butyl adhesive and protected with a release film, used for sealing and repair of the membrane
- SikaSwell — a flexible, hydrophylic waterstop (the subject of BBA Certificate 13/4994) with cross-sectional dimensions of 20 mm by 10 mm, used to reinforce the watertightness of construction joints and penetrations.

1.4 Also for use with the membrane, but outside the scope of this Certificate, is SikaFuko, a reinjectable hose used to reinforce the watertightness of construction joints.

2 Manufacture

2.1 The product is manufactured by conventional manufacturing processes of mixing, extrusion, coating and lamination.

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 being operated by the manufacturer are being maintained.

3 Delivery and site handling

3.1 The product is supplied in rolls wrapped in yellow polythene film with a self-adhesive label bearing the Certificate holder's name and traceability information. The rolls have a shelf-life of 12 months from the date of production.

3.2 The rolls should be stacked in a horizontal position, in dry conditions and at temperatures between 5°C and 30°C. They must be protected from direct sunlight, rain, snow and ice.

3.3 SikaProof Primer-01 is supplied in 5 kg or 12.5 kg metal pails. SikaProof ExTape-150 is supplied as 20 m rolls, each weighing 4.8 kg, in boxes of 4 rolls. SikaProof Patch-200B is supplied as 20 m rolls, each weighing 12.2 kg, boxed singly. SikaSwell waterstop is supplied in 10 m rolls, each weighing approximately 3.5 kg, boxed singly.

3.4 If stored properly in unopened, undamaged original packaging, in dry conditions, protected from direct sunlight, rain, snow and ice, and at temperatures between 5°C and 30°C, SikaProof Primer-01 will have a shelf-life of 12 months from the date of production, and ExTape-150, Patch-200B and SikaSwell will each have a shelf-life of 24 months from the date of production.

3.5 The Certificate holder has taken the responsibility of classifying and labelling SikaProof Primer-01 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 SikaProof P.

4 Use

4.1 SikaProof P is satisfactory for use as a Type A waterproofing protection as defined in BS 8102 : 2009 for the waterproofing of new or existing structures.

4.2 The product can be used internally and externally on concrete substrates to provide an effective barrier to the transmission of liquid water where Grade 1 to 3 waterproofing protection is required as defined in Table 2 of BS 8102 : 2009.

4.3 Where Grade 3 waterproofing protection is required, the environment must also be controlled by use of ventilation, dehumidification and/or air conditioning (as appropriate) to ensure that dampness does not occur.

4.4 Buildings in areas of risk should be constructed in accordance with the recommendations of BRE Report BR 211 : 2015 and following the guidance set out in BS 8485 : 2015.

5 Practicability of installation

The product should only be installed by installers who have been trained and approved by the Certificate holder.

6 Resistance to water and water vapour



6.1 The product, including joints, when completely sealed and consolidated, will adequately resist the passage of moisture from the ground into the structure and will enable a structure to comply with the requirements of the national Building Regulations.

6.2 The product is impervious to water and will give a waterproof layer capable of accepting minor structural movements without damage.

7 Resistance to underground gases



7.1 SikaProof P will contribute to restricting the ingress of radon, carbon dioxide and methane into buildings from naturally-occurring sources.

7.2 The results of an independent assessment of SikaProof P indicate, when installed as a waterproofing membrane fully bonded to concrete (suitable for Grade 2 or 3 waterproofing), following the SikaProof guidelines and application, can provide a similar performance in terms of gas protection to a structural barrier and separate gas-resistant membrane, as defined in BS 8485 : 2015. The Certificate holder must be contacted for more details relating to the performance to be expected from a specific installation.

7.3 Measured gas permeability values on an unjointed and unbonded membrane gave a methane gas permeation rate of 505 ml·day·m²·atm⁽¹⁾. Tested in accordance with the manometric method in BS ISO 15105-1 : 2007. However, see section 7.2 for details of the products use where performance to BS 8485 : 2015 is required.

(1) The requirement for a gas-resistance membrane under BS 8485 : 2015, Table 7 is <40 ml·m²·day·atm⁻¹.

7.4 BRE Report BR 211: 2015 recommends a 300µm thick polyethylene sheet as the minimum required thickness for a radon gas-resistant membrane. It is generally accepted that other materials with comparable or higher gas-resistance are suitable, provided they can withstand the construction process. In the opinion of the BBA, the product meets these criteria.

8 Resistance to mechanical damage

8.1 When installed, the membrane is capable of accommodating the minor movements likely to occur under normal service conditions.

8.2 The product can accept the limited foot traffic and light loads associated with installation and maintenance.

8.3 The membrane can be damaged by sharp objects and care should be taken, particularly when the membrane is exposed during construction and back filling or screeding operations.

8.4 Provided sufficient care is taken, the membrane will not be damaged by normal foot traffic during construction.

9 Adhesion and stability

The adhesion of the membrane to the substrate and to itself, as described in this Certificate, is satisfactory. The membrane's properties allow it, under normal service conditions, to accommodate the minor movements likely to occur in the structure in which it is incorporated.

10 Effect of temperature

10.1 The membrane is not adversely affected by the temperatures likely to occur during installation and in service.

10.2 The membrane must be protected from exposure to light immediately after installation.

11 Maintenance

As the product is confined and has suitable durability, maintenance is not required. However, any damage occurring during installation must be repaired in accordance with section 16, prior to backfilling.

12 Durability



When fully protected and subjected to normal service conditions, SikaProof P will provide an effective barrier to the transmission of water and water vapour for the life of the structure in which it is incorporated.

Installation

13 General

13.1 SikaProof P must be installed in accordance with the relevant requirements of BS 8102 : 2009, BS 8000-4 : 1989, CP 102 : 1973 Section 3, this Certificate and the Certificate holder's instructions.

13.2 It is essential that the concrete substrate be well placed, compacted/vibrated and cured.

13.3 SikaProof P must be protected from mechanical damage and environmental influences (heat, UV etc) immediately after installation, especially before any backfilling, in accordance with the Certificate holder's instructions.

14 Substrate

14.1 Concrete surfaces must have a smooth and uniform trowelled finish, particularly on horizontal surfaces, and be dry and free from loosely-adhering material, sharp protrusions, dust, oil and grease.

14.2 To ensure a sufficient key bond, the concrete must:

- be appropriately designed and constructed
- be hardened and of sufficient compressive strength (minimum 25 N·mm⁻²)

- have a minimal pull-off strength of 1.5 N·mm⁻²
- be dry, sound, clean and free of any contaminants (such as oil, grease or fuel) that could prevent or reduce adhesion, and loose or friable particles
- be even, level and free from surface defects (eg blowholes, voids, honeycombing, cracks, protrusions etc.)
- have a minimum thickness of 200 mm in the area to be waterproofed.

14.3 The substrate temperature should be greater than 5°C, to avoid surface condensation.

15 Procedure

15.1 The substrate should be properly cleaned and prepared with a wire brush in order to remove any projections or unwanted particles.

Priming

15.2 SikaProof Primer-01 must be applied immediately prior to application.

15.3 The primer is applied evenly to the prepared concrete surface, using a soft brush or roller to avoid ponding, and allowed to dry.

15.4 Under normal conditions, the drying time of the primer is approximately 30 minutes.

15.5 The membrane should be installed within 24 hours after priming the substrate. If more than 24 hours have elapsed, another coat of primer should be applied.

Membrane adhesion and joints

15.6 All membrane overlap joints, connections and details are bonded and sealed using the product's self-adhesive properties. Alternatively, SikaProof ExTape-150 can be used.

15.7 Both longitudinal and transverse joints should be lapped a minimum of 90 mm. For longitudinal joints, the membrane is pre-marked to assist with installation. For transverse joints, careful measurement should be carried out. Detailed procedures can be found in the Certificate's holder method statement.

15.8 The Certificate holder's installation instructions/advice should be sought when fixing details such as internal/external corners, sheet ends, pipes and other penetrations, projections, drains and overflows, construction joints and expansion joints.

15.9 The membrane should be protected against damage by protection boards as soon as possible after installation.

16 Repair

16.1 Any damage to the membrane is repaired using the membrane itself or SikaProof Patch-200B.

16.2 Any repairs to the product must be carried out prior to backfilling. The advice of the Certificate holder must be sought.

Technical Investigations

17 Tests

17.1 Tests were carried out and the results assessed to determine:

- fatigue cycling
- tensile bond strength
- peel bond strength
- watertightness for 6 m head of water
- sliding test for membranes

- joint strength
- joint watertightness.

17.2 Independent test reports were evaluated relating to:

- lateral water migration
- watertightness.

18 Investigations

18.1 An evaluation of a site in progress was made to assess the practicability of installation.

18.2 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.

Bibliography

BS 8000-4 : 1989 *Workmanship on building sites — Code of practice for waterproofing*

BS 8102 : 2009 *Code of practice for protection of below ground structures against water from the ground*

BS 8485 : 2015 *Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings*

BS EN 13967 : 2012 *Flexible sheets for waterproofing — Plastic and rubber damp proof sheets including plastic and rubber basement tanking sheet — Definitions and characteristics*

BS ISO 15105-1 : 2007 *Plastics — Film and sheeting — Determination of gas-transmission rate — Differential-pressure methods*

CP 102 : 1973 *Code of practice for protection of buildings against water from the ground*

BRE Report BR 211 : 2015 *Radon : Guidance on protective measures for new buildings*

19 Conditions

19.1 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 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.

19.2 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.

19.3 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.

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

19.5 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.

19.6 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.