

Solco Building Products

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Agrément Certificate

23/7030

Product Sheet 1 Issue 1

SOLSHEET WATERPROOFING MEMBRANES

SOLSHEET SELF ADHESIVE MEMBRANE

This Agrément Certificate Product Sheet⁽¹⁾ relates to Solsheet Self Adhesive Membrane, for use as a damp-proof and waterproof membrane for solid concrete floors, underground structures, reservoir roofs and for internally and externally applied tanking below ground.

(1) Hereinafter referred to as 'Certificate'.

The assessment includes

Product factors:

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

Process factors:

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

Ongoing contractual Scheme elements†:

- regular assessment of production
- formal 3-yearly review



KEY FACTORS ASSESSED

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

The BBA has awarded this Certificate to the company named above for the 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 issue: 8 November 2023

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 Solsheet Self Adhesive Membrane, 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:	C2(a)	Resistance to moisture
Comment:		The product will contribute to satisfying this Requirement. See section 3 of this Certificate.
Regulation:	7(1)	Materials and workmanship
Comment:		The product is acceptable. See sections 8 and 9 of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)	Fitness and durability of materials and workmanship
Comment:		The product satisfies the requirements of this Regulation. See sections 8 and 9 of this Certificate.
Regulation:	9	Building standards - construction
Standard	3.4	Moisture from the ground
Comment:		The product will contribute to satisfying this Standard, with reference to clauses 3.4.2 ⁽¹⁾⁽²⁾ , 3.4.4 ⁽¹⁾⁽²⁾ and 3.4.6 ⁽¹⁾⁽²⁾ . See section 3 of this Certificate.
Standard:	7.1(a)	Statement of sustainability
Comment:		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:	12	Building standards - conversions
Comment:		Comments made in relation to the product under Regulation 9, Standards 1 to 6, also apply to this Regulation, with reference to clause 0.1 ⁽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)	Fitness of materials and workmanship
Comment:	(i)(iii)(b) (i)	The product is acceptable. See sections 8 and 9 of this Certificate.
Regulation:	28	Resistance to moisture and weather
Comment:		The product will contribute to satisfying this Regulation. See section 3 of this Certificate.

Additional Information

NHBC Standards 2023

In the opinion of the BBA, Solsheet Self Adhesive Membrane, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards*, Chapters 5.1 *Substructure and ground bearing floors*, Clauses 5.1.20 *Damp-proofing concrete floors* and 5.4 *Waterproofing of basements and other below ground structures*.

Fulfilment of Requirements

The BBA has judged Solsheet Self Adhesive Membrane to be satisfactory for use as described in this Certificate. The product has been assessed as a damp-proof and waterproof membrane for solid concrete floors, underground structures, reservoir roofs and for internally and externally applied tanking below ground.

ASSESSMENT

Product description and intended use

The Certificate holder provided the following description for the product under assessment. Solsheet Self Adhesive Membrane is a two-ply, self-adhesive, damp-proof membrane (DPM) comprising a top layer of polyethylene film (0.1 mm thick) bonded to a layer of bitumen/polymer adhesive carried on a release paper, with a selvedge strip. The nominal characteristics for the product are given in Table 1.

Table 1 Characteristics

Characteristic (unit)	Value
Thickness ⁽¹⁾ (mm)	1.5
Width ⁽¹⁾ (m)	1.05
Roll length (m)	19.05
Roll weight (kg)	33
Mass per unit area (kg·m ⁻²)	1.7
Ring and ball softening point	108°C

(1) Excluding release paper.

Ancillary Items

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

- Solsheet Primer — a solution of bitumen in a petroleum aliphatic hydrocarbon.
- Solco Protection Board— a 2 mm thick protection layer for use in reservoir roofs and, where required, in other specifications
- Solco XL sheet Reinforcing Tape — for reinforcing at internal and external corners.

Applications

The product is intended for use in the following situations:

- for above or below ground floor slabs
- underground structures (such as podium slabs and roofs to underground car parks)
- for internally and externally applied tanking below ground
- for reservoir roofs.

The product is compatible with the following substrates:

- concrete
- smooth brickwork and blockwork
- screeds.

Product assessment – key factors

The product 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

Data were assessed for the following characteristics.

1.1 Strength and stability

1.1.1 Results of strength and stability tests are given in Table 2.

<i>Table 2 Strength and stability</i>			
Product assessed	Assessment method	Requirement	Result
Solsheet Self Adhesive Membrane	Tensile strength to BS EN 12311-2 : 2000	Value achieved	
	Cross direction		2.66 N.mm ⁻²
	Machine direction		3.25 N.mm ⁻²
Solsheet Self Adhesive Membrane	Elongation at break to BS EN 12311-2 : 2000	Value achieved	
	Cross direction		135%
	Machine direction		137%
Joints of Solsheet Self Adhesive Membrane	Shear resistance of joints to BS EN 12317-2 : 2010	Value achieved	53 N
Solsheet Self Adhesive Membrane	Resistance to tear to BS EN 12310-1 : 2000	Value achieved	
			Cross direction
	Machine direction		170 N
Solsheet Self Adhesive Membrane on a concrete substrate	Resistance to peel to MOAT 27 : 1983	Value achieved	93.9 N.(50 mm) ⁻¹
Solsheet Self Adhesive Membrane	Dimensional stability to MOAT 27 : 1983	No significant dimensional changes at 60°C	Pass
Solsheet Self Adhesive Membrane	Low temperature unrolling to MOAT 27 : 1983	No damage at 0°C	Pass
Solsheet Self Adhesive Membrane	Low temperature flexibility to MOAT 27 : 1983	No cracks or fractures at 0 and -5°C	Pass
Solsheet Self Adhesive Membrane	Resistance to cracking to a BBA method at 0 and 20°C	No cracking	Pass

1.1.2 On the basis of data assessed, the product has suitable strength and stability properties for the intended use.

1.1.3 The product has satisfactory adhesive properties.

1.1.4 The product will remain flexible and capable of being formed at the minimum installation temperature of 5°C (see section 9.2.6).

1.1.5 The product can accommodate the minor movements likely to occur under normal service conditions.

1.2 Mechanical properties

1.2.1 Results of mechanical property tests are given in Table 3.

Table 3 Mechanical properties

Product assessed	Assessment method	Requirement	Result
Solsheet Self Adhesive Membrane	Resistance to impact to BS EN 12691 : 2006	Value achieved	500 mm
Solsheet Self Adhesive Membrane	Static loading to BS EN 12730 : 2001, Method B	Value achieved	20 kg

1.2.2 On the basis of data assessed, on smooth or blinded surfaces, the product will accept, without damage, the limited foot traffic and loads associated with installation.

2 Safety in case of fire

Not applicable.

3 Hygiene, health and the environment

Data were assessed for the following characteristics.

3.1 Water vapour permeability

3.1.1 The result of a water vapour permeability test is given in Table 4.

Table 4 Water vapour permeability result

Product assessed	Assessment method	Requirement	Water vapour resistance factor (μ)
Solsheet Self Adhesive Membrane	BS EN 1931 : 2000	Value achieved	220000

3.2 Weathertightness

3.2.1 Results of weathertightness tests are given in Table 5.

Table 5 Weathertightness

Product assessed	Assessment method	Requirement	Result
Solsheet Self Adhesive Membrane	Watertightness to BS EN 1928 : 2000	No water penetration after 24 hours exposure to 6 metre head of water	Pass
Joins of Solsheet Self Adhesive Membrane	Resistance to water pressure to MOAT 27 : 1983	No water penetration after 24 hours exposure to 6 metre head of water	Pass

3.2.2 On the basis of data assessed, the product, including joints, when completely sealed and consolidated, will adequately resist the passage of water under hydrostatic pressure and moisture from the ground.

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 product were assessed.

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

Product assessed	Assessment method	Requirement	Result
Solsheet Self Adhesive Membrane	Tensile strength to BS 2782-3 : 1976 after heat ageing for 56 days at 60°C	No significant deterioration	Pass
Solsheet Self Adhesive Membrane	Elongation to BS 2782-3 : 1976 after heat ageing for 56 days at 60°C	No significant deterioration	Pass
Joints of Solsheet Self Adhesive Membrane	Tensile strength of joints to MOAT 27 : 1983 after:		
	• heat ageing for 28 days at 60°C	No significant deterioration	Pass
	• exposure to water for 7 days at 60°C	No significant deterioration	Pass
Solsheet Self Adhesive Membrane	Resistance to peel to MOAT 27 : 1983 after heat ageing for 28 days at 60°C	No significant deterioration	Pass
Solsheet Self Adhesive Membrane	Watertightness to BS EN 1928 : 2000 after:		
	• heat ageing for 84 days at 70°C	No water penetration after 24 hours exposure to 6 metre head of water	Pass
	• Limewater soak for 28 days at 23°C	No water penetration after 24 hours exposure to 6 metre head of water	Pass

8.3 Service life

Under normal service conditions, the product, when fully protected, will have a life of 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.

Information provided by the Certificate holder was assessed for the following factors:

9 Design, installation, workmanship and maintenance

9.1 Design

9.1.1 The design process was assessed by the BBA, and the following requirements apply in order to satisfy the performance assessed in this Certificate.

9.1.2 The product can be used to provide an effective barrier to the transmission of liquid water and water vapour where Grades 1 to 3 waterproofing protection is required, as defined in Table 2 of BS 8102 : 2009.

9.1.3 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 dampness does not occur.

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, CP 102 : 1973 Clause 11, BS 8102 : 2009, the relevant clauses of BS 8000-4 : 1989, and the Certificate holder's instructions.

9.2.3 All surfaces to which the product is applied must have a smooth finish, ie they must be free from cavities, projections and mortar deposits. Surfaces must be dry and free from dust and frost. Concrete surfaces must be dense. Where necessary (ie for dusty or porous substrates), the surface must be primed with Solsheet Primer at the recommended coverage rate and allowed to dry. Vertical surfaces must always be primed.

9.2.4 The product can be damaged by sharp objects and care must be taken with exposed surfaces during construction and back filling operations.

9.2.5 Vertical surfaces of brickwork and blockwork must be dry and rendered to provide an even surface. Brickwork and blockwork not rendered must be flush pointed to give a smooth surface without sudden changes in level.

9.2.6 The product can be installed in all normal site conditions provided the air temperature is not below 5°C.

9.2.7 The product must be covered by a screed or other protective layer as soon as possible after installation. If blockwork protection is used, care must be taken to avoid damage to the product during construction.

9.2.8 As the sheet is laid, the product must be pressed firmly from the middle to prevent trapping air.

9.2.9 The polyethylene strip on the selvages must be removed to expose the bitumen/polymer adhesive to facilitate lapping of the product.

9.2.10 Overlaps must be at least 50 mm onto the backing film along the roll edges, and at least 100 mm onto the backing film at the roll ends of the product. The product surface to be overlapped must be dust-free, and to ensure a watertight bond, the upper product must be firmly pressed down onto the lower one.

Solid concrete floors

9.2.11 The product must be continuous with the damp-proof course (DPC) in the surrounding walls. This is achieved by continuing the product up internal wall surfaces to tie in with the DPC. A sand/cement screed or rot-proof board must be laid immediately after the installation of the product to prevent damage.

External tanking

9.2.12 The product is applied to the horizontal site concrete base slab then applied to the external face of the structure. A minimum 300 mm wide reinforcement strip of membrane must be placed at internal angles containing a 50 by 50 mm fillet or chamfered at external angles where the horizontal surface meets a vertical surface. A protection wall of brickwork, blockwork or protection board must be used against the product to protect it from puncture during backfilling.

Internal tanking

9.2.13 The product is applied to the horizontal site concrete base slab as well as to the interior face of the external wall. It must be tied in with the DPC and applied down the wall and 300 mm onto the horizontal site concrete base slab. A minimum 300 mm wide reinforcement strip of membrane must be placed at internal angles containing a 50 by 50 mm fillet or chamfered at external angles where a horizontal surface meets a vertical surface. The product is applied to the walls to achieve the overlaps defined in section 9.2.11.

9.2.14 A wall, preferably concrete, must be constructed immediately after installation to protect the product and to resist the action of external water pressure. Where brickwork or blockwork is used it must be set 40 mm away from the product to enable the space to be thoroughly filled with a sand/cement mortar as the construction proceeds.

Reservoir roof

9.2.15 The product must be protected using:

- 2mm thick Solco Protection Board, and then
- suitable protective ballast (such as paving slabs or pea gravel).

9.3 Workmanship

Practicability of installation was assessed by the BBA, on the basis of the Certificate holder's information. To achieve the performance described in this Certificate, installation of the product must be carried out by a competent general builder or contractor, experienced with this type of product.

9.4 Maintenance and repair

9.4.1 The product is confined and has suitable durability. Maintenance is not required.

9.4.2 In the event of damage, the product can be effectively repaired after cleaning by applying a patch of the material, bonded to the damaged area with suitable overlap, prior to the installation of any upper layers in accordance with the Certificate holder's instructions.

10 Manufacture

10.1 The production processes for the product 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. An audit of each production location was undertaken, and it was confirmed that the production process was in accordance with the documented process, and that equipment has been properly tested and calibrated.

† 10.2 The BBA has undertaken to review the above measures on a regular basis through a surveillance process to verify that the specifications and quality control operated by the manufacturer are being maintained.

11 Delivery and site handling

11.1 The Certificate holder stated that the product is delivered to site in packaging bearing the Certificate holder's name and the BBA logo incorporating the number of this Certificate.

11.2 Solsheet Primer is supplied in 10 litre containers.

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

11.3.1 The rolls must be stacked on end and stored under cover, in a cool and dry place in original packing.

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 product under the *GB CLP Regulation* and *CLP Regulation (EC) No 1272/2008 - classification, labelling and packaging of substances and mixtures*. Users must refer to the relevant Safety Data Sheet(s).

CE marking

The Certificate holder has taken the responsibility of CE marking the product, in accordance with harmonised European Standard EN 13967 : 2012.

Bibliography

BS EN 1928 : 2000 *Flexible sheets for waterproofing. Bitumen, plastic and rubber sheets for roof waterproofing. Determination of watertightness*

BS EN 1931 : 2000 *Flexible sheets for waterproofing. Bitumen, plastic and rubber sheets for roof waterproofing. Determination of water vapour transmission properties*

BS 2782-3 : 1976 *Methods of testing plastics. Mechanical properties - Stiffness of plastics film*

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

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

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

BS EN 12310-1 : 2000 *Flexible sheets for waterproofing. Determination of resistance to tearing (nail shank) - Bitumen sheets for roof waterproofing*

BS EN 12311-2 : 2000 *Flexible sheets for waterproofing. Determination of tensile properties - Plastic and rubber sheets for roof waterproofing*

BS EN 12317-2 : 2010 *Flexible sheets for waterproofing. Determination of shear resistance of joints - Plastic and rubber sheets for roof waterproofing*

BS EN 12691 : 2006 *Flexible sheets for waterproofing. Bitumen, plastic and rubber sheets for roof waterproofing. Determination of resistance to impact*

BS EN 12730 : 2001 *Flexible sheets for waterproofing. Bitumen, plastic and rubber sheets for roof waterproofing. Determination of resistance to static loading*

BS EN 13967 : 2012 + A1 : 2017 *Flexible sheets for waterproofing — Plastic and rubber damp proof sheets including plastic and rubber basement tanking sheet — Definitions and characteristics*

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.

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