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Agrément Certificate

14/5121

Product Sheet 1

VISQUEEN TANKING MEMBRANES

VISQUEEN TORCHON TANKING MEMBRANE

This Agrément Certificate Product Sheet⁽¹⁾ relates to Visqueen TorchOn Tanking Membrane, an SBS polymer-modified bitumen torch-on membrane for use as a damp-proof membrane and as an internally or externally applied tanking membrane.

(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

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

Resistance to mechanical damage — the product 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 7).

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 9).



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: 2 July 2018

John Albon – Head of Approvals
Construction Products

Originally certificated on 21 July 2014

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.*

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, Visqueen TorchOn Tanking 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 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:	C2(a)	Resistance to moisture
Comment:		The product, including joints, will enable a structure to satisfy this Requirement. See section 6.1 of this Certificate.
Regulation:	7	Materials and workmanship
Comment:		The product is acceptable. See section 9 and the <i>Installation</i> part of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)	Durability, workmanship and fitness of materials
Comment:		The use of the product satisfies the requirements of this Regulation. See section 9 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards applicable to construction
Standard:	3.4	Moisture from the ground
Comment:		The product, including joints, will enable a structure to satisfy the requirements of this Standard, with reference to clauses 3.4.2 ⁽¹⁾⁽²⁾ , 3.4.5 ⁽¹⁾⁽²⁾ , 3.4.6 ⁽¹⁾⁽²⁾ and 3.4.7 ⁽¹⁾⁽²⁾ . See section 6.1 of this Certificate.
Standard:	7.1(a)(b)	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 applicable to conversions
Comment:		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:	23(a)(i)	Fitness of materials and workmanship
Comment:	(iii)(b)(i)	The product is acceptable. See section 9 and the <i>Installation</i> part of this Certificate.
Regulation:	28(a)	Resistance to moisture and weather
Comment:		The product, including joints, will enable a structure to satisfy the requirements of 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* (1.1) and 3 *Delivery and site handling* (3.3) of this Certificate.

Additional Information

NHBC Standards 2018

In the opinion of the BBA, Visqueen TorchOn Tanking 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*, clause 5.1.20 *Damp-proofing concrete floors, for use below the slab* and 5.4 *Waterproofing of basements and other below ground structures*.

Where Grade 3 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 should be used in combination with either a Type B or C waterproofing protection, as defined in BS 8102 : 2009. The Certificate holder should be consulted for approved Type B and C solutions.

CE marking

The Certificate holder has taken the responsibility of CE marking the product in accordance with harmonised European Standard BS EN 13969 : 2004. 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 Visqueen TorchOn Tanking Membrane is an SBS polymer-modified bitumen torch-on membrane incorporating a spunbonded polyester reinforcement and thermofusible torch-on film on the underside. The nominal characteristics of the membrane are given in Table 1.

Table 1 Nominal characteristics

Characteristic (unit)	Declared value (tolerance)
Length* (m)	8.0 (±0.1)
Width* (m)	1.0 (±0.02)
Straightness (mm·10 m ⁻¹)	< 20
Mass per unit area* (kg·m ⁻²)	4.5 (±0.25)
Roll weight (kg)	36
Tensile strength* (N·50 mm ⁻¹)	
machine direction	900 (±35)%
transverse direction	900 (±35)%
Elongation* (%)	
machine direction	35 (±20)%
transverse direction	35 (±20)%
Resistance to impact* (mm)	≥ 300
Resistance to static loading* (kg)	≥ 20
Low temperature flexibility* (°C)	≤ -10

1.2 Visqueen High Performance Tanking Primer is used to seal porous surfaces prior to the application of Visqueen TorchOn Tanking Membrane.

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

- a damp-proof course (dpc) jointing tape — a black, double-sided, butyl mastic tape for bonding ancillary products and Visqueen TorchOn Tanking Membrane
- a drain board — a heavy duty protection and drainage board for use in vertical applications where hydrostatic pressure exists
- a 100% recycled, heavy-duty protection layer preventing damage to the membrane

- an aluminium/polyethylene laminate with a modified bitumen adhesive backing, used on vertical surfaces and around complex penetrations and foundations
- a bitumen-based dpc
- a 25 mm thick vent mat, used to form a void to collect and transmit water into adjacent drainage outlets or collector pipes.

1.4 Details of other associated products/specifications may be obtained from the Certificate holder.

2 Manufacture

2.1 The product is manufactured using conventional bitumen blending techniques and a continuous coating process.

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 Visqueen TorchOn Tanking Membrane is delivered to site in rolls. Each roll is wrapped in a paper wrapper bearing the name of the product, Certificate holder's name and the BBA logo incorporating the number of this Certificate. Rolls are delivered upright on pallets and must be stored vertically on a firm flat level surface, protected from the weather, extremes of temperature and contamination from chemicals, eg hydrocarbon solvents.

3.2 Visqueen High Performance Tanking Primer is delivered to site in 25 litre drums.

3.3 The Certificate holder has taken the responsibility of classifying and labelling the product 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 Visqueen TorchOn Tanking Membrane.

Design Considerations

4 Use

4.1 Visqueen TorchOn Tanking Membrane is satisfactory for use as a damp-proof and waterproof membrane for solid concrete floors, underground structures and for internally and externally applied tanking below ground in accordance with the relevant clauses of CP 102 : 1973 Section 3 and BS 8102 : 2009.

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

4.3 The product is compatible with concrete, smooth brick and blockwork and screeded substrates, and is resistant to those chemicals likely to occur in normal service conditions. However, care must be taken to prevent contact with mould oils and hydrocarbons.

4.4 Where contact with materials used as dpcs is likely, consideration must be given to the thermal stability of that material, due to the high temperatures reached during the installation of the membrane.

4.5 The membrane must always be fully protected immediately after it is installed in accordance with the Certificate holder's instructions.

5 Practicability of installation

Installation of the product must only be carried out by installers who have been trained 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.

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 mechanical damage

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

7.2 The product can accept the limited foot traffic and light loads associated with installation and maintenance, and provided sufficient care is taken, will not be damaged by normal foot traffic.

7.3 The product can be damaged by sharp objects and care must therefore be taken with exposed surfaces during construction and backfilling operations.

8 Maintenance

As the product is confined and has suitable durability (see section 9), maintenance is not required. Any damage occurring during installation must be repaired in accordance with section 12, prior to backfilling.

9 Durability



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

Installation

10 General

10.1 Visqueen TorchOn Tanking Membrane must be installed in accordance with the relevant requirements of BS 8000-0 : 2014, BS 8000-4 : 1989, BS 8102 : 2009, CP 102 : 1973 Section 3, and the Certificate holder's instructions.

10.2 Concrete or screeded surfaces should have a smooth finish, free from loosely adhering material and sharp protrusions. Concrete should be dry and dust free.

10.3 Vertical surfaces of brickwork, blockwork and, if necessary, masonry, should be rendered to provide an even surface. Brickwork or blockwork not rendered must be flush pointed to give a smooth surface without sudden changes in level.

10.4 When used in an internal tanking specification, the membrane must be fully loaded against hydrostatic back pressure.

11 Procedure

11.1 The membrane must be installed in dry conditions at temperatures above 2°C. Care must be taken to ensure that there is no surface condensation at low temperatures.

11.2 Surfaces must be primed with Visqueen High Performance Tanking Primer, typically at a coverage rate of approximately 5 m² per litre, and allowed to dry before application of the membrane.

11.3 Reinforcing angles must be applied at all changes of direction. This is achieved by cutting 300 mm wide strips of the membrane and folding it in half lengthways so that there is 150 mm in the vertical plane and 150 mm in the horizontal plane. The strip is fully torched into place, taking care that the thermofusible film on the back of the membrane is completely removed by the action of the gas torch.

11.4 The membrane is cut to the required length and rolled up, ensuring that the thermofusible film is on the outside.

Vertical application

11.5 The roll is held tight against the wall and, working up the wall, the membrane is torched across the roll until the thermofusible film has been burnt off. This should result in a stream of molten bitumen ahead of the roll.

11.6 The membrane is pressed firmly onto the wall using firm hand pressure so that it is fully bonded to the surface. Correct torching will result in a bead of bitumen extruding along all edges.

11.7 Subsequent layers of the membrane are fixed in the same way ensuring that the joints are staggered and side laps are at least 100 mm.

11.8 Where vertical drops require more than one length of membrane, end laps must be at least 150 mm, and staggered, with the lower end of the upper length overlapping the upper end of the lower length, allowing any moisture to flow over the lap joint.

11.9 The top end of the membrane must be batten-fixed or sealed into a chase.

11.10 The membrane must be protected immediately with the specified protection layer in accordance with the Certificate holder's instructions. The membrane, when used externally is supported by backfilling, and when used internally fully supported by a loading coat.

Horizontal application

11.11 The membrane is held face down onto the concrete deck and torched across the roll until the thermofusible film has been burnt off. This should result in a stream of molten bitumen ahead of the roll.

11.12 The membrane is pressed down using firm hand pressure so that it is fully bonded to the surface. Correct torching will result in a bead of bitumen being extruded along all edges.

11.13 Subsequent layers of membrane are fixed in the same way ensuring that the joints are staggered and that side laps are at least 100 mm.

11.14 Where more than one length of membrane is required, end laps must be at least 150 mm and staggered.

11.15 The membrane must be protected immediately with either the specified protection layer or a sand/cement screed, in accordance with the Certificate holder's instructions.

Detailing and service penetrations

11.16 Detailed consideration must be given to all service penetrations in tanking installations. The advice of the Certificate holder must be sought.

12 Repair

Any damage to the membrane must be repaired by patching prior to the application of the protection and backfilling. The advice of the Certificate holder must be sought.

Technical Investigations

13 Tests

13.1 An assessment was made of data to BS EN 13969 : 2004 in relation to:

- visible defects
- dimensions
- straightness
- mass per unit area
- resistance to impact
- water vapour resistance
- tensile properties
- flexibility at low temperature
- resistance to static loading
- watertightness on controls and following 12 weeks of heat ageing at 70°C.

13.2 Tests were carried out to determine:

- mass per unit area and dimensions
- resistance to chisel impact at 0°C and 23°C
- tensile properties (control, heat aged and water soak)
- resistance to static loading
- impact resistance
- water vapour transmission and resistance
- watertightness on controls and following 12 weeks of heat ageing at 70°C
- flexibility at low temperature
- resistance to fatigue
- shear strength of joints on controls and following 12 weeks of heat ageing at 70°C and 1 week of water exposure at 60°C
- peel strength from concrete
- leakage of joints.

14 Investigations

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 8000-0 : 2014 *Workmanship on construction sites — Introduction and general principles*

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 EN 13969 : 2004 *Flexible sheets for waterproofing — Bitumen damp proof sheets including bitumen basement tanking sheets — Definitions and characteristics*

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

15 Conditions

15.1 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.

15.2 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.

15.3 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.

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

15.5 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.

15.6 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.