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Agrément Certificate

97/3336

Product Sheet 2

PERMAQUIK 6100 MONOLITHIC HOT-MELT MEMBRANE

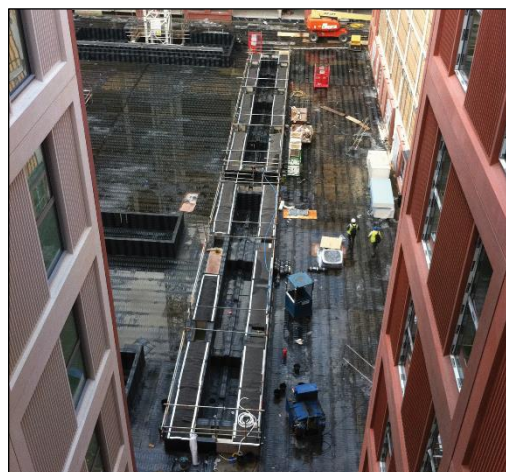
PERMAQUIK 6100 MONOLITHIC HOT-MELT DAMP-PROOFING SYSTEM

This Agrément Certificate Product Sheet⁽¹⁾ relates to the PermaQuik 6100 Monolithic Hot-Melt Damp-proofing System, for use on new or existing horizontal and vertical surfaces to form a sandwich membrane for above-ground and basement waterproofing on a structure of concrete, brickwork or masonry, or to form a damp-proof membrane for solid floors.

(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 membrane will resist the passage of water to the inside of the building (see section 6).

Resistance to mechanical damage — the system will accept the limited foot traffic and loads associated with installation and maintenance of the system and the effects of thermal or other minor movement likely to occur in service (see section 7).

Durability — under normal service conditions, the system will provide an effective barrier to the transmission of liquid water and water vapour for the design life of the structure in which it is incorporated (see section 11).

The BBA has awarded this Certificate to the company named above for the system described herein. This system has been assessed by the BBA as being fit for its intended use provided it is installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of Third issue: 8 January 2018

John Albon — Head of Approvals
Construction Products

Claire Curtis-Thomas
Chief Executive

Originally certificated on 4 March 1997

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, the PermaQuik 6100 Monolithic Hot-Melt Damp-proofing System, if installed, used and maintained in accordance with the provisions of 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 system will enable a structure to satisfy this Requirement. See section 6.1 of this Certificate.
Regulation:	7	Materials and workmanship
Comment:		The system is acceptable. See section 11 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 system can contribute to a construction satisfying this Regulation. See section 11 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards applicable construction
Standard:	3.4	Moisture from the ground
Comment:		The system will enable a structure to satisfy the requirements of this Standard, with reference to clauses 3.4.2 ⁽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 system 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 system under Regulation 9, Standards 1 to 6 also apply to this Regulation, with reference to clause 0.12.1 ⁽¹⁾⁽²⁾ and Schedule 6 ⁽¹⁾⁽²⁾ .
		(1) Technical Handbook (Domestic).
		(2) Technical Handbook (Non-Domestic).



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

Regulation:	23(a)(i)	Fitness of materials and workmanship
Comment:	(iii)b(i)	The system is acceptable. See section 11 and the <i>Installation</i> part of this Certificate.
Regulation:	28(b)	Resistance to moisture and weather
Comment:		The system 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: 3 *Delivery and site handling* (3.1) and 13 *Procedure* (13.2) of this Certificate.

NHBC Standards 2018

In the opinion of the BBA, the PermaQuik 6100 Monolithic Hot-Melt Damp-proofing System, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards*, Chapters 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*, for use externally.

Where Grade 2 or 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 system must be used in combination with either Type B or C waterproofing protection, as defined in BS 8102 : 2009.

Technical Specification

1 Description

1.1 The PermaQuik 6100 Monolithic Hot-Melt Damp-proofing System consists of a one part, hot-applied seamless membrane made from bitumen, natural rubbers, and a blend of polymers, reinforced with polyester reinforcement.

1.2 Ancillary products used with the membrane include:

- PQ 2017 — a 50 g·m⁻² spunbonded polyester scrim for use as a reinforcement to the membrane
- PQ 2060 and PQ 2061— elastomeric membranes (neoprene compound) for use as a reinforcement to the membrane in localised areas where limited movement occurs
- polythene sheet — 0.01 mm thick for use as a separating layer (only as part of an insulated roof assembly, and subject to light foot traffic only)
- PQ 2250 — a bitumen protection board
- PQ 2450 — a polypropylene protection board
- Radmat Red Primer — a rapid drying primer made with SBS resins and non-flammable solvent
- Esha Primer — for surface conditioning of concrete and brickwork.

2 Manufacture

2.1 The membrane is manufactured by heating and blending together polymer-modified bitumen, processing oils, fillers and other additives.

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 Permaquik is delivered to site in 17 kg kegs each wrapped in polythene film bearing the product name, the manufacturer's name and the BBA logo incorporating the number of this Certificate.

3.2 Reinforcing materials and protection layers must be stored under cover and kept dry.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on the PermaQuik 6100 Hot-Melt Monolithic Damp-proofing System.

Design Considerations

4 Use

4.1 The PermaQuik 6100 Monolithic Hot-Melt Damp-proofing System is satisfactory for use:

- on new or existing horizontal and vertical surfaces to form a sandwich membrane for above-ground waterproofing on a structure of concrete, brickwork, blockwork or masonry
- on new or existing horizontal and vertical surfaces to form a sandwich membrane for below-ground (basement) waterproofing on a structure of concrete, brickwork, blockwork or masonry
- as a damp-proof membrane for solid floors.

4.2 The membrane is compatible with the substrate and is resistant to those chemicals likely to occur in normal practice.

4.3 Where contact with materials used as damp-proof courses is likely, consideration must be given to the thermal stability of that material, due to the high temperatures reached during installation.

5 Practicability of installation

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

6 Weathertightness



6.1 The system will adequately resist the passage of moisture into a structure and enable a structure to comply with the requirements of the national Building Regulations.

6.2 The membrane is impervious to water and will act as a waterproofing layer capable of accepting minor structural movement.

7 Resistance to mechanical damage

7.1 The system can accept the foot traffic and light concentrated loads associated with installation and maintenance operations, provided there are no sharp objects present on the membrane's surface prior to and during installation of the protective layer.

7.2 Whilst the membrane can withstand distributed loads, it can be damaged by concentrated point loads and these should be avoided.

7.3 When used over construction or bridging joints the membrane can accommodate the minor structural movement likely to occur under normal service conditions without damage.

8 Adhesion

The adhesion of the membrane to the substrate is satisfactory.

9 Effects of temperature

Providing the substrate is dry and frost free, the membrane can be installed down to the lowest possible site working temperatures found in the UK.

10 Maintenance

As the system is confined within a structure and has suitable durability (see section 11) maintenance is not required. However, it must be ensured that any damage occurring before enclosure is repaired (see section 14).

11 Durability



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

Installation

12 General

12.1 The PermaQuik 6100 Monolithic Hot-Melt Damp-proofing System must be installed in accordance with the relevant requirements of CP 102 : 1973, BS 8102 : 2009, the Certificate holder's instructions and this Certificate.

12.2 Concrete or screeded surfaces should have a smooth finish, free from loosely adhering material and sharp protrusions. Concrete should be dry and dust free. Surfaces must be conditioned with Esha Primer at a coverage rate of between 7 and 11.5 m²·l⁻¹ and allowed to dry before application of the membrane.

12.3 Vertical surfaces of brickwork and blockwork should be 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.

12.4 The membrane must be covered with a protective layer as soon as possible after installation, in accordance with the Certificate holder's instructions.

13 Procedure

13.1 Cakes of membrane are heated in an insulated and stirred heater fitted with thermometers to measure the melt and oil temperatures.

13.2 The nominal temperature range for the molten membrane is 190°C to 205°C. The temperature of the melt must not exceed 215°C.

13.3 The melt is discharged from the heater into a suitable container and applied to the surface using long-handled, rubber-bladed squeegees or by brush on small areas.

13.4 When used over construction joints, the membrane must be reinforced with a strip of PQ 2017 polyester scrim incorporated into the membrane. When used over bridging joints, the membrane must also be reinforced with PQ 2060 or PQ 2061.

13.5 The first coat of membrane must have a minimum thickness of 3 mm.

13.6 The PQ 2017 polyester reinforcement layer is embedded by lightly brushing it into the first layer of the membrane whilst it is still warm and tacky. The reinforcement overlaps should be at least 75 mm.

13.7 The second coat of membrane, applied over the top of the reinforcement, must have a minimum thickness of 3 mm.

14 Repair

Damage to the membrane can be adequately repaired by patching in accordance with the Certificate holder's instructions.

15 Tests

Tests were conducted on control and artificially aged samples of the PermaQuik 6100 Monolithic Hot-Melt Damp-proofing System, PQ 2017 and reinforcing scrims and the results assessed to determine:

- thickness
- weight per unit area
- tensile strength and elongation
- fines content
- oil loss
- density
- moisture absorption
- ring and ball softening point
- resistance to imposed loads
- low temperature flexibility
- water vapour permeability
- water vapour resistance
- resistance to cracking
- resistance to static indentation
- resistance to dynamic indentation
- resistance to water pressure
- tensile bond strength.

16 Investigation

16.1 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.

16.2 Visits were made to sites in progress to evaluate the practicability of installation.

Bibliography

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 buildings against water from the ground*

17 Conditions

17.1 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.

17.2 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.

17.3 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.

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

17.5 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
- individual 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.

17.6 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.