Alumasc Exterior Building Products Ltd
White House Works
Bold Road
Sutton
St Helens
Merseyside WA9 4JG
Tel: 01744 648400 Fax: 01744 648401
e-mail: info@alumasc-exteriors.co.uk
website: www.alumascwaterproofing.co.uk

BBA APPROVAL INSPECTION TESTING CERTIFICATION
TECHNICAL APPROVALS FOR CONSTRUCTION

Agrément Certificate
90/2431
Product Sheet 2

HYDROTECH MONOLITHIC MEMBRANES

HYDROTECH MONOLITHIC MEMBRANE 6125 DAMP-PROOFING SYSTEM

This Agrément Certificate Product Sheet(1) relates to the Hydrotech Monolithic Membrane 6125 Damp-Proofing System, a waterproof sandwich membrane for use on new or existing horizontal and vertical surfaces in above-ground and basement constructions, or to form a damp-proof membrane in 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 system will resist the passage of moisture into a building (see section 6).

Resistance to mechanical damage — the system will accept the limited foot traffic and loads associated with installation and maintenance, 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 service 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 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 First issue: 14 October 2013
Originally certificated on 13 March 1990

Simon Wroe
Head of Approvals — Materials

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

British Board of Agrément
Bucknalls Lane
Watford
Herts WD25 9BA
tel: 01923 665300
fax: 01923 665301
e-mail: mail@bba.star.co.uk
website: www.bbacerts.co.uk

Regulations

In the opinion of the BBA, the Hydrotech Monolithic Membrane 6125 Damp-Proofing System, if installed, used and maintained in accordance with this Certificate, will meet or contribute to meeting 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 meet this Requirement. See section 6.1 of this Certificate.
Regulation:	7	Materials and workmanship
Comment:		The system is acceptable. See section 9 and the *Installation* part of this Certificate.

The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)	Fitness and durability of materials and workmanship
Comment:		The use of the system satisfies the requirements of this Regulation. See section 9 and the *Installation* part of this Certificate.
Regulation:	9	Building standards applicable to 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 clause 3.4.7[(1)(2)]. See section 6.1 of this Certificate.
Standard:	7.1(a)	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 made 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

Regulation:	23	Fitness of materials and workmanship
Comment:		The system is acceptable. See section 9 and the *Installation* part of this Certificate.
Regulation:	28	Resistance to moisture and weather
Comment:		The system will enable a structure to meet the requirements of this Regulation. See section 6.1 of this Certificate.

Construction (Design and Management) Regulations 2007

Construction (Design and Management) Regulations (Northern Ireland) 2007

Information in this Certificate may assist the client, CDM co-ordinator, designer and contractors to address their obligations under these Regulations.

See section: 3 *Delivery and site handling* (3.1 and 3.3) of this Certificate.

Additional Information

NHBC Standards 2013

NHBC accepts the use of the Hydrotech Monolithic Membrane 6125 Damp-Proofing System, provided it is installed, used and maintained in accordance with this Certificate, in relation to *NHBC Standards*, Part 5 *Substructure and ground floors*, Chapter 5.1 *Substructure and ground bearing floors*, clauses M8 *Damp-proof membrane* (for use below the slab and in sandwich constructions) and M10 *Tanking materials* (for use as part of a basement tanking system).

Technical Specification

1 Description

1.1 The Hydrotech Monolithic Membrane 6125 Damp-Proofing System is a hot-applied, polymer-modified, rubberised bitumen-based membrane used with a range of reinforcement membranes and protection sheets to form a waterproof sandwich membrane on new or existing horizontal and vertical surfaces in above-ground and basement constructions, or to form a damp-proof membrane in solid floors. The system is applied in two layers to provide a coating with a nominal thickness of 6 mm.

1.2 Reinforcement membranes and protection sheets available for use with the system, and included in the assessment are:

- Flex Flash F — a spun-bound polyester fabric reinforcement sheet
- Flex Flash UN — an uncured neoprene rubber reinforcement sheet
- Hydrogard 10 — a lightweight oxidised-bitumen glassfibre-reinforced protection sheet
- Hydrogard 20 — a polyester-reinforced modified-bitumen protection sheet
- Hydrogard 30 — a heavy-duty dual-reinforced modified-bitumen protection sheet
- Alumasc Bitumen Primer – a cold, spray-applied bituminous primer for use on horizontal, vertical and sloping surfaces. The coating can also be applied by brush or roller at a rate of from 8 m^2 per litre to 16 m^2 per litre.

2 Manufacture

2.1 The membrane is manufactured by heating and blending bitumen, process oils, fillers (including inert clay) and other additives in a temperature-controlled cycle. After blending the mix is held in a temperature-controlled tank until it is packaged. The reinforcement sheets are purchased to a specification.

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 membrane is manufactured in Canada by the Hydrotech Membrane Corporation and marketed in the UK by the Certificate holder.

3 Delivery and site handling

3.1 The system membrane is supplied in the form of solid 18 kg blocks, wrapped in polythene film and in cardboard boxes bearing the product description, the BBA logo and the production batch number. The membrane must be stored under cover, away from heat sources.

3.2 Reinforcement and protection sheets are packaged in rolls with labels bearing the product trade name. They should be stored under cover and kept dry.

3.3 Alumasc Bitumen Primer is delivered to site in 25 litre cans. The product has a flashpoint of 38°C and is classified as 'Flammable' and 'Harmful' under *The Chemicals (Hazard Information and Packaging for Supply Regulations 2009* (CHIP4) */ Classification, Labelling and Packaging of Substances and Mixtures (CLP Regulation) 2009*. The product should be stored in accordance with the *Dangerous Substances and Explosives Atmospheres Regulations (2002).*

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on the Hydrotech Monolithic Membrane 6125 Damp-Proofing System.

Design Considerations

4 Use

4.1 The Hydrotech 6125 Monolithic Membrane Damp-Proofing System is satisfactory for use as a protected membrane for above- and below-ground waterproofing within a structure of concrete, brickwork or blockwork, or as a damp-proof membrane for solid floors.

4.2 The system is compatible with concrete, brickwork and blockwork substrates and is resistant to those chemicals likely to occur in service.

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

4.4 In the event of contamination of the system by chemicals, oils or grease, the advice of the Certificate holder must be sought.

5 Practicability of installation

The system should only be installed by contractors who have been trained and approved by the Certificate holder, from whom details can be obtained.

6 Weathertightness

6.1 Results of tests confirm that the system will adequately resist the passage of moisture into a structure and enable it to satisfy the following requirements of the National Building Regulations:

England and Wales – Approved document C, Requirement C2(b), section 6
Scotland – Mandatory Standard 3.10, clauses 3.10.1 to 3.10.7
Northern Ireland – Regulation 28.

6.2 The system is impervious to water and will act as a waterproof layer capable of accepting minor structural movement without damage.

7 Resistance to mechanical damage

7.1 The system can accept the foot traffic and light concentrated loads associated with installation and maintenance. Reasonable care must be taken to avoid puncture by sharp objects or concentrated loads.

7.2 The system can accommodate the minor structural movement likely to occur in service.

8 Maintenance

As the system is confined within the structure and has suitable durability (see section 9), maintenance is not required. However, it must be ensured that damage occurring before enclosure is repaired (see section 12).

9 Durability

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

Installation

10 General

10.1 The Hydrotech Monolithic Membrane 6125 Damp-Proofing System must be installed in accordance with the relevant requirements of BS 8102 : 2009, CP 102 : 1973 and the Certificate holder's instructions.

10.2 Concrete or screeded surfaces must have a smooth finish, free from loosely-adhering material and sharp protrusions. Concrete should be dry and dust-free. Surfaces must be conditioned with Alumasc Bitumen Primer at a nominal coverage rate of between 8 m^2 per litre and 16 m^2 per litre and allowed to dry before application of the membrane.

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 pointed flush to give a smooth surface without sudden changes in level.

10.4 The system must be covered with a protective layer immediately after installation, in accordance with the Certificate holder's instructions.

11 Procedure

11.1 Blocks of the membrane are heated in a mechanically agitated melter that has a double jacket containing either air or a heat-transfer oil, and is fitted with thermometers to measure the melt and air/oil temperatures.

11.2 The nominal temperature range for the molten membrane is from 180°C to 190°C. The temperature of the melt must never exceed 205°C.

11.3 The molten membrane is discharged from the melter into a suitable container and applied to the surface using three passes of a long handled squeegee for horizontal surfaces and a suitable spreader for vertical surfaces.

11.4 When used over construction joints or other minor cracks, the membrane must be reinforced with Flex-Flash UN. The Certificate holder must be consulted for suitable details at expansion joints.

11.5 The first layer of molten membrane should have a nominal thickness of 3 mm.

11.6 Flex-Flash F polyester reinforcing sheet is embedded by lightly brushing it into the first layer of the membrane whilst it is still warm and tacky. The reinforcement overlaps must be at least 75 mm and fully sealed by the membrane.

11.7 The second layer of the membrane, applied over the top of the reinforcement, must have a nominal thickness of 3 mm.

11.8 The membrane must be protected immediately with the specified protection sheet in accordance with the Certificate holder's instructions.

11.9 The completed membrane must be electronically tested for damage (and repaired where necessary) prior to the application of the covering layers.

12 Repair

Any damage to the system must be repaired as soon as possible and before being confined within the structure. The membrane is repaired by removing the damaged area and reinstating to the original specification. The advice of the Certificate holder should be sought.

Technical Investigations

13 Tests

Tests were conducted on samples of the system components and the results assessed to determine:

- unreinforced membrane
  - fines content
  - elastic recovery (aged and unaged)
  - oil loss
  - water absorption
  - static indentation
  - dynamic indentation
  - flow
  - imposed load resistance
  - ring and ball softening point
  - viscosity (unaged and heat aged)
- reinforcement
  - thickness
  - mass per unit area
  - tensile strength and elongation
- reinforced membrane
  - mass per unit area
  - dimensional stability
  - low temperature flexibility
  - water vapour permeability
  - water vapour resistance
  - resistance to cracking
  - resistance to cyclic movement (aged and unaged)
  - static indentation
  - dynamic indentation
  - peel strength
  - slide resistance.

14 Investigations

14.1 The manufacturing process was evaluated, including the methods adopted for quality control.

14.2 Visits were made to sites to assess 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 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 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.

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.

British Board of Agrément
Bucknalls Lane
Watford
Herts WD25 9BA

tel: 01923 665300
fax: 01923 665301
e-mail: mail@bba.star.co.uk
website: www.bbacerts.co.uk