John Newton & Co Ltd
t/a Newton Waterproofing Systems
Newton House
17-19 Sovereign Way
Tonbridge
Kent TN9 1RH

Tel: 01732 360095 Fax: 01732 359033
e-mail: tech@newtonwaterproofing.co.uk
website: www.newtonwaterproofing.co.uk

Agrément Certificate
94/3010
Product Sheet 7

NEWTON MEMBRANE SYSTEMS

NEWTON 803 NEWTONITE

This Agrément Certificate Product Sheet(1) relates to Newton 803 Newtonite, a moulded HDPE membrane incorporating a polypropylene mesh as a key for plaster, render or dry lining applied on plaster dabs, for use as damp-proofing on walls, over a contaminated or damp background.

(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 membrane is water resistant and has a high resistance to water vapour transmission (see section 6).

Resistance to salt transfer — the membrane provides an effective barrier to the transmission of salts or other contaminants from the substrate (see section 8).

Resistance to impact — the membrane, plastered, rendered or dry-lined, has a satisfactory resistance to soft and hard body impacts (see section 9).

Durability — under normal conditions of use the membrane, when used as part of a system, will provide an effective barrier to the transmission of salts, liquid water and water vapour 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 Fourth issue: 12 September 2017

Originally certificated on 16 December 2010

John Albon – Head of Approvals Construction Products

Claire Curtis-Thomas
Chief Executive

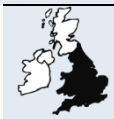
The BBA is a UKAS accredited certification body – Number 113.

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.

Regulations

In the opinion of the BBA, Newton 803 Newtonite, 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)

For new construction and a 'Material Change of Use' of an existing building, as defined in Regulation 5a

Requirement:	**C2(a)(b)**	**Resistance to moisture**
Comment:		The product, when used as part of a system, adequately resists the passage of moisture. See section 6 of this Certificate.
Regulation:	**7**	**Materials and workmanship**
Comment:		The product is acceptable. See section 12 and the *Installation* part of this Certificate.

The Building (Scotland) Regulations 2004 (as amended)

For new construction and a 'Conversion' of an existing building, as defined in Regulation 4

Regulation:	**8(1)**	**Durability, workmanship and fitness of materials**
Comment:		The product is acceptable. See section 12 and the *Installation* part of this Certificate.
Regulation:	**9**	**Building standards applicable to construction**
Standard:	3.4	Moisture from the ground
Standard:	3.10	Precipitation
Comment:		The product, when used as part of a system, adequately resists the passage of moisture, with reference to clauses 3.4.1(1)(2), 3.4.5(1)(2) and 3.10.1(1)(2). See section 6 of this Certificate.
Standard:	7.1(a)(b)	Statement of sustainability
Comment:		The product can contribute to satisfying 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)

For new construction and a 'Material Change of Use' of an existing building, as defined in Regulation A9

Regulation:	**23(a)(i)**	**Fitness of materials and workmanship**
Comment:	**(iii)(b)(i)**	The product is acceptable. See section 12 and the *Installation* part of this Certificate.
Regulation:	**28(a)(b)**	**Resistance to moisture and weather**
Comment:		The product, when used as part of a system, adequately resists the passage of moisture. See section 6 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 section: 1 *Description* (1.1) of this Certificate.

Additional Information

NHBC Standards 2017

In the opinion of the BBA, Newton 803 Newtonite, 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 *Substructures and ground bearing floors*, 5.2 *Suspended ground floors* 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 A or Type B waterproofing protection.

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 Newton 803 Newtonite membrane is a white, translucent high-density polyethylene (HDPE) sheet with moulded studs at 28 mm centres. It has a woven polypropylene mesh thermally bonded to the membrane on the face side to form a key for plaster and render finishes. The membrane is manufactured to the following nominal characteristics:

Thickness (mm)	0.5
Dome height (mm)	3.0
Weight per unit area (kg·m^{-2})	0.5
Roll length (m)	10.0, 20.0
Roll width (m)	1.0(1), 2.0(2)
Weight per roll (kg)	5(1), 20(2)
Air gap volume (litres per m^2)	1.56
Watertightness* 60 kPa	pass
Compressive strength* (kN·m^{-2})	320.

(1) 10 m length.
(2) 20 m length.

1.2 Ancillary items used with the membrane and included in this assessment are:

- Newton Mesh Plugs — brown or blue polypropylene fixing plugs with a 50 mm diameter retaining head and 50 mm long grooved shank for securing the membrane to the wall
- Newton Waterseal Tape — black or white butyl tape for sealing joints in the membrane
- Newton Waterseal Rope — black or white butyl beading for sealing the air gap around pipes and the edges of the membrane, and joining floor and wall membranes
- Newton 800 Mesh Tape — a butyl tape strip 150 mm wide incorporating a woven geofabric on one side to act as a plaster key
- Newton Mastic Sealer — silicone sealant for sealing the Newton membranes, where necessary

- Newton 800 Profile Strip — a white recycled-plastic edging strip used as a plaster or render stop bead at the bottom of installations.

2 Manufacture

2.1 The membrane is formed in a continuous process in which HDPE is extruded into sheets and the studs are impression-formed. A woven polypropylene mesh is then thermally bonded onto the face side of the membrane.

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.

3 Delivery and site handling

3.1 The membrane is delivered to site in rolls packaged in woven plastic sacks, bearing the product and Certificate holder's name, and the BBA logo incorporating the number of this Certificate.

3.2 Rolls should be stored on end, under cover and protected from sharp objects, sunlight and high temperatures.

3.3 The packaging details of the ancillary items are shown in Table 1.

Table 1 Packaging details

Item	Dimensions/volume	Packaging/quantity
Newton Mesh Plug	50 mm diameter head 50 mm long (use 7 or 8 mm drill bit depending on the quality of the substrate)	160 or 250 per bag
Newton Waterseal Tape	22.5 m long x 30 mm wide x 2 mm thick	12 roll per box
Newton Waterseal Rope	4.75 m long x 10 mm diameter	12 roll per box
Newton 800 Mesh Tape	150 mm x 10 m	packs of 20
Newton Mastic Sealer	0.4 litre cartridge	25 cartridges per carton
Newton 800 Profile Strip	2 m lengths	packs of 20

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Newton 803 Newtonite.

Design Considerations

4 Use

Newton 803 Newtonite is satisfactory for damp-proofing above-ground walls in new construction or in existing buildings over a contaminated or damp background. The membrane can be used as a substitute for Newton 805 Newlath where space saving is a consideration. It can support plastering, rendering or a dry lining fixed by plaster dabs (where appropriate) in the following situations:

- on existing damp walls
- in conjunction with a remedial dpc system where the walls have a high salt content and/or when it is necessary to complete the installation immediately without allowing a period for initial drying
- over walls which have a friable or painted surface, are contaminated with oil or mould, or have a high salt content.

5 Practicability of installation

The membrane is designed to be installed by a competent general builder, or a contractor, experienced with this type of product.

6 Resistance to water and water vapour

The membrane is water resistant and has a high resistance to water vapour transmission.

7 Risk of condensation

The generation and dispersal of moisture in the internal environment must be controlled, and appropriate and robust designs must be selected to minimise the risk of both surface and interstitial condensation. The product has a very high resistance to vapour diffusion and this should be taken into account in any calculation of condensation risk.

8 Resistance to salt transfer

The membrane provides an effective barrier to the transmission of salts or other contaminants from the substrate.

9 Resistance to impact

The membrane, plastered, rendered or dry lined has a satisfactory resistance to soft and hard body impacts.

10 Wall-mounted fittings

Wall-mounted fittings (apart from lightweight items such as framed pictures) should be fixed (using recommended proprietary fixings) through the membrane and lining board, plaster or render to the loadbearing structure behind. Holes made in the membrane must be filled with a Newton Mastic Sealer before inserting the fixing to ensure a watertight seal is achieved.

11 Maintenance

As the membrane is confined within a wall or floor space and has suitable durability (see section 12), maintenance is not required.

12 Durability

Under normal conditions of use the membrane, when used as part of a system, will provide an effective barrier to the transmission of salts, liquid water and water vapour for the life of the structure in which it is incorporated.

13 Reuse and recyclability

The product comprises HDPE and polypropylene, which can be recycled.

Installation

14 Survey

14.1 Where conditions are damp, a full survey by a specialist damp-proofing surveyor is necessary to diagnose the cause and to establish if treatment is required.

14.2 If rising damp to above-ground elevations is found, a remedial treatment is conducted in accordance with the relevant Agrément Certificate, BS 6576 : 2005 and the Property Care Association Code of Practice, 2013.

14.3 Appropriate remedial measures must be taken to rectify major causes of damp conditions or water ingress, and to repair structural defects.

15 Surface preparation

15.1 Any unsound plaster or render is removed to expose the substrate, which is cleaned with a stiff brush to remove loose material, laitance, salt residue, mould or adhesive. If mould is present, the substrate is treated with an HSE-approved fungicidal wash.

15.2 Uneven wall substrates should be dubbed out with a cement-sand (1:4) render. They should be allowed to dry thoroughly before applying the membrane.

16 Procedure

16.1 Installation of the membrane usually commences at the top of the construction. The membrane may require initial fixing along the upper edge of a wall, prior to final fixing. Joints are formed by overlapping two membrane sheets by a minimum of three studs and sealing with Newton Waterseal Rope positioned between the last two rows of studs. For horizontal joints, the lower sheet is always positioned in front of the upper sheet. Where butt joints cannot be avoided between membranes, the joint is sealed using Newton 800 Mesh Tape applied over the front of the membranes.

16.2 Fixings are made through the membrane into 7 mm or 8 mm holes (depending on the quality of the substrate) drilled centrally through the studs to a minimum depth of 50 mm. Newton Mesh Plugs are inserted into the holes and hammered flush with the membrane with a club hammer. Care must be taken not to over-hammer the plugs, which may cause ‘mattressing’ of the membrane.

16.3 Spacing between fixings should usually be a maximum of 250 mm. This is achieved by fixing in a square at 350 centres and then adding a plug in the centre of the square. However, on very flat walls, the horizontal and vertical centres can be moved out to 400 mm to achieve a maximum spacing of 300 mm when the centre plug is added.

16.4 The membrane is installed over windows and cut away to expose them. The gaps are then sealed with Newton Waterseal Tape or Rope.

16.5 For doors and some obstructions, the technique covered in section 16.4 cannot be used. Instead, the membrane is installed up to the perimeter and the gap sealed in the same manner.

16.6 Power cables, points and light switches should preferably be remounted in front of the membrane.

16.7 Newton 800 Profile Strip should be installed at the bottom of the installation to act as a stop to the plaster or render coat and to prevent bridging of the floor to the plaster in internal situations.

17 Plastering

17.1 The membrane should be plastered with a plaster recommended by the Certificate holder in accordance with BS 8481 : 2006, BS EN 13914-2 : 2005 and/or the appropriate BBA Certificate.

17.2 The plaster should be applied in three coats to a minimum total depth of 15 mm. Each coat should be scratched and left to dry before application of the next, to minimise the chance of cracking or crazing of the finish coat.

18 Rendering

18.1 The membrane should be rendered with a 6:1:1 mixture of sharp sand/cement/lime in accordance with BS 8481 : 2006.

18.2 The render should be applied in two coats, allowing 7 to 10 days between coats, to a minimum total depth of 15 mm.

19 Dry lining of walls

19.1 A gypsum-based drywall adhesive to BS EN 14496 : 2005 is mixed and applied in vertical strips over the fixing centres and in bands along the top and bottom of the membrane. The adhesive dabs are applied to a minimum thickness of 8 mm and should cover a minimum of 50% of the membrane.

19.2 Gypsum plasterboards to BS EN 520 : 2004, or similar dry lining boards which are the subject of a current BBA Certificate, are pressed onto the adhesive dabs and jointed in the usual manner. Temporary spacers approximately 25 mm high are positioned under the dry lining to support it during the cure period.

20 Finishing works

After the system has been installed and the walls dry lined, permanent decorations such as vinyl paper or oil paint may be applied. Temporary permeable decorations (necessary with traditional, cement-based waterproofers) are not necessary for use with this system.

Technical Investigations

21 Tests

Tests were carried out and the results assessed to determine:

- thickness
- impact resistance of plastered, rendered and plasterboard dry-lined membrane
- bond strength of mesh to membrane.

22 Investigations

22.1 A user survey of treated installations and contractors was conducted to establish the system's performance in use.

22.2 An assessment was made of the scope of use and durability of the system in relation to the generic properties of the membrane and investigations carried out previously on the Newton 508R membrane.

22.3 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 6576 : 2005 *Code of practice for diagnosis of rising damp in walls of buildings and installation of chemical damp-proof courses*

BS 8481 : 2006 *Design, preparation and application of internal gypsum, cement, cement and lime plastering systems — Specification*

BS EN 520 : 2004 *Gypsum plasterboards — Definitions, requirements and test methods*

BS EN 13914-2 : 2005 *Design, preparation and application of external rendering and internal plastering — Design considerations and essential principles for internal plastering*

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 EN 14496 : 2005 *Gypsum based adhesives for thermal/acoustic insulation composite panels and plasterboards — Definitions, requirements and test methods*

Property Care Association COP02 *Code of Practice for Installation of Remedial Damp-proof Courses in Masonry Walls*

23 Conditions

23.1 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.

23.2 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.

23.3 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.

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

23.5 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.

23.6 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
clientservices@bbacerts.co.uk
www.bbacerts.co.uk