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Agrément Certificate

95/3145

Product Sheet 1

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PPG ARCHITECTURAL COATINGS UK LTD

JOHNSTONE'S STORMSHIELD PLIOLITE-BASED MASONRY FINISH

This Agrément Certificate Product Sheet⁽¹⁾ relates to Johnstone's Stormshield Pliolite⁽²⁾-Based Masonry Finish, for use as an external masonry coating, applied by roller, brush or spray.

(1) Hereinafter referred to as 'Certificate'.

(2) Pliolite is a registered trademark.

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

Permeability — the product has good resistance to water penetration (see section 6).

Behaviour in relation to fire — the product is classified as Class 0 or 'low risk' as defined in the national Building Regulations and is therefore restricted in some cases (see section 7).

Durability — in normal external conditions and when correctly applied to the detailed substrates, the product will perform satisfactorily for a period of up to 15 years (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 Fourth issue: 9 April 2019

John Albon
Chief Scientific Officer

Claire Curtis-Thomas
Chief Executive

Originally certificated on 1 June 1995

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.

British Board of Agrément

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Regulations

In the opinion of the BBA, Johnstone's Stormshield Pliolite-Based Masonry Finish, 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: | B4(1) | External fire spread |
| Comment: | | The product is restricted by this Requirement. See sections 7.1 to 7.5 of this Certificate. |
| Regulation: | 7 | Materials and Workmanship (applicable to Wales only) |
| Regulation: | 7(1) | Materials and Workmanship (applicable to England only) |
| Comment: | | The product is acceptable. See section 9.1 and the <i>Installation</i> part of this Certificate. |
| Regulation: | 7(2) | Materials and Workmanship (applicable to England only) |
| Comment: | | The product is restricted by this Regulation. See sections 7.1 to 7.5 of this Certificate. |



The Building (Scotland) Regulations 2004 (as amended)

| | | |
|--------------------|----------------|---|
| Regulation: | 8(1)(2) | Durability, workmanship and fitness of materials |
| Comment: | | The product is acceptable. See sections 8 and 9.1 and the <i>Installation</i> part of this Certificate. |
| Regulation: | 9 | Building standards applicable to construction |
| Standard: | 2.6 | Spread to neighbouring buildings |
| Standard: | 2.7 | Spread on external walls |
| Comment: | | The product is restricted by these Standards, with reference to clauses 2.6.4 ⁽¹⁾⁽²⁾ , 2.6.5 ⁽¹⁾ , 2.6.6 ⁽²⁾ and 2.7.1 ⁽¹⁾⁽²⁾ . See sections 7.1 to 7.3, 7.6 and 7.7 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 applicable to 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 0.12.1 ⁽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 9.1 and the <i>Installation</i> part of this Certificate. |
| Regulation: | 36(a) | External fire spread |
| Comment: | | The product is unrestricted under this Regulation. See sections 7.1 to 7.4 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* (1.3) and 3 *Delivery and site handling* (3.1 and 3.4) of this Certificate.

Technical Specification

1 Description

1.1 Johnstone's Stormshield Pliolite-Based Masonry Finish is a masonry coating for external use, based on a solution of Pliolite resin in solvent containing pigments, extenders, biocides and other additives.

1.2 The product is available in a range of matt colours, largely to BS 4800 : 2011.

1.3 Johnstone's Performance Coatings Sterilisation Wash is used to prepare weathered surfaces showing signs of organic growth. This product has been approved under the *Control of Pesticides (Amendment) Regulations 1997* for its intended use (HSE No 7359).

2 Manufacture

2.1 The product is manufactured by mixing resin and solvents with the addition of pigments and additives in a batch-blending 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 operated by the manufacturer are being maintained.

2.3 The management systems of PPG Architectural Coatings UK Limited have been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2015 by BSI (Certificate FM 01265).

3 Delivery and site handling

3.1 Johnstone's Stormshield Pliolite-Based Masonry Finish is supplied in 5 litre containers bearing the Certificate holder's name, batch number, and the BBA logo incorporating the number of this Certificate. Johnstone's Performance Coatings Sterilisation Wash is supplied in 2.5 litre containers.

3.2 Containers must be protected from frost during transit and when stored on site.

3.3 Johnstone's Stormshield Pliolite-Based Masonry Finish has a shelf-life of two years. No degradation of the material occurs but there may be some settling. Partly used containers can be re-stored provided they are airtight.

3.4 The Certificate holder has taken the responsibility of classifying and labelling the product and ancillary items 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 sheets(s).

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Johnstone's Stormshield Pliolite-Based Masonry Finish.

Design Considerations

4 Use

4.1 Johnstone's Stormshield Pliolite-Based Masonry Finish is satisfactory for use as a masonry coating, for application by roller, brush or spray to the following materials:

- in-situ or precast concrete (dense and lightweight)
- concrete blockwork (dense and lightweight)
- brickwork (stock, facing and calcium silicate bricks)
- renderings (sand/cement and sand/lime/cement)
- calcium silicate or fibre-reinforced cement sheets or insulation boards
- surfaces painted with gloss, oil or emulsion paints.

4.2 Application should be carried out generally in accordance with BS 6150 : 2006, BS 8000-0 : 2014 and BS 8000-12 : 1989.

4.3 The assessment covers the face of the wall above damp-proof course (dpc) level, and excludes horizontal surfaces such as ledges, sills and copings. Parapet walls must have effective dpc's in the correct positions.

4.4 The effect of pre-treatments or an existing coating on the surface's fire properties are defined in section 7.

5 Practicability of installation

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

6 Permeability

6.1 When tested by the dynamic sweep gas method to BS 7406 : 1991 (ISO 9932 : 1990), a sample of the product, on fibre-reinforced cement, gave a water vapour resistance of $0.53 \text{ MN}\cdot\text{s}\cdot\text{g}^{-1}$.

6.2 The product tends to shed water and considerably reduces the amount of water that can be absorbed by the substrate during rain.

7 Behaviour in relation to fire



7.1 A sample comprising one coat of Johnstone's Stormshield Pliolite-Based Masonry Finish, brilliant white, on a 4.5 mm thick fibre reinforced concrete board gave a fire propagation index (I) of 1.0 and a sub-index (i1) of 0.9 when tested to BS 476-6 : 1989⁽¹⁾, and a Class 1 result when tested to BS 476-7 : 1987⁽²⁾.

(1) Test report reference 60546, conducted by Warrington Fire Research. Report available from the Certificate holder.

(2) Test report reference 60541, conducted by Warrington Fire Research. Report available from the Certificate holder.

7.2 The material combination is therefore a Class 0 or 'low risk' surface as defined in the national Building Regulations.

7.3 This performance may not be achieved by other colours of the product, nor if the product is applied over a previous paint coating or other substrates. The performance of other material combinations should be confirmed by testing or assessment by a UKAS-accredited laboratory.



7.4 In England, Wales and Northern Ireland, the product is not classified as non-combustible or of limited combustibility and may be used on buildings at any proximity to a boundary. For buildings with a storey more than 18 m above the ground, designers should consider the impact on the risk of fire spread over the wall. See also section 7.5.



7.5 The product should not be used on buildings in England that have a storey at least 18 m above ground level and contain: one or more dwellings, an institution, a room for residential purposes (excluding any room in a hostel, hotel or boarding house), student accommodation, care homes, sheltered housing, hospitals or dormitories in boarding schools.



7.6 The product is classified as 'Low Risk' in Scotland and may be used on buildings more than 1 m from a boundary and, on houses, 1 m or less from a boundary. With minor exceptions, the product should be included in calculations of unprotected area, except on houses where the external wall behind has the appropriate fire resistance.

7.7 In Scotland, the product should not be used on domestic high rise buildings (having a storey more than 18 m above the ground).

7.8 Designers should refer to the relevant national Building Regulations and guidance for detailed conditions of use, particularly in respect of requirements for substrate fire performance, cavity barriers and combustibility limitations for other materials and components used in the overall wall construction, for example, thermal insulation.

8 Maintenance



The product can withstand frequent washing without deterioration. A soft bristle brush should be used.

9 Durability



9.1 In normal conditions two coats of the product, correctly applied to the substrates listed in section 4.1, will have good colour stability and perform satisfactorily for up to 15 years.

9.2 In industrial atmospheres the coating may become dirty and, to maintain its appearance, more frequent cleaning or recoating may be necessary.

9.3 There will be a gradual change in colour which will not be excessive, but the coating will be discoloured by water runs. To prevent this, the normal architectural details for shedding water should be present and functioning.

9.4 The product may be abraded, particularly at ground-floor level, by carelessness in use, eg if bicycles or gardening tools are repeatedly leant against it.

Installation

10 Preparation

10.1 The substrates must be sound, free from dirt and grease and reasonably dry. Joints in new brickwork and blockwork should be finished flush. Mortar joints in existing work should be repointed if necessary and allowed to cure.

10.2 The product can bridge hairline cracks in the substrate but larger cracks must be repaired in accordance with the Certificate holder's instructions.

10.3 Any organic growth should be removed mechanically from old surfaces. Johnstone's Performance Coatings Sterilisation Wash is then applied by brush at a rate of 3 to 7 m² per litre after dilution with water in accordance with the Certificate holder's instructions. After 24 hours the surface is washed down and allowed to dry.

10.4 If the substrate is chalking, absorbent or friable or has been decorated previously, any loose material should be removed with a stiff brush.

11 Application

11.1 The product is applied by roller or brush in two coats and can also be spray applied. The Certificate holder can advise on suitable types of spray equipment.

11.2 The product should not be applied in wet weather, nor to a frosted surface. The minimum application temperature is -5°C.

11.3 The coverage achieved will depend on the texture and suction of the substrate; normally it will be between 6 and 10 m² per litre per coat.

11.4 To avoid patchiness owing to drying edges, work should be carried to an internal or external angle or to a feature. Alternatively, joints may be made to coincide with downpipes etc. On large unbroken areas, sufficient operatives should be available to maintain a flowing edge.

11.5 The product may be coated overnight. During the drying period of 16 to 24 hours the coating has some tolerance to showers.

12 Redecoration

For recoating, normally it is neither necessary nor possible to remove the existing coating completely. The surface should be prepared by washing or brushing, and may be recoated with the product. Redecoration with oil, gloss or cement paints is not possible.

Technical Investigations

13 Tests

13.1 Samples on various primed and unprimed substrates were tested and the results assessed to determine:

- extensibility
- water vapour permeability
- resistance to artificial weathering.

13.2 An assessment was made of existing data to determine:

- flashpoint
- resistance to rain penetration
- effect of water immersion
- effect of alkali immersion
- resistance to impact
- resistance to abrasion
- adhesion to substrates
- resistance to algal growth
- surface spread of flame
- fire propagation.

14 Investigations

14.1 A re-evaluation was made of existing data relating to the previous assessment of associated products.

14.2 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 476-6 : 1989 + A1 : 2009 *Fire tests on building materials and structures — Method of test for fire propagation for products*

BS 476-7 : 1987 *Fire tests on building materials and structures — Method for classification of the surface spread of flame of products*

BS 4800 : 2011 *Schedule of paint colours for building purposes*

BS 6150 : 2006 + A1 : 2014 *Painting of buildings — Code of practice*

BS 7406 : 1991 *Methods for determination of water vapour transmission rate of sheet materials (paper and board) by dynamic sweep and static gas methods*

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

BS 8000-12 : 1989 *Workmanship on building sites — Code of practice for decorative wallcoverings and painting*

BS EN ISO 9001 : 2015 *Quality management systems — Requirements*

ISO 9932 : 1990 *Paper and board — Determination of water vapour transmission rate of sheet materials — Dynamic sweep and static gas methods*

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.