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Agrément Certificate

18/5605

Product Sheet 1

POLYROOF ELASTEX SOLO SYSTEMS

ELASTEX SOLO SYSTEM

This Agrément Certificate Product Sheet⁽¹⁾ relates to the Elastex SoLo System, a low odour, liquid-applied, reinforced polyurethane membrane roof waterproofing system, for use on flat or pitched roofs with limited access.

(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).

Properties in relation to fire — the system may enable a roof to be unrestricted under the national Building Regulations (see section 7).

Adhesion — the adhesion of the system is sufficient to resist the effects of any likely wind suction and the effects of thermal or other minor movement likely to occur in practice (see section 8).

Resistance to mechanical damage — the system will accept, without damage, the limited foot traffic and loads associated with installation and maintenance (see section 9).

Durability — under normal service conditions, the system will provide a durable waterproof covering with a service life of up to 25 years (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 Second issue: 25 April 2022

Originally certificated on 16 January 2019

Hardy Giesler
Chief Executive Officer

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 MUST check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA directly.

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, the Elastex SoLo System, 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 system may be restricted under this Requirement in some circumstances. See section 7.3 of this Certificate.
Requirement:	B4(2)	External fire spread
Comment:		On suitable substructures, the use of the system may enable a roof to be unrestricted under this Requirements. See sections 7.1 and 7.2 of this Certificate.
Requirement:	C2(b)	Resistance to moisture
Comment:		The system will enable a roof to satisfy this Requirement. See section 6 of this Certificate.
Regulation:	7(1)	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)(2)	Durability, workmanship and fitness of materials
Comment:		The use of the system satisfies the requirements of this Regulation. See sections 10.1 and 11 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards applicable to construction
Standard:	2.6	Spread to neighbouring buildings
Comment:		The system is restricted under clause 2.6.4 ⁽¹⁾⁽²⁾ of this Standard in some circumstances. See section 7.4 of this Certificate.
Standard:	2.8	Spread from neighbouring buildings
Comment:		When applied to a suitable substructure, the system may enable a roof to be unrestricted under clause 2.8.1 ⁽¹⁾⁽²⁾ of this Standard. See sections 7.1 and 7.2 of this Certificate.
Standard:	7.1(a)	Statement of sustainability
Comment:		The system 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 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)(ii)	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 use of the system will enable a roof to satisfy the requirements of this Regulation. See section 6 of this Certificate.
Regulation:	36(b)	External fire spread
Comment:		On a suitable substructure, the use of the system may enable a roof to be unrestricted under this Regulation. See sections 7.1 and 7.2 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: 3 *Delivery and site handling* of this Certificate.

Additional Information

NHBC Standards 2022

In the opinion of the BBA, the Elastex SoLo 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*, Chapter 7.1 *Flat roofs, terraces and balconies*.

The NHBC Standards do not cover the use of the system in the refurbishment of existing roofs.

Technical Specification

1 Description

1.1 The Elastex SoLo System is a low odour, cold liquid-applied polyurethane membrane, reinforced with an embedded glass fibre matting.

1.2 The system is built up by applying the following components on site:

- Elastex SoLo Binder Sealer — a two-component stabiliser and primer for use on concrete prior to the application of the Elastex SoLo system
- Elastex SoLo — a one-component liquid-applied polyurethane coating, which cures to form an elastomeric waterproofing
- Elastex SoLo Accelerator — an acid-based catalyst for accelerating the cure time for Elastex SoLo
- PolyMat 100 Glassfibre Matting — a chopped strand glass mat with a nominal weight per unit area of 100 g·m⁻², for setting into Elastex SoLo.

1.3 Other materials available for use with the system, but outside of the scope of this Certificate, include:

- biocidal wash for use on masonry against mould, fungi and moss
- liquid applied polyurethane containing reinforcing fibres
- solvent for cleaning equipment
- foil faced vapour control layer and carrier membrane.

2 Manufacture

2.1 The liquid components of the system are manufactured by 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 Polyroof Products Ltd have been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2015 by the BBA (Certificate 11/Q021).

3 Delivery and site handling

3.1 The liquid components of the system are delivered to site in sealed containers labelled with the Certificate holder's name, product description and the appropriate hazard and risk labels. They are available in the pack sizes given in Table 1.

3.2 All containers should be stored under cover in a cool, dry and ventilated place away from other chemicals and protected from frost. Components kept in sealed unopened containers and stored in accordance with the manufacturer's instructions will have a shelf-life as detailed in Table 1.

Table 1 Pack weights and storage lives

Component	Pack size (litres)	Pack weight (kg)	Storage life (months)
Elastex SoLo Binder Sealer	5	5.4	12
Elastex SoLo	12.5	17.5	6
Elastex SoLo Accelerator	0.22	0.25	indefinite

3.3 PolyMat 100 Glassfibre Matting is delivered to site in rolls with the following nominal dimensions and weight:

Length (m)	80
Width (cm)	125
Roll weight (kg)	10.

3.4 The Certificate holder has taken the responsibility of classifying and labelling the system components 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 the Elastex SoLo System.

Design Considerations

4 General

4.1 The Elastex SoLo System is satisfactory for use as a waterproofing layer on flat or pitched roofs for new work, or for repairing or maintaining the waterproof layer of existing structurally sound roofs with limited access.

4.2 The system can be used on the following substrates:

- concrete⁽¹⁾
- mastic asphalt (roofing grade)⁽¹⁾⁽²⁾
- reinforced bituminous membranes⁽¹⁾⁽²⁾.

(1) Elastex SoLo Binder Sealer.

(2) Owing to the variable nature of these materials, acceptable adhesion should be confirmed by test.

4.3 Decks to which the system is to be applied must comply with the relevant requirements of BS 6229 : 2018, BS 8217 : 2005 or, where appropriate, *NHBC Standards 2022*, Chapter 7.1.

4.4 Flat roofs are defined for the purpose of this Certificate as those having a minimum finished fall of 1:80. For design purposes, twice the minimum finished fall should be assumed, unless a detailed analysis of the roof is available, including overall and local deflection and direction of falls etc.

4.5 Pitched roofs are defined for the purpose of this Certificate as those having a fall greater than 1:6.

4.6 Limited access roofs are defined for the purpose of this Certificate as those subjected only to pedestrian traffic for maintenance of the roof covering, cleaning of gutters etc.

4.7 The NHBC requires that the waterproofing membranes, once installed, are inspected in accordance with *NHBC Standards 2022*, Chapter 7.1, Clause 7.1.12, and undergo an appropriate integrity test, where required. Any damage to the membrane is repaired in accordance with section 14 of this Certificate and reinspected.

5 Practicability of installation

The system should only be installed by installers who have been trained and approved by the Certificate holder. Details of these are available from the Certificate holder.

6 Weathertightness



The system will adequately resist the passage of moisture to the interior of the building and enable a roof to comply with the requirements of the national Building Regulations.

7 Properties in relation to fire



7.1 When tested horizontally to BS 476-3 : 2004, a system comprising a 12 mm calcium silicate board, a vapour control carrier membrane, a coat of Elastex SoLo Binder Sealer applied at a rate of 0.1 litres per m², a coat of Elastex SoLo applied at a rate of 1 litre per m² reinforced with 100 g·m⁻² of PolyMat 100 Glassfibre Matting, and a top coat at 0.5 litres per m², achieved a fire rating of EXT.F.AA, and so is unrestricted by the requirements of the national Building Regulations with respect to proximity from a boundary.

(1) Fire test report, reference 360762 issued by Exova Warringtonfire, is available from the Certificate holder.

7.2 The designation of other specifications should be confirmed by reference to the requirements of the documents supporting the national Building Regulations.



7.3 In England and Wales, the system, when used in pitches of greater than 70° excluding upstands, should not be used on buildings that have a storey at least 18 m above ground level and which 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.



7.4 In Scotland, the system, when used in pitches greater than 70°, excluding upstands, should not be used on buildings that have a storey more than 11 m above ground level.

8 Adhesion

The adhesion of the system to the substrates listed in section 4.2 is sufficient to resist the effects of any wind suction, elevated temperature, thermal shock or structural movement likely to occur in practice.

9 Resistance to mechanical damage

9.1 The system must be used with additional protection during installation and maintenance. Reasonable care is required to avoid puncture by sharp objects.

9.2 Suitable footwear should be worn on the roof and any equipment carried onto the roof should be placed on suitable protection to prevent damage to the system.

9.3 The system will maintain its integrity as a watertight coating under normal conditions of exposure, and can accept, without damage, minor movements of the substrate.

10 Maintenance



10.1 The system must be the subject of six-monthly inspections and maintenance in accordance with the recommendations made in BS 6229 : 2018, Chapter 7, to ensure continued satisfactory performance.

10.2 Washing of the system may be carried out using mild detergent, water and a soft brush. Strong alkali solutions, eg caustic soda or bleach, must not be used.

10.3 In the event of contamination of the system by chemicals, oils and greases, the advice of the Certificate holder should be sought.

10.4 Where damage has occurred, it should be repaired in accordance with section 14 and the Certificate holder's instructions.

11 Durability



Under normal service conditions, the system will have a service life of up to 25 years.

Installation

12 General

12.1 The Elastex SoLo System must be applied in accordance with the relevant clauses of Liquid Roofing and Waterproofing Association (LRWA) Note 7 – *Specifier Guidance for Flat Roof Falls*, the Certificate holder's instructions and the provisions of this Certificate. Work must not be carried out if rain is imminent, and the temperature at the time of laying must be between 5 and 30°C.

12.2 Substrates to which the system is to be applied must be dry, clean and free from loose particles, fungal growth, paint, grease, oil or other contaminants which may affect the adhesion. The Certificate holder's advice should be sought for suitable cleaning procedures and the use of biocidal solution.

12.3 Previously coated areas must be checked for integrity and adequate adhesion to the substrate.

12.4 Defects in the substrate, eg cracks, should be suitably repaired prior to application, in accordance with the Certificate holder's instructions.

12.5 A bond-breaking tape of suitable material should be used either side of active cracks or joints. The Certificate holder should be consulted for details.

12.6 The substrate should be prepared and primed in accordance with the Certificate holder's instructions (see also section 4.2). Adhesion checks should be carried out to ensure that the system is fully compatible with the existing surfaces and to determine the necessity for a primer.

12.7 All equipment should be cleaned with cleaning solvent after use.

13 Procedure

13.1 A coat of a fibre reinforced polyurethane coating should be applied to all upstands, plinths, hard edges, or any other vulnerable details, at a coverage rate of 1 litre per m² and allowed to dry firm.

13.2 A coat of Elastex SoLo is applied by brush, roller or airless spray to the clean prepared substrate at a minimum application rate of 1 litre per m².

13.3 PolyMat 100 Glassfibre Matting is laid and embedded into the wet coating using a brush or roller until fully saturated, allowing at least a 50 mm overlap over adjacent areas and ensuring that sufficient embedment material is applied to these areas.

13.4 At this point a check should be made to ensure that sufficient embedment material has been applied by noting areas of exposed matting or pinholing. If necessary, additional coating material may be applied to correct any visible faults and to ensure that there are no tented areas.

13.5 When the coating is dry, a check should be made for any upstanding glass fibre strands. These should be cut flush with the surface using a sharp knife, overcoated with Elastex SoLo and allowed to dry.

13.6 One coat of the top coat is applied by brush, roller or airless spray at a minimum application rate of 0.5 litres per m².

13.7 A check should be made for the presence of pinholes and missed areas. These should be rectified by applying additional coating as necessary.

13.8 If additional slip resistance is required, an extra coat of top coat should be applied at a minimum coverage rate of 0.25 litres per m² and, while wet, broadcast with a suitable anti-slip grit. The Certificate holder should be consulted for suitable grit and broadcast rates.

13.9 Detailing (eg upstands) is carried out in accordance with the Certificate holder's instructions.

14 Repair

14.1 Any damage to the system must be repaired as soon as possible to ensure that the waterproofing integrity is maintained.

14.2 The system can be repaired by cutting back the damaged or debonded coating to sound, well-bonded material and reinstating it to the original specification, ensuring an overlap of at least 50 mm onto the existing coating.

14.3 Overlapped areas on the existing coating must be cleaned using cleaning solvent, prior to overcoating.

14.4 If repairs to the substrate are required, the Certificate holder's advice should be sought for suitable methods.

14.5 On completion, and when the coating has fully cured, the repair should be inspected to ensure that it is sound and well bonded to the existing coating.

15 Tests

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

- watertightness
- water vapour transmission
- tensile properties
- delamination strength on concrete, mastic asphalt and bitumen felt on concrete
- dynamic indentation
- static indentation
- fatigue cycling
- UV ageing $1000 \text{ MJ}\cdot\text{m}^{-2}$ at 50°C
- extremes of installation temperature (tensile strength and dynamic indentation repeated)
- heat ageing at 70°C for 200 days (tensile strength, dynamic indentation and fatigue cycling repeated)
- water exposure at 60°C for 60 days (delamination strength and static indentation repeated).

15.2 Infra-red characterisation was carried out for reference purposes.

15.3 An assessment of wind uplift test results for the system used with foil faced carrier membrane.

16 Investigations

16.1 The manufacturing process was evaluated, including the methods adopted for quality control, and details were obtained of the quality and compositions of the materials used.

16.2 Data on fire performance were evaluated.

16.3 An assessment was made of the practicability of installation of the system.

Bibliography

BS 476-3 : 2004 *Fire tests on building materials and structures – Classification and method of test for external fire exposure to roofs.*

BS 6229 : 2018 *Flat roofs with continuously supported flexible waterproof covering — Code of practice*

BS 8217 : 2005 *Reinforced bitumen membranes for roofing — Code of practice*

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

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
- 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.

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.