Proteus Waterproofing Limited
21a Sirdar Road
Brook Road Industrial Estate
Rayleigh
Essex SS6 7XF

Tel: +44 (0)1268 777871
e-mail: enquiries@proteuswaterproofing.co.uk
website: www.proteuswaterproofing.co.uk

Agrément Certificate
20/5810
Product Sheet 2

PROTEUS LIQUID APPLIED WATERPROOFING SYSTEMS

PROTEUS PRO-SYSTEM LOCALLY-REINFORCED SYSTEM

This Agrément Certificate Product Sheet(1) relates to the Proteus Pro-System(2) Locally-Reinforced System, consisting of a moisture triggered aliphatic polyurethane, for use as a waterproofing with localised reinforcement on pre-coated metal roofing sheets and fibre cement roof sheets.

(1) Hereinafter referred to as 'Certificate'
(2) Proteus Pro-System is a registered trademark of Proteus Waterproofing Limited.

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 to the interior of 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, and minor structural movements occurring in service (see section 9).

Durability — under normal service conditions, the system will provide a durable waterproof covering with a service life of at least 10 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 First issue: 25 October 2021

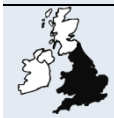
Hardy Giesler
Chief Executive Officer

Certificate amended on 15 August 2021 to include trademark reference.

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.

Regulations

In the opinion of the BBA, the Proteus Pro-System Locally-Reinforced 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 systems are restricted by this Requirement in some circumstances See section 7.3 of this Certificate.
Requirement:	**B4(2)**	**External fire spread**
Comment:		On a suitable substructure, the system may enable a roof to be unrestricted under this Requirement. 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 6.1 of this Certificate.
Regulation:	**7(1)**	**Materials and workmanship**
Comment:		The system is acceptable. See section 11 and the *Installation* 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 *Installation* part of this Certificate.
Regulation:	**9**	**Building standards applicable to construction**
Standard:	2.6	Spread to neighbouring buildings
Comment:		The systems are 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 structure, 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:	3.10	Precipitation
Comment:		The use of the system will enable a roof to satisfy the requirements of this Standard with reference to clauses 3.10.1(1)(2) and 3.10.7(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 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)(b)(i)**	**Fitness of materials and workmanship**
Comment:		The system is acceptable. See section 11 and the *Installation* part of this Certificate.
Regulation:	**28(b)**	**Resistance to moisture and weather**
Comment:		The system will enable a roof to satisfy the requirements of this Regulation. See section 6.1 of this Certificate.
Regulation:	**36(b)**	**External fire spread**
Comment:		On suitable substructures, the use of the system may enable a roof to be unrestricted under this Regulation. See section 7 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*, 4 *General* (4.4), 9 *Resistance to mechanical damage* (9.2) and 10 *Maintenance* (10.3) of this Certificate.

Technical Specification

1 Description

1.1 Proteus Pro-System Locally-Reinforced System consists of the following components:

- Proteus Pro-System — a one-part, moisture-triggered, aliphatic based polyurethane
- Pro-Force — a non-woven glass reinforcement.

1.2 A proprietary carrier membrane is used over substrates with joints, such as insulation boards or plywood decking, and beneath the waterproofing system. The Certificate holder's Technical Services should be contacted for further advice.

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.

3 Delivery and site handling

3.1 The Proteus Pro-System liquid component is delivered to site in 15 litre tins bearing the product's name, batch number and the BBA logo incorporating the number of this Certificate.

3.2 The liquid component should be stored in a dry, shaded area, above freezing point and away from ignition sources. Storage temperatures of between 10°C and 25°C will give the product a shelf-life of 12 months; at higher temperatures the shelf-life will reduce progressively. Once opened, tins should be used within two or three days.

3.3 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 Proteus Pro-System Locally-Reinforced System.

Design Considerations

4 General

4.1 The Proteus Pro-System Locally-Reinforced System is satisfactory for use as a locally reinforced system on existing fibre cement (including asbestos) and Plastisol-coated metal roofs with limited access.

4.2 Decks to which the system is to be applied must comply with the relevant requirements of BS 6229 : 2018.

4.3 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.

4.4 Precautions must be taken before work is undertaken on fibre-reinforced asbestos roof sheets to avoid airborne asbestos fibres. Reference should be made to HSE *Health and safety guidance* HSG 33 and HSE *Asbestos essentials* A10 *Cleaning debris from guttering on an asbestos cement roof*, A12 *Cleaning weathered asbestos cement roofing and cladding* and EM9 *Disposal of asbestos waste.*

5 Practicability of installation

Installation of the system must be carried out only by specialist roofing contractors trained and approved by the Certificate holder.

6 Weathertightness

6.1 The system will adequately resist the passage of moisture into the interior of a building and so contribute to satisfying the relevant requirements of the national Building Regulations.

6.2 The system is impervious to water and, when used as described, will give a weathertight roofing capable of accepting minor movement without damage.

6.3 To achieve a weathertight coating it is essential that the application rate quoted in the Certificate holder's installation instructions is applied.

7 Properties in relation to fire

7.1 When tested to DD CEN/TS 1187 : 2012, Test 4, and classified in accordance with BS EN 13501-5 : 2016, the following systems achieved a $B_{ROOF}(t4)$ classification:

- a system(1) comprising a 6 mm calcium silicate board, a base coat of Proteus Pro-System at an application rate of 0.5 l·m^{-2} and a top coat of Proteus Pro-System at an application rate of 0.5 l·m^{-2}(1)
- a system(2) comprising a 0.7 mm plastisol coated metal sheet, a base coat of Proteus Pro-System at an application rate of 0.5 l·m^{-2} and a top coat of Proteus Pro-System at an application rate of 0.5 l·m^{-2}

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 that 70°, excluding upstands, should not be used on buildings 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.

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

8 Adhesion

The adhesion of the system to the substrates indicated in section 4.1 is sufficient to resist the effects of any wind suction, elevated temperatures, thermal shock or minor movement likely to occur in practice.

9 Resistance to mechanical damage

9.1 The system can accept, without damage, the limited foot traffic and light concentrated loads associated with installation and maintenance. However, reasonable care should be taken to avoid puncture by sharp objects or concentrated loads, see Table 1.

Table 1 Dynamic and Static indentation tests (unaged)

Test	Results	Method
Dynamic Indentation	I_3	EOTA TR 006
Static Indentation	L_3	EOTA TR 007

9.2 When used on fibre cement substrates, additional precautions must be taken to spread loads when carrying out maintenance work on the roof due to the fragility of the substrate.

10 Maintenance

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

10.2 Any damage should be repaired in accordance with section 15 of this Certificate and the Certificate holder's instructions.

10.3 Asbestos pitched roofs encapsulated with the system must be the subject of six monthly inspections, in autumn after leaf fall and in the spring, to ensure that vegetation and other debris are cleared from the roof, and that drains remain clear and functional. All works should be carried out in accordance with HSE Asbestos Essentials A10, A12 and EM9.

11 Durability

Under normal conditions, the systems will achieve a service life expectancy of at least 10 years

Installation

12 General

12.1 Installation of the Proteus Pro-System Locally-Reinforced System must be carried out only by specialist roofing contractors trained and approved by the Certificate holder, in accordance with the relevant clauses of BS 8000-0 : 2014, BS 8000-4 : 1989, Liquid Roofing and Waterproofing Association (LRWA) *Note 7 – Specifier Guidance for Flat Roof Falls*, the Certificate holder's instructions and this Certificate.

12.2 The components of the system must be at a temperature of, or greater than, 10°C for airless spray applications. All components must be applied when the air and substrate temperatures are greater than 5°C. Special precautions may be necessary when temperatures exceed 35°C, as shown in the Certificate holders' Technical Data Sheets.

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

13 Site and surface preparation

13.1 Substrates on which the system is to be applied must be properly prepared in accordance with the Certificate holder's instructions.

13.2 Adhesion to substrates will depend on the condition and cleanness of the substrate. Substrates must be visibly dry, sound and free from loose materials or contamination (eg moss or algae).

13.3 The surface must be prepared to remove loose or flaking materials. Areas of corrosion on metal sheets are treated in accordance with the Certificate holder's instructions.

13.4 Damaged areas of the substrate must be repaired in accordance with the with section 15 of this Certificate and the Certificate holder's instructions.

13.5 Deck surfaces must be free from sharp projections.

13.6 When installing over bolt and fixing heads a flexible self-adhesive patch is applied over the head in accordance with the Certificate holder's instructions.

13.7 Priming requirements of the substrate should be checked and carried out in accordance with the Certificate holder's instructions.

14 Procedure

14.1 Application can be by brush, roller or airless spray. Brush application is normally used only for small roof areas.

14.2 Prior to application, checks must be made to ensure the substrate is dry (ie free from rainwater, surface condensation and frost) and that the prevailing weather and site conditions are acceptable. The following limitations apply:

- application must not take place when the relative humidity is in excess of 95%, or in fog. The temperature/humidity must be such that there is no risk of surface condensation occurring before or during application
- air and substrate temperatures must be in excess of 58°C
- Proteus Pro-System is conditioned at a temperature of 10°C or greater, for use in airless spray applications
- the primer, where used, must be cured prior to application of Proteus Pro-System
- the wind speed must be such that it does not interfere with the application or cause overspray. No attempt to spray should be made if the wind speed exceeds 6.7 $m \cdot s^{-1}$ (15 mph), unless precautions such as the use of wind barriers are taken.

14.3 Only areas that can be applied to the full thickness before weather changes occur should be attempted.

14.4 The system is applied at the coverage rate for a smooth texture substrate given in Table 1. The advice of the Certificate holder on coverage rates for intermediate, rough, porous and undulating substrates must be sought. When

using flexible self-adhesive patch, this is embedded in the first coat while the membrane is still wet. Once the first coat is partially cured the second coat is applied.

Table 2 System coverage rates and finished thickness

Layer (unit)	Localised reinforcement system
Base coat ($l \cdot m^{-2}$)	0.5
Top coat ($l \cdot m^{-2}$)	0.5
Finished thickness (mm)	0.7

15 Repair

The repair of minor damage to the system can be achieved effectively by cleaning back to the unweathered material and recoating the damaged area with the membrane at the coverage rates given in section 14.4.

Technical Investigations

16 Tests

Tests were carried out and the results assessed to determine:

- water vapour transmission
- resistance to water penetration
- tensile strength and elongation
- static indentation at 23°C and 80°C
- dynamic indentation at -20°C and 20°C
- resistance to fatigue cycling
- UV ageing for 10 year equivalent, followed by dynamic indentation
- heat ageing for 10 year equivalent, followed by dynamic indentation and fatigue cycling
- water exposure for 10 year equivalent, followed by static indentation.

17 Investigations

17.1 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.

17.2 Data on fire performance were evaluated.

17.3 Tensile bond strength properties were assessed.

Bibliography

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

BS 8000-0 : 2014 *Workmanship on construction sites — Introduction and general principles*
BS 8000-4 : 1989 *Workmanship on building sites — Code of practice for waterproofing*

BS EN 13501-5 : 2016 *Fire classification of construction products and building elements — Classification using data from external fire exposure to roofs tests*

ETAG 005 : 2000 Part 1 *Liquid applied roof waterproofing kits — General*
ETAG 005 : 2000 Part 6 *Liquid applied roof waterproofing kits — Specific stipulations*

DD CEN/TS 1187 : 2012 *Test methods for external fire exposure to roof*

18 Conditions

18.1 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.

18.2 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.

18.3 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.

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

18.5 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.

18.6 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
©2021
tel: 01923 665300
clientservices@bbacerts.co.uk
www.bbacerts.co.uk