

## The Garland Company UK Ltd

Second Way Centre  
Second Way  
Avonmouth  
Bristol BS11 8DF



Tel: +44(0) 1174 401050

e-mail: info@garlandukltd.co.uk

website: www.garlandukltd.co.uk

**Agrément Certificate**

**22/6245**

Product Sheet 1

### GARLAND HIGH-PERFORMANCE MODIFIED BITUMEN MEMBRANES

#### STRESSPLY SIGNATURE ROOF WATERPROOFING MEMBRANE

This Agrément Certificate Product Sheet<sup>(1)</sup> relates to StressPly Signature Roof Waterproofing Membrane, for use as the top layer in flat and pitched roof waterproofing systems with limited access, including those with protected zero falls, and blue roofs on flat roofs, including zero fall roofs, in combination with a storm water attenuation system<sup>(2)</sup>.

(1) Hereinafter referred to as 'Certificate'.

(2) The storm water attenuation system is outside the scope of this 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<sup>†</sup>
- formal three-yearly review.<sup>†</sup>



#### KEY FACTORS ASSESSED

**Weathertightness** — the product will resist the passage of moisture into the interior of a building (see section 6).

**Properties in relation to fire** — the product, when used in a suitable specification, may enable a roof to be unrestricted under the national Building Regulations (see section 7).

**Resistance to wind uplift** — the product will resist the effects of any likely wind suction acting on the roof (see section 8).

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

**Durability** — under normal service conditions, the product will provide a durable waterproof covering with a service life in excess of 30 years (see section 11).

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 First issue: 5 August 2022

A handwritten signature in black ink, appearing to read 'Hardy Giesler'.

Hardy Giesler  
Chief Executive Officer

This Certificate was amended on 22 May 2024 as part of a transition of The BBA Agrément Certificate scheme delivered under the BBA's ISO/IEC 17020 accreditation. This Certificate was issued originally under accreditation to ISO/IEC 17065. Sections marked with the symbol † are not issued under accreditation. Full conversion to the ISO/IEC 17020 format will take place at the next Certificate review. The BBA is a UKAS accredited Inspection Body (No.4345). Readers MUST check the validity 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 must not be relied upon.

#### British Board of Agrément

Bucknalls Lane  
Watford  
Herts WD25 9BA

©2022

tel: 01923 665300  
clientservices@bbacerts.co.uk  
www.bbacerts.co.uk

## Regulations

In the opinion of the BBA, StressPly Signature Roof Waterproofing Membrane, 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)

<b>Requirement:</b>	<b>B4(1)</b>	<b>External fire spread</b>
Comment:	The product is restricted by this Requirement in some circumstances. See sections 7.5 and 7.6 of this Certificate.	
<b>Requirement:</b>	<b>B4(2)</b>	<b>External fire spread</b>
Comment:	On a suitable substructure, the product may enable a roof to be unrestricted under this Requirement. See sections 7.1, 7.2, 7.3 (Wales only) and 7.4 of this Certificate.	
<b>Requirement:</b>	<b>C2(b)</b>	<b>Resistance to moisture</b>
Comment:	The product, including joints, will enable a roof to satisfy this Requirement. See section 6 of this Certificate.	
<b>Regulation:</b>	<b>7(1)</b>	<b>Materials and workmanship</b>
Comment:	The product is acceptable. See section 11 and the <i>Installation</i> part of this Certificate.	



### The Building (Scotland) Regulations 2004 (as amended)

<b>Regulation:</b>	<b>8(1)(2)</b>	<b>Durability, workmanship and fitness of materials</b>
Comment:	The use of the product satisfies the requirements of this Regulation. See sections 10.1, 10.2 and 11 and the <i>Installation</i> part of this Certificate.	
<b>Regulation:</b>	<b>9</b>	<b>Building standards applicable to construction</b>
Standard:	<b>2.8</b>	Spread from neighbouring buildings
Comment:	The product, when applied to a suitable substructure, may be unrestricted by clause 2.8.1 <sup>(1)(2)</sup> of this Standard. See sections 7.1, 7.2 and 7.4 of this Certificate.	
Standard:	<b>3.10</b>	Precipitation
Comment:	The use of the product, including joints, will enable a roof to satisfy the requirements of this Standard, with reference to clauses 3.10.1 <sup>(1)</sup> and 3.10.7 <sup>(1)</sup> . See section 6 of this Certificate.	
Standard:	<b>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.	
<b>Regulation:</b>	<b>12</b>	<b>Building standards applicable to conversions</b>
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 <sup>(1)(2)</sup> and Schedule 6 <sup>(1)(2)</sup> .	

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).



### The Building Regulations (Northern Ireland) 2012 (as amended)

<b>Regulation:</b>	<b>23(a)(i)</b>	<b>Fitness of materials and workmanship</b>
Comment:	<b>(iii)(b)(i)</b>	The product is acceptable. See section 11 and the <i>Installation</i> part of this Certificate.

<b>Regulation:</b>	<b>28(b)</b>	<b>Resistance to moisture and weather</b>
<b>Comment:</b>		The product, including joints, will enable a roof to satisfy the requirements of this Regulation. See section 6 of this Certificate.
<b>Regulation:</b>	<b>36(b)</b>	<b>External fire spread</b>
<b>Comment:</b>		On a suitable substructure, the use of the product may enable a roof to be unrestricted under the requirements of 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* (1.2) and 3 *Delivery and site handling* (3.1 and 3.3) of this Certificate.

### Additional Information

#### NHBC Standards 2022

In the opinion of the BBA, StressPly Signature Roof Waterproofing Membrane, 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*.

#### CE marking

The Certificate holder has taken the responsibility of CE marking the product in accordance with harmonised European Standard EN 13707 : 2013.

### Technical Specification

#### 1 Description

1.1 StressPly Signature Roof Waterproofing Membrane is a torch-on capsheet comprising styrene-butadiene-styrene (SBS) copolymer modified bitumen sheet with a non-woven polyester reinforcement (300 g·m<sup>-2</sup>) and a mineral finish on the upper surface.

1.2 The membrane is manufactured to the nominal characteristics given in Table 1.

**Table 1 Nominal characteristics**

Characteristic (unit)	StressPly Signature
Thickness (mm)	5.5
Roll width (m)	1
Roll length (m)	5
Roll weight (kg)	32.5 ± 2
Mass per unit area (kg·m <sup>-2</sup> )	6.5
Watertightness - one metre head	Pass
Tensile strength (N per 50 mm)	
longitudinal direction	1350 ± 20%
transverse direction	1050 ± 20%
Elongation (%)	
longitudinal direction	50 ± 10
transverse direction	50 ± 10
Resistance to tear – nail (N)	
longitudinal direction	350 ± 10%
transverse direction	400 ± 10%
Low temperature flexibility (°C)	-30
Flow resistance (°C)	100
Dimensional stability (%)	± 0.3
Resistance to impact (mm)	1750
Static loading (kg)	25
Mineral finish colour	Brown or Charcoal

1.3 The Certificate holder recommends the following ancillary items for use with the product, but these materials have not been assessed by the BBA and are outside the scope of this Certificate:

- Garland Garla-Prime — an elastomer modified bitumen primer for use in preparing substrates prior to the installation of torch-applied membranes
- Garland StressPly Flex SA — an elastomer modified bitumen, self-adhesive cap sheet
- Garland Torch Flex Ultra-Vent — an elastomer modified bitumen, torch-on underlay
- Garland Torch Evolution Base Sheet — an elastomer modified bitumen, fully bonded torch-on underlay
- Garland SA Flex Base Sheet — an elastomer modified bitumen, self-adhesive underlay
- Garland Torch Flex Vapour Barrier — an elastomer modified bitumen, torch-on vapour control layer reinforced with 200 gsm woven glass and aluminium/polyester foil
- Garland SA Flex Vapour Barrier — an elastomer modified bitumen, self-adhesive vapour control layer reinforced with 200 gsm woven glass and aluminium/polyester foil
- Garland SA Contact Primer — an SBS primer for use in preparing substrates prior to the installation of self-adhesive membranes
- Garland Insul-Lock — a polyurethane adhesive for bonding insulation
- Garland Insul-Bond — a 2-part polyurethane adhesive for bonding insulation
- Garland Insul-Pro — a canister based polyurethane adhesive for bonding insulation.

## 2 Manufacture

2.1 The products are manufactured by traditional methods for producing bitumen membranes.

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 products are delivered to site in rolls secured with adhesive tape bands bearing the product name, the Certificate holder's name and the BBA logo incorporating the number of this Certificate. The rolls are packed on pallets and shrink wrapped in polythene.

3.2 Rolls should be stored upright on a clean, level surface, away from excessive heat and under cover.

3.3 The Certificate holder has taken the responsibility of classifying and labelling the product 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 StressPly Signature Roof Waterproofing Membrane.

## Design Considerations

### 4 General

4.1 StressPly Signature Roof Waterproofing Membrane is satisfactory for use as the top layer (capsheet) in a partially or fully bonded waterproofing system on flat or pitched roofs with limited access, and blue roofs on flat specifications, including zero fall roofs, in combination with a storm water attenuation system<sup>(1)</sup>.

(1) The storm water attenuation system is outside the scope of this Certificate.

4.2 Decks to which the products are to be applied must comply with the relevant requirements of BS 6229 : 2018, BS 8217 : 2005 and, where appropriate, *NHBC Standards 2022*, Chapter 7.1.

4.3 Blue roofs are defined for the purpose of this Certificate as flat, including zero fall roofs, designed to allow controlled attenuation of rain fall during heavy and storm events, as part of sustainable urban drainage systems (SUDS). Guidance on the design of blue roofs is available in *NFRC Technical Guidance Note for the construction and design of Blue Roofs – Roofs and podiums with controlled temporary water attenuation*.

4.4 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. Where traffic in excess of this is envisaged, such as pedestrian access roofs, additional protection must be provided (see section 10 of this Certificate and the relevant clauses of the Certificate holder's installation instructions).

4.5 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, direction of falls, etc.

4.6 Pitched roofs are defined for the purpose of this Certificate as those having a fall in excess of 1:6.

4.7 Zero fall roofs are defined for the purpose of this Certificate as those having a finished fall which can vary between 0 and 1:80. Reference should also be made to appropriate clauses in *Liquid Roofing and Waterproofing Association (LRWA) Note 7 – Specifier Guidance for Flat Roof Falls*.

4.8 On zero fall roofs it is particularly important to identify the correct drainage points to ensure that the drainage provided is effective.

4.9 Insulation materials to be used in conjunction with the products must be in accordance with the Certificate holder's instructions and be either:

- as described in the relevant clauses of BS 8217 : 2005, or
- the subject of a current BBA Certificate and be used in accordance with, and within the limitations of, that Certificate.

## 5 Practicability of installation

Installation of StressPly Signature Roof Waterproofing Membrane must only be carried out by roofing contractors trained and approved by the Certificate holder.

## 6 Weathertightness



The product, including joints, when completely sealed and consolidated, will adequately resist the passage of moisture into the interior of a building and so satisfy the requirements of the national Building Regulations.

## 7 Properties in relation to fire



7.1 When tested to DD CEN/TS 1187 : 2012 and classified in accordance with BS EN 13501-5 : 2016, the following systems achieved a B<sub>ROOF</sub>(t4) classification and so are unrestricted with respect to proximity to a boundary by the documents supporting the national Building Regulations:

- an 18 mm thick OSB3 substrate prepared with an elastomer modified bitumen primer, a 3 mm thick elastomer modified bitumen self-adhesive underlay and a 5.5 mm layer of StressPly Signature<sup>(1)</sup>
- an 18 mm thick OSB3 substrate prepared with an elastomer modified bitumen primer, 3 mm thick self-adhesive, modified bitumen, glass-reinforced AVCL with aluminium core, a 30 mm or more polyisocyanurate insulation with bitumen-coated glass fleece facing, bonded with a polyurethane adhesive, a 3 mm glass/polyester, modified bitumen venting layer and a 5.5 mm layer of StressPly Signature<sup>(2)</sup>

(1) Fire Test and Classification reports, reference 20508C and 20508E respectively, conducted by Warringtonfire, Gent. Reports available from the Certificate holder.

(2) Fire Test and Classification reports, reference 20508H and 20508K respectively, conducted by Warringtonfire, Gent. Reports available from the Certificate holder.

7.2 When protected by an inorganic covering (eg gravel or paving slabs) listed in the Annex of Commission Decision 2000/553/EC, the systems are considered to achieve a B<sub>ROOF</sub>(t4) classification and so are unrestricted by the national Building Regulations.



7.3 In Wales and Northern Ireland, when used on flat roofs with the surface finishes listed below, the roof is also deemed to be unrestricted:

- bitumen-bedded stone chippings covering the whole surface to a depth of not less than 12.5 mm
- bitumen-bedded tiles of a non-combustible material
- sand and cement screed
- macadam.



7.4 The classification and permissible areas of use of other specifications should be confirmed by reference to the requirements of the documents supporting the national Building Regulations.



7.5 The Certificate holder has not declared a reaction to fire classification to BS EN 13501-1 : 2018.

7.6 In England and Wales, the product, 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.

## 8 Resistance to wind uplift

The adhesion of the bonded membranes is sufficient to resist the effects of wind suction, elevated temperatures and thermal shock conditions likely to occur in practice.

## 9 Resistance to mechanical damage

9.1 The product can accept, without damage, the foot traffic and light concentrated loads associated with installation and maintenance. Where traffic in excess of this is envisaged, such as for maintenance of lift equipment, a walkway must be provided (for example, using concrete slabs supported on bearing pads). Reasonable care should be taken to avoid puncture by sharp objects or concentrated loads.

9.2 The product is capable of accepting minor structural movement while remaining weathertight.

## 10 Maintenance



10.1 The product must be the subject of six-monthly inspections and maintenance in accordance with BS 6229 : 2018 and the Certificate holder's recommendations, where relevant, to ensure continued satisfactory performance.

10.2 A planned maintenance cycle, including inspections by the Certificate holder at minimum intervals of five years, should be introduced if an extended service life is required. The Certificate holder can advise on methods of extending the service life. This could include the use of thicker membranes, specific maintenance requirements or localised replacement and repair.

10.3 Where damage has occurred, it should be repaired in accordance with section 15 of this Certificate and the Certificate holder's instructions.

## 11 Durability



Under normal service conditions, the products will provide a durable waterproof covering with a service life in excess of 30 years and this can be extended to in excess of 35 years with periodic maintenance as stated in section 10.

## 12 Reuse and recyclability

The product comprises bitumen and polyester which can be recycled.

## Installation

### 13 General

13.1 Installation of StressPly Signature Waterproofing Membranes is carried out in accordance with the Certificate holder's instructions, the relevant clauses of BS 8000-0 : 2014, BS 8000-4 : 1989 and BS 8217 : 2005, and this Certificate.

13.2 Deck surfaces must be dry, clean and free from sharp projections such as nail heads and concrete nibs. The substrate should be prepared using Garland Garla-Prime at the recommended coverage rate of 0.1 to 0.3  $\ell \cdot m^{-2}$ , prior to the installation of the waterproofing system.

13.3 The membrane must be laid in conditions normal to roofing work and must not be laid in rain, snow or heavy fog, or if the temperature falls below 5°C, unless precautions against condensation have been taken.

13.4 Underlays should be installed in accordance with the appropriate clauses of BS 8217 : 2005.

13.5 The roofing layers must always be installed with staggered overlaps and in such a manner that no counter-seams in the direction of the outlets are made.

13.6 At falls in excess of 5° (1:11), precautions against slippage, and requirements for mechanical fixing as required by BS 8217 : 2005, should be observed.

## 14 Procedure

14.1 Bonding is achieved by melting the lower surface by torching and pressing the membrane down. Care must be taken not to overheat the membranes.

14.2 The membranes are installed with side laps of 80 mm and end laps of 100 mm, ensuring that a continuous bead of bitumen exudes from the lap.

14.3 Detailing is carried out in accordance with the Certificate holder's instructions.

## 15 Repair

In the event of damage, the membrane can be effectively repaired with a patch of the membrane, torch-bonded over the damaged area in accordance with the Certificate holder's instructions.

## Technical Investigations

## 16 Tests

16.1 Tests were carried out and the results assessed in relation to:

- fines content
- softening point
- tensile strength
- elongation at break
- mass per unit area
- thickness
- watertightness
- water vapour transmission
- nail tear
- low temperature flexibility
- heat resistance
- dimensional stability
- static indentation, hard and soft substances
- dynamic impact, hard and soft substances
- peel strength of joints
- shear strength of joints
- the effect of long-term water exposure on membrane joints
- the effect of heat ageing on low temperature flexibility and heat resistance for a 30-year equivalent.

16.2 An assessment was made of test data in relation to wind uplift.

## 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 Fire test and classification data for the product were evaluated.

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

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

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

EN 13707 : 2013 *Flexible sheets for waterproofing — Reinforced bitumen sheets for roof waterproofing — Definitions and characteristics*

## Conditions of Certificate

### Conditions

1. This Certificate:

- relates only to the product 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.

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.

3 This Certificate will be displayed on the BBA website, and the Certificate Holder is entitled to use the Certificate and Certificate logo, provided that the product 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.

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

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 or any other product
- the right of the Certificate holder to manufacture, supply, install, maintain or market the product
- actual installations of the product, including their nature, design, methods, performance, workmanship and maintenance
- any works and constructions in which the product is installed, including their nature, design, methods, performance, workmanship and maintenance
- any loss or damage, including personal injury, howsoever caused by the product, including its manufacture, supply, installation, use, maintenance and removal
- any claims by the manufacturer relating to UKCA, UKNI or CE marking.

6. Any information relating to the manufacture, supply, installation, use, maintenance and removal of this product which is contained or referred to in this Certificate is the minimum required to be met when the product 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

1<sup>st</sup> Floor, Building 3, Hatters Lane  
Croxley Park, Watford  
Herts WD18 8YG

©2024

tel: 01923 665300  
clientservices@bbacerts.co.uk  
[www.bbacerts.co.uk](http://www.bbacerts.co.uk)