Danosa Group S.A.
Polígono Industrial Sector 9
19290 Fontanar
Guadalajara
Spain

Tel: 00 34 658 68 50
e-mail: info@danosa.com
website: www.danosa.com

Agrément Certificate
10/4787
Product Sheet 2 Issue 5

DANOSA REINFORCED BITUMINOUS MEMBRANE ROOF WATERPROOFING SYSTEMS

POLYDAN 50/GP ELAST AND POLYDAN PRO 50/GP GREEN GARDEN MEMBRANES

This Agrément Certificate Product Sheet(1) relates to POLYDAN 50/GP ELAST and POLYDAN PRO 50/GP GREEN GARDEN membranes, a range of modified bitumen membranes for use as waterproofing on flat roofs in green roof and roof garden specifications.

(1) Hereinafter referred to as 'Certificate'.

The assessment includes

Product factors:

- compliance with Building Regulations
- compliance with additional regulatory or non-regulatory information where applicable
- evaluation against technical specifications
- assessment criteria and technical investigations
- uses and design considerations

Process factors:

- compliance with Scheme requirements
- installation, delivery, handling and storage
- production and quality controls
- maintenance and repair

Ongoing contractual Scheme elements†:

- regular assessment of production
- formal 3-yearly review

KEY FACTORS ASSESSED

Section 1. Mechanical resistance and stability
Section 2. Safety in case of fire
Section 3. Hygiene, health and the environment
Section 4. Safety and accessibility in use
Section 5. Protection against noise
Section 6. Energy economy and heat retention
Section 7. Sustainable use of natural resources
Section 8. Durability

The BBA has awarded this Certificate to the company named above for the products described herein. These products have been assessed by the BBA as being fit for their intended use provided they are installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of Fifth issue: 21 February 2025

Originally certified on 08 October 2010

Hardy Giesler
Chief Executive Officer

Certificate amended on 5 March 2026 to update company name and add NHBC statement.

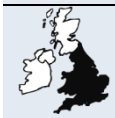
British Board of Agrément
1st Floor, Building 3, Hatters Lane
Croxley Park, Watford
Herts WD18 8YG
tel: 01923 665300
clientservices@bbacerts.co.uk
www.bbacerts.co.uk

SUMMARY OF ASSESSMENT AND COMPLIANCE

This section provides a summary of the assessment conclusions; readers should refer to the later sections of this Certificate for information about the assessments carried out.

Compliance with Regulations

Having assessed the key factors, the opinion of the BBA is that POLYDAN 50/GP ELAST and POLYDAN PRO 50/GP GREEN GARDEN membranes, 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 Building Regulations 2010 (England and Wales) (as amended)

Requirement:	**B4(2)**	**External fire spread**
Comment:		On a suitable substructure, the products may enable a roof to be unrestricted by this Requirement. See section 2 of this Certificate.
Requirement:	**C2(b)**	**Resistance to moisture**
Comment:		The products, including joints, will enable a roof to satisfy this Requirement. See section 3 of this Certificate.
Regulation:	**7(1)**	**Materials and workmanship**
Comment:		The products are acceptable. See sections 8 and 9 of this Certificate.

The Building (Scotland) Regulations 2004 (as amended)

Regulation:	**8(1)(2)**	**Fitness and durability of materials and workmanship**
Comment:		The use of the products satisfies this Regulation. See sections 8 and 9 of this Certificate.
Regulation:	**9**	**Building standards – construction**
Standard:	2.8	Spread from neighbouring buildings
Comment:		The products, when applied to a suitable substructure, may enable a roof to be unrestricted by this Standard, with reference to clause 2.8.1(1)(2). See section 2 of this Certificate.
Standard:	3.10	Precipitation
Comment:		The products, including joints, will enable a roof to satisfy this Standard, with reference to clauses 3.10.1(1)(2) and 3.10.7(1)(2). See section 3 of this Certificate.
Standard:	7.1(a)	Statement of sustainability
Comment:		The products 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 – conversion**
Comment:		Comments in relation to the products 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(1)(a)(i)**	**Fitness of materials and workmanship**
Comment:	**(iii)(b)(i)**	The products are acceptable. See sections 8 and *9* of this Certificate.

Regulation:	**28(b)**	**Resistance to moisture and weather**
Comment:		The products, including joints, will enable a roof to satisfy this Regulation. See section 3 of this Certificate.
Regulation:	**36(b)**	**External fire spread**
Comment:		On a suitable substructure, the products may enable a roof to be unrestricted by this Regulation. See section 2 of this Certificate.

Additional Information

NHBC Standards 2025

In the opinion of the BBA, POLYDAN 50/GP ELAST and POLYDAN PRO 50/GP GREEN GARDEN membranes, 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*.

In addition, in the opinion of the BBA, the products, when installed and used in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards for Conversions and Renovations*, taking account of other relevant guidance within the chapter and the suitability of the substrate to receive the products.

The *NHBC Standards* do not cover the refurbishment of existing roofs.

The opinion of the BBA does not amount to any endorsement or approval by NHBC and does not in any way guarantee that NHBC will approve such product / system as compliant with the NHBC Technical Requirements and Standards.

Fulfilment of Requirements

The BBA has judged POLYDAN 50/GP ELAST and POLYDAN PRO 50/GP GREEN GARDEN membranes to be satisfactory for use as described in this Certificate. The products have been assessed for use as waterproofing on flat roofs in green roof and roof garden specifications.

ASSESSMENT

Product description and intended use

The Certificate holder provided the following description for the products under assessment. POLYDAN 50/GP ELAST and POLYDAN PRO 50/GP GREEN GARDEN membranes are torch-on, styrene-butadiene-styrene (SBS) copolymer-modified bitumen waterproofing sheets, including an anti-root additive a polyester reinforcement, and the upper surface is finished with grey-green mineral chippings.

The products have the nominal characteristics given in Table 1.

Table 1 Nominal characteristics

Characteristic (unit)	Products	
	POLYDAN 50/GP ELAST	POLYDAN PRO 50/GP GREEN GARDEN
Thickness (mm)	3.5	3.5
Roll width (m)	1	1
Roll length (m)	5	8
Roll weight (kg)	25	40
Mass per unit area ($kg \cdot m^{-2}$)	5	5

Other membranes, covered in Product Sheet 1 of this Certificate, that can be used with the products are:

- GLASDAN 30 P ELAST — for use as a base sheet, an intermediate layer, an air and vapour control layer (AVCL) or an overlap band
- GLASDAN 30 AP ELAST— for use as a base sheet, an intermediate layer, an AVCL or an overlap band
- ESTERDAN 30 P ELAST — for use as a first layer or an intermediate layer
- ESTERDAN 30 P ELAST AUTOADHESIVO — for use as a heat-activated self-adhesive, fully bonded, first layer or an intermediate layer
- ESTERDAN 30 P ELAST SEMIADHESIVO — for use as a heat-activated self-adhesive, partially bonded, first layer or an intermediate layer
- ESTERDAN 40 P ELAST — for use as a first layer or an intermediate layer
- ESTERDAN 48 P ELAST — for use as a first layer, an intermediate layer, or in a single-layer system
- POLYDAN 180-30 P ELAST— for use as first layer or an intermediate layer
- POLYDAN 180-40 P ELAST— for use as first layer or an intermediate layer
- POLYDAN 180-48 P ELAST — for use as a first layer, an intermediate layer or in a single-layer system.

Ancillary Items

The following ancillary items are essential to use with the products and have been assessed with the products:

- BITUMEN PRIMER+ SA — a fast-drying synthetic primer for use with the self-adhesive membranes
- BITUMEN PRIMER HM — a high penetration synthetic primer
- GLASDAN 30 P POL — a glass-reinforced polymer modified bitumen membrane with a polyethylene film finish on
- both sides, for use as an alternative underlay
- GLASDAN 40 P POL — a glass-reinforced polymer-modified bitumen membrane with a polyethylene film finish, for use as an alternative underlay
- GLASDAN 800 P PERFORADO — a glass-reinforced oxidised bitumen perforated venting layer with a polyethylene film finish, for use in partial-bond specifications.

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

- SELF-DAN AL+ 1200 — a self-adhesive modified bitumen membrane with aluminium foil on the upper surface, for use in detailing around penetrations in the waterproofing system and as an AVCL
- MINERAL WOOL ANGLE FILLET — for use at upstands to give a 45° angle to aid membrane detailing
- DANOFELT PY 300 — a needle punched polyester geotextile for use as separation layer
- SBS LIGHTNING CLIP — a lighting conductor clip to hold a lightning conductor strip, incorporating a SBS membrane flange to allow welding to the waterproofing membrane
- DANODREN JARDIN— a high density polyethylene (HDPE) sheet moulded studs for use as a drainage board
- DANECREN R20 — a high density polyethylene (HDPE) sheet moulded studs for use as a drainage board
- DANOLOSA — a paving slab incorporating an extruded polystyrene insulation
- SELF-DAN AL PRO — a self-adhesive modified bitumen membrane with an aluminium foil on the upper surface, for use as an AVCL
- SELF-DAN AP 2000 — a self-adhesive modified bitumen membrane with a sand facing to the upper surface
- MAXDAN CAUCHO 25 — a roller-applied water-based bituminous primer for torch-applied membranes and refurbishment/overlay applications only
- CURIDAN — a roller-applied water-based bituminous primer for torch-applied membranes only.

POLYDAN ELAST and POLYDAN PRO 50/GP GREEN GARDEN membranes are satisfactory for use as a top layer membrane in roof waterproofing systems in:

- flat roofs in green roof (extensive planting) specifications
- flat roofs in roof garden (intensive planting) specifications
- flat roofs in biodiverse roof specifications.

Definitions for products and applications inspected

The following terms are defined for the purpose of this Certificate as:

- limited access roof — a roof subjected only to pedestrian traffic for maintenance of the roof covering, cleaning of gutters, etc
- flat roof — a roof having a minimum finished fall of 1:80(1)
- pitched roof — a roof having a fall in excess of 1:6
- roof garden (intensive) — a roof with a substantial layer of growing medium with planting that can include shrubs and trees, generally accessible to pedestrians
- green roof (extensive) — a roof with a shallow layer of growing medium planted with low-maintenance plants such as mosses, sedums, grasses and some wild flower species
- biodiverse roof — a roof planted with the aim either to recreate the habitat that was lost when a building was erected or to replicate it
- Invasive plant species – vegetation species having vigorous and / or invasive root systems likely to cause damage to components of the inverted roof insulation system and roof waterproofing.

(1) *NHBC Standards* 2025 require a minimum fall of 1:60 for green roofs.

Product assessment – key factors

The products were assessed for the following key factors, and the outcome of the assessment is shown below. Conclusions relating to the Building Regulations apply to the whole of the UK.

1 Mechanical resistance and stability

Not applicable

2 Safety in case of fire

Data were assessed for the following characteristic.

2.1 External fire spread

2.1.1 On the basis of data assessed, a roof incorporating the products will be unrestricted under the documents supporting the national Building Regulations with respect to a relevant boundary in the following circumstances:

- when protected by an inorganic covering (eg gravel or paving slabs) listed in the Annex of commission Decision 2000/553/EC
- a roof garden covered with a drainage layer of gravel 100 mm thick and a soil layer 300 mm thick
- irrigated roof gardens and green roofs.

2.1.2 In Wales and Northern Ireland, when used on flat roofs using a substrate designated in the documents supporting the national Building Regulations with the surface finishes listed below, the roof is also deemed to be unrestricted with respect to a relevant boundary:

- 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.

2.1.3 The classification and permissible areas of use of other specifications must be established by reference to the requirements of the documents supporting the national Building Regulations.

2.1.4 If allowed to dry, plants used may allow the spread of flame across the roof. This must be taken into consideration when selecting suitable plants for the roof. Appropriate planting, irrigation and/or protection must be applied to ensure the overall fire-rating of the roof is not compromised. Further guidance is available in the Department for Communities and Local Government publications, *Fire Performance of Green Roof and Walls*.

3 Hygiene, health and the environment

Data were assessed for the following characteristics.

3.1 Weathertightness

3.1.1 The watertightness was assessed on the basis of the integrity of the membrane following mechanical damage testing.

3.1.2 On the basis of data assessed, the products will adequately resist the passage of moisture into the inside of a building and enable a roof to comply with the requirements of the national Building Regulations.

3.1.3 The products, when used with a suitable roof garden or green-roof specification, will adequately resist the effects of wind uplift likely to occur in practice.

3.2 Resistance to mechanical damage

3.2.1 An assessment of data was carried out for the products on tensile strength, elongation, tear strength (nail shank), static indentation and dynamic indentation.

3.2.2 On the basis of data assessed, POLYDAN 50/GP ELAST and POLYDAN PRO 50/GP GREEN GARDEN Membranes can accept, without damage, the foot traffic and light concentrated loads associated with installation operations prior to the installation of the upper layers of the system specification.

3.2.3 Where regular foot traffic is envisaged, protection, such as DANOLOSA, paving on bearer pads or similar suitable pedestrian surfaces must be used.

3.2.4 The products are capable of accepting minor structural movement while remaining watertight.

3.3 Resistance to root penetration

3.3.1 The results of resistance to root penetration tests are given in Table 2.

Table 2 Resistance to root penetration

Products assessed	Assessment method	Requirement	Result
POLYDAN PRO 50/GP GREEN GARDEN	Resistance to root penetration to EN 13948 : 2007	No root penetration after two years	Pass

3.3.2 On the basis of data assessed, the products, when used in green roof and roof garden applications, will adequately resist penetration by plant roots and remain weathertight.

3.3.3 POLYDAN PRO 50/GP GREEN GARDEN can be used as a layer in the waterproofing system in green roof and roof garden specifications acting as the root protection layer.

4 Safety and accessibility in use

Not applicable.

5 Protection against noise

Not applicable

6 Energy economy and heat retention

Not applicable

7 Sustainable use of natural resources

Not applicable.

8 Durability

8.1 The potential mechanisms for degradation and the known performance characteristics of the materials in the products were assessed.

8.2 Low temperature flexibility and heat resistance after heat ageing were assessed on the basis of existing test data for representative related products.

8.3 An assessment of data was carried out for the products on dimensional stability, low temperature flexibility and heat resistance.

8.4 Additional data on the performance of the coating mass after ageing were assessed.

8.5 Service life

8.5.1 Under normal service conditions, the products, in conjunction with a suitable roof waterproofing system, will have a life in excess of 30 years, provided they are designed, installed and maintained in accordance with this Certificate and the Certificate holder's instructions.

8.5.2 On the mineral finished capsheets membranes it is possible that some localised loss of the mineral surfacing may occur, after some years, in areas where complex detailing of the roof design is incorporated.

PROCESS ASSESSMENT

Information provided by the Certificate holder was assessed for the following factors:

9 Design, installation, workmanship and maintenance

9.1 Design

9.1.1 The design process was assessed by the BBA and the following requirements apply in order to satisfy the performance assessed in this Certificate.

9.1.2 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* 2025, Chapter 7.1.

9.1.3 For design purposes of flat roofs, twice the minimum finished fall must be assumed, unless a detailed structural analysis of the roof is available, including overall and local deflection, direction of falls, etc.

9.1.4 Structural decks to which the products are to be applied must be suitable to transmit the dead and imposed loads experienced in service. Allowance needs to be made for loading deflections to ensure that the free drainage of water is maintained.

9.1.5 Imposed loads, dead loading and wind loads must be calculated by a suitably experienced and competent individual in accordance with BS EN 1991-1-1 : 2002, BS EN 1991-1-3 : 2003 and BS EN 1991-1-4 : 2005, and their UK National Annexes.

9.1.6 The ballast requirements for loose-laid systems must be calculated by a suitably competent and experienced individual in accordance with the relevant parts of BS EN 1991-1-4 : 2005 and its UK National Annex. The membranes must always be ballasted with a minimum depth of 50 mm of aggregate. In areas of high-wind exposure, the Certificate holder's advice must be sought but such advice is outside the scope of this Certificate. Alternatively, concrete slabs on suitable supports can be used.

9.1.7 The growing medium used in green roofs and roof gardens must not be of a type that will be removed or become delocalised owing to wind scour experienced on the roof.

9.1.8 It must be recognised that the type of plants used in green roofs and roof gardens could significantly affect the expected wind loads experienced in service. Appropriate mitigation measures must be taken, the advice of the Certificate holder and / or the Green Roof Organisation (GRO) may be sought, but such advice is outside the scope of this Certificate.

9.1.9 For green roofs and roof gardens, invasive non-native alien plant species as defined by UK Government guidance must not be used.

9.1.10 For green roof and roof garden finishes, to protect the roof waterproofing, invasive plant species must not be used. In particular, the following species must be excluded:

- invasive weeds including Buddleia
- plants and grasses with aggressive rhizomes such as Bamboo
- self-setting woody weeds such as Sycamore and Ash seedlings must be removed at early germination stage
- other woody plants which spread aggressively including Rhododendron.

9.1.11 The Green Roof Organisation (GRO) can provide guidance on species not included in section 9.1.10, but such advice is outside the scope of this Certificate.

9.1.12 The drainage system for green roofs and roof gardens must be correctly designed, and the following points must be addressed:

- provision made for access for maintenance purposes
- dead loads for green roof and roof gardens can increase if the drains become partially or completely blocked causing waterlogging of the drainage layer.

9.1.13 Insulation systems or materials 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 6229 : 2018, or
- the subject of a current BBA Certificate and be used in accordance with, and within the limitations of, that Certificate.

9.2 Installation

9.2.1 Installation instructions provided by the Certificate holder were assessed and judged to be appropriate and adequate.

9.2.2 Installation must be carried out in accordance with the relevant clauses of BS 6229 : 2018, BS 8000-0 : 2014, BS 8000-4 : 1989 and BS 8217 : 2005, this Certificate and the Certificate holder's instructions. Additional guidance is provided in Annex A of this Certificate.

9.2.3 The substrate must be clean, dry and free from dust and contaminants. The surface of the substrate must have sufficient cohesive strength to resist the specific calculated wind load acting upon the structure.

9.2.4 Soil or other bulk material must not be stored on one area of the roof prior to installation, to ensure that localised overloading does not occur.

9.2.5 The products are laid in conditions normal to roofing work and must not be laid in rain, snow or heavy fog, nor if the temperature falls below 5°C, unless precautions against surface condensation have been taken.

9.2.6 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.

9.2.7 If the roof is likely to be subjected to uncontrolled pedestrian access, the substructure must satisfy the requirements of the relevant clauses of BS 8217 : 2005, and one of the surface finishes described in clause 6.12 of the Code of Practice must be used.

9.2.8 Full bonding is achieved by melting the lower surface by torching and pressing the membrane down ensuring no trapped air beneath the membrane. Care must be taken not to overheat the membranes.

9.2.9 A suitable first layer is installed with side laps of 80 mm and end laps of 100 mm with an offset of a minimum of 300 mm between end laps. The top layer/capsheet is laid over the first layer in the same direction and fully bonded. The top layer/capsheets are installed with side laps a minimum of 80 mm and end laps 100 mm wide. Laps between the membrane and any base sheets must be offset by a minimum of 300 mm. A bead of molten material must extrude from all laps to indicate a satisfactory seal.

9.2.10 When partially bonding, a layer of either GLASDAN 800 P PERFORADO or ESTERDAN 30 P ELAST SEMIADHESIVO is loose laid across the substrate edge to edge. GLASDAN 800 P PERFORADO is laid with 100 mm wide side and end laps and terminated at the base of an appropriate angle fillet. ESTERDAN 30 P ELAST SEMIADHESIVO is installed in accordance with sections 9.2.7 and 9.2.8.

9.2.11 Where no angle fillet is used, GLASDAN 800 P PERFORADO is terminated 100 mm from the roof edge and around all penetrations.

9.2.12 A suitable first layer is fully bonded over the venting layer in the same direction with side laps of 80 mm and end laps of 100 mm.

9.2.13 The top layer/capsheet is laid over the first layer in the same direction and fully bonded. The top layer/capsheets are installed with, for the mineral surfaced products, side laps determined by the selvedge edge, and, for sanded top layers, side laps a minimum of 80 mm and end laps 100 mm wide. Laps between the membrane and any base sheets must be offset by a minimum of 300 mm. A bead of molten material must extrude from all laps to indicate a satisfactory seal.

9.2.14 When installed loose-laid and ballasted, a separation layer is loose-laid over the substrate in accordance with the Certificate holder's instruction with side and end overlaps of 100 mm.

9.2.15 The first layer is loose-laid over the separation layer with side laps of 80 mm and end laps of 100 mm wide. The laps are sealed by torch welding.

9.2.16 The top layer is laid over the first layer in the same direction and fully bonded. The top layer/capsheets are installed with side laps of 80 mm and end laps 100 mm wide. Laps between the membrane and any base sheets must be offset by a minimum of 300 mm. A bead of molten material must extrude from all laps to indicate a satisfactory seal.

9.2.17 The waterproofing system is ballasted with a minimum of 50 mm depth of rounded aggregate graded 20 to 40 mm.

9.2.18 Where concrete tiles are used, the waterproofing system is first covered with either DANOFELT PY 300 or sand into which the tiles are set.

9.2.19 Only POLYDAN PRO 50/GP GREEN GARDEN is suitable for use under permanent heavy protection such as paving slabs.

9.2.20 When installing the heat-activated self-adhesive membranes, the first strip of the product is laid out in the correct position of the roof deck. The membrane is rolled back towards the centre revealing the release film underneath. At a point, close to the centre of the roll, the release film is carefully cut across the width of the roll without cutting through the membrane.

9.2.21 The release film is peeled back to expose part of the lower surface, which is then pressed down onto the decking and the release film is gradually peeled back, ensuring that no air is trapped beneath the membrane and brushed and/or rolled onto the substrate.

9.2.22 Overlaps for the underlay must be a minimum of 80 mm for side laps and 100 mm end laps.

9.2.23 The capsheet is then applied as described in section 9.2.12. The heat from the application of the capsheet will activate the adhesive on the lower face of the first layer to give a full bond.

9.2.24 The NHBC requires that the products, once installed, are inspected in accordance with *NHBC Standards* 2025 Chapter 7.1, Clause 7.1.11, including undergoing an appropriate integrity test, where required. Any damage to the products assessed in this Certificate must be repaired in accordance with section 9.4 of this Certificate and reinspected, in order to maintain products performance.

9.3 Workmanship

Practicability of installation was assessed by BBA, on the basis of the Certificate holder's information. To achieve the performance described in this Certificate, installation of the products must be carried out by competent roofing contractors experienced with these type of products.

9.4 Maintenance and repair

9.4.1 Ongoing satisfactory performance of the products in use requires that they are suitably maintained. The guidance provided by the Certificate holder was assessed by the BBA and found to be appropriate and adequate.

9.4.2 The following requirements apply in order to achieve the performance assessed in this Certificate:

9.4.3 The products must be the subject of visual six-monthly inspections and maintenance in accordance with the recommendations in BS 6229 : 2018, Chapter 7, and the Certificate holder's own maintenance requirements. For green roof, roof garden and drainage systems, these six-monthly inspections must be carried out by a suitably experienced and competent individual (with horticultural knowledge) to ensure continued satisfactory performance. This must include an examination of the overall condition of the roof, ensure that drain outlets and gutters are kept clear and unblocked and, for green roofs and roof gardens, the removal of any self-propagated plants and invasive plant species found. See section 9.1.11 of this Certificate.

9.4.4 Green roofs and roof gardens must be the subject of regular inspections, particularly in autumn after leaf fall and in spring, to ensure unwanted vegetation and other debris is cleared from the roof and drainage outlets. Guidance is available within the latest edition of *The GRO Green Roof Code of Best Practice*.

9.4.5 For green roofs, to protect the waterproofing, invasive plant species (see sections 9.1.10 and 9.1.11 of this Certificate) must be eliminated through maintenance.

9.4.6 The control and removal of invasive plant species is carried out by hand. Where this is not possible, any chemicals used must be checked for compatibility with the roof waterproofing layer. The Certificate holder can advise on the suitability of a particular product, but such advice is outside the scope of this Certificate. Note, if using chemicals on a green roof or roof garden rainwater outlets may need to be disconnected from the main drainage system to prevent contamination of the local water system and/or harm to flora and fauna.

9.4.7 The chemical fertiliser used on green roofs or roof gardens must be checked for compatibility with the roof waterproofing layer. The Certificate holder can advise on the suitability of a particular product, but such advice is outside the scope of this Certificate.

9.4.8 If a leak occurs in the system, it must be repaired following removal of any gravel ballast, paving ballast, green roof or roof garden layer. Correct reinstatement of these layers must be carried out with particular care and the advice of the Certificate holder must be sought, but such advice is outside the scope of this Certificate.

9.4.9 In the event of damage, the capsheet can be effectively repaired, after cleaning the surrounding areas, with a patch of the appropriate capsheet over the damaged area in accordance with the Certificate holder's instructions.

10 Manufacture

10.1 The production processes for the products have been assessed, and provide assurance that the quality controls are satisfactory according to the following factors:

10.1.1 The manufacturer has provided documented information on the materials, processes, testing and control factors.

10.1.2 The quality control operated over batches of incoming materials has been assessed and deemed appropriate and adequate.

10.1.3 The quality control procedures and product testing to be undertaken have been assessed and deemed appropriate and adequate.

10.1.4 The process for management of non-conformities has been assessed and deemed appropriate and adequate.

10.1.5 An audit of each production location was undertaken, and it was confirmed that the production process was in accordance with the documented process, and that equipment has been properly tested and calibrated.

† 10.2 The BBA has undertaken to review 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.

11 Delivery and site handling

11.1 The Certificate holder stated that the products are delivered to site in rolls on pallets shrink-wrapped in polythene. Every roll has a label bearing the product name, the Certificate holder's name, production identification numbers, CE Marking details, product characteristics and the BBA logo incorporating the number of this Certificate.

11.2 Delivery and site handing must be performed in accordance with the Certificate holder's instructions and this Certificate, including:

11.2.1 Individual rolls must be stored upright on a clean, level surface, away from excessive heat and kept dry.

†ANNEX A – SUPPLEMENTARY INFORMATION

Supporting information in this Annex is relevant to the products but has not formed part of the material assessed for the 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.

CLP Regulations

The Certificate holder has taken the responsibility of classifying and labelling the products under the *GB CLP Regulation* and *CLP Regulation (EC) No 1272/2008 - classification, labelling and packaging of substances and mixtures*. Users must refer to the relevant Safety Data Sheet(s).

CE marking

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

Management Systems Certification for production

The management system of Derivados Asafalticos Normalizados SA t/a DANOSA has been assessed and registered as meeting the requirements of UNE EN ISO 9001 : 2015 by Bureau Veritas Certification (Certificate ES139363-1).

Additional information on installation

A.1 Recommendations for the design and maintenance of green roof and roof garden specifications are available within the latest edition of the *GRO Green Roof code – Green Roof Code of Best Practice for the UK*.

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 1991-1-1 : 2002 *Eurocode 1 — Actions on structures — General actions — Densities, self-weight, imposed loads for buildings*
NA to BS EN 1991-1-1 : 2002 UK National Annex to *Eurocode 1 — Actions on structures — General actions — Densities, self-weight, imposed loads for buildings*
BS EN 1991-1-3 : 2003 + A1 : 2015 *Eurocode 1 — Actions on structures — General actions — Snow loads*
NA + A2 : 18 to BS EN 1991-1-3 : 2003 + A1 : 2015 UK National Annex to *Eurocode 1 — Actions on structures — General actions — Snow loads*
BS EN 1991-1-4 : 2005 + A1 : 2010 *Eurocode 1 : Actions on structures — General actions — Wind actions*
NA to BS EN 1991-1-4 : 2005 + A1 : 2010 UK National Annex *to Eurocode 1 : Actions on structures — General actions — Wind actions*

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

EN 13948 : 2007 *Flexible sheets for waterproofing — Bitumen, plastic and rubber sheets for roof waterproofing — Determination of resistance to root penetration*

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

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
- 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
- and any matter arising out of or in connection with it or its subject matter (including non-contractual disputes or claims) is governed by and construed in accordance with the law of England and Wales
- the courts of England and Wales shall have exclusive jurisdiction to settle any matter arising out of or in connection with this Certificate or its subject matter (including non-contractual disputes or claims).

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 marking and 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
1st Floor, Building 3, Hatters Lane
Croxley Park, Watford
Herts WD18 8YG
tel: 01923 665300
clientservices@bbacerts.co.uk
www.bbacerts.co.uk