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 1 Issue 5

DANOSA REINFORCED BITUMINOUS MEMBRANE ROOF WATERPROOFING SYSTEMS

GLASDAN, ESTERDAN, POLYDAN ELAST AND POLYDAN PRO MEMBRANES

This Agrément Certificate Product Sheet(1) relates to GLASDAN, ESTERDAN, POLYDAN ELAST and POLYDAN PRO membranes, a range of polymer-modified bitumen membranes for use on flat and pitched roofs with limited access, and loose-laid and ballasted roofs.

(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 8 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

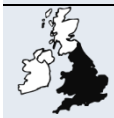
tel: 01923 665300
clientservices@bbacerts.co.uk
www.bbacerts.co.uk

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 GLASDAN, ESTERDAN, POLYDAN ELAST and POLYDAN PRO 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(1)**	**External fire spread**
Comment:		The products are restricted by this Requirement in some circumstances. See section 2 of this Certificate.
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.
Requirement:	**C2(c)**	**Resistance to moisture**
Comment:		The products can contribute to a roof satisfying 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:	3.15	Condensation
Comment		The products can contribute to a roof satisfying this Standard, with reference to clauses 3.15.1[(1)(2)], 3.15.3[(1)(2)], 3.15.5[(1)(2)] and 3.15.6[(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) (iii)(b)(i)**	**Fitness of materials and workmanship**
Comment:		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:	**29**	**Condensation**
Comment:		The products can contribute towards a roof satisfying this Regulation. See section 3 of this Certificate.
Regulation:	**36(a)**	**External fire spread**
Comment:		The products are restricted by this Regulation in some circumstances. See section 2 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, GLASDAN, ESTERDAN, POLYDAN ELAST and POLYDAN PRO 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 GLASDAN, ESTERDAN, POLYDAN ELAST and POLYDAN PRO membranes to be satisfactory for use as described in this Certificate. The products have been assessed for use on flat and pitched roofs with limited access, and loose-laid and ballasted roofs.

ASSESSMENT

Product description and intended use

The Certificate holder provided the following description for the products under assessment. GLASDAN, ESTERDAN POLYDAN ELAST and POLYDAN PRO Membranes are torch-on and heat-activated self-adhesive membranes, manufactured from a styrene-butadiene-styrene (SBS)-copolymer-modified bitumen sheet with reinforcement. The membranes 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
- GLASDAN 40/GP ERF ELAST — for use as a capsheet
- GLASDAN AL-80 T50P E — for use as flashing, a capsheet, a waterproofing layer under concrete substrate with asphalt/sand-cement screed or under hot asphalt, or an AVCL
- 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
- ESTERDAN PLUS 40/GP ELAST — for use as a capsheet
- ESTERDAN PLUS 50/GP ELAST — for use as a capsheet 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 a 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
- POLYDAN PRO 50/GP — for use as a capsheet, a waterproofing layer under concrete substrate with asphalt/sand-cement screed or under hot asphalt or in a single-layer system
- POLYDAN PRO 60/GP — for use as a capsheet, a waterproofing layer under concrete substrate with asphalt/sand-cement screed or under hot asphalt or in a single-layer system
- POLYDAN 180-50/GP ELAST — for use as a capsheet, a waterproofing layer under concrete substrate with asphalt/sand-cement screed or under hot asphalt or in a single-layer system
- POLYDAN 180-60/GP ELAST — for use as a capsheet, a waterproofing layer under concrete substrate with asphalt/sand-cement screed or under hot asphalt or in a single-layer system.

The products have the nominal characteristics given in Tables 1 to 3.

Table 1 GLASDAN membranes — nominal characteristics

Nominal characteristic (unit)	Membrane grade			
	30 P ELAST	30 AP ELAST	40/GP ERF ELAST	AL-80 T50P E
Thickness (mm)	2.5	2.5	2.5	3.5
Roll width (m)	1	1	1	1
Roll length (m)	12	12	10	5
Mass per unit area ($kg \cdot m^{-2}$)	3	3	4	4.5
Roll weight (kg)	36	36	40	36
Reinforcement type	glass	glass	glass	glass
Reinforcement mass per unit area ($g \cdot m^{-2}$)	60	60	60	100
Top surface finish	polyethylene film	sand	mineral	aluminium foil
Lower surface finish	polyethylene film	polyethylene film	polyethylene film	polyethylene film
Mineral finish colour	—	—	grey, light grey, red, white, green	—

Table 2 ESTERDAN membranes — nominal characteristics

Nominal characteristic (unit)	Membrane grade						
	30 P ELAST	30 P ELAST AUTOADHESIVO	30 P ELAST SEMIADHESIVO	40 P ELAST	48 P ELAST	PLUS 40/GP ELAST	PLUS 50/GP ELAST
Thickness (mm)	2.5	2.5	2.5	3.3	4	2.5	3.5
Roll width (m)	1	1	1	1	1	1	1
Roll length (m)	12	12	12	10	8	10	8
Mass per unit area ($kg \cdot m^{-2}$)	3	3	3	4	4.8	4	5
Roll weight (kg)	36	36	36	40	38.4	40	40
Reinforcement type	polyester	polyester	polyester	polyester	polyester	polyester	polyester
Reinforcement mass per unit area ($g \cdot m^{-2}$)	140	140	140	140	140	160	160
Top surface finish	polyethylene film	polyethylene film	polyethylene film	polyethylene film	polyethylene film	mineral	mineral
Lower surface finish	polyethylene film	siliconised releasable polypropylene film	siliconised releasable polypropylene film	polyethylene film	polyethylene film	polyethylene film	polyethylene film
Mineral finish colour	—	—	—	—	—	grey, light grey, red, white, green	grey, light grey, red, white, green

Table 3 — POLYDAN membranes — nominal characteristics

Nominal characteristic (unit)	Membrane grade						
	180-30 P ELAST	180-40 P ELAST	180-48 P ELAST	180-50/GP ELAST	180-60/GP ELAST	PRO 50/GP	PRO 60/GP
Thickness (mm)	2.5	3.3	4	3.5	3.9	3.5	3.9
Roll width (m)	1	1	1	1	1	1	1
Roll length (m)	12	10	8	8	8	8	8
Mass per unit area ($kg \cdot m^{-2}$)	3	4	4.8	5	5.6	5	5.6
Roll weight (kg)	36	40	38.4	40	40	40	40
Reinforcement type	polyester	polyester	polyester	polyester	polyester	polyester	polyester
Reinforcement mass per unit area ($g \cdot m^{-2}$)	180	180	180	180	180	180	180
Top surface finish	polyethylene film	polyethylene film	polyethylene film	mineral	mineral	mineral	mineral
Lower surface finish	polyethylene film	polyethylene film	polyethylene film	polyethylene film	polyethylene film	polyethylene film	polyethylene film
Mineral finish colour	—	—	—	grey	grey	black	black

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
- IMPRIDAN 100 — a solvent-based, bituminous primer for use in priming substrates prior to the installation of the products.

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
- 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.

The products are intended for use as fully or partially torch-bonded waterproofing as part of built-up specifications, including AVCLs, and where necessary in conjunction with appropriate roofing membranes supplied by the Certificate holder or to BS 8747 : 2007 for:

- flat and pitched roofs with limited access
- pedestrian access roofs with additional protection
- loose-laid and ballasted waterproofing for flat roofs with limited access.

The mineral finished membranes are satisfactory for use, where appropriate, as exposed capsheets or in detail work.

Definitions for products and applications inspected

The following terms have been defined for the purpose of the Certificate as:

- limited access roofs — a roof subjected only to pedestrian traffic for maintenance of the roof covering, cleaning of gutters, etc
- pedestrian access roof — a roof that is not subject to vehicular traffic
- flat roofs — a roof having a minimum finished fall of 1:80
- pitched roofs — a roof having a fall in excess of 1:6.

Product assessment – key factors

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

1 Mechanical resistance and stability

Not applicable.

2 Safety in case of fire

Data were assessed for the following characteristics.

2.1 External fire spread

2.1.1 When tested to CEN/TS 1187 : 2012, Test 4, and classified in accordance with EN 13501-5 : 2016, the constructions given in Table 4 of this Certificate achieved B_{ROOF}(t4) for slopes below 10°, and the constructions given in Table 5 of this Certificate achieved C_{ROOF}(t4) for slopes below 10°.

Table 4 External fire exposure classifications

Layer	System 1[1]	System 2[2]	System 3[3]
Substrate[4]	18 mm OSB3	≥ 18 mm OSB3 or ≥ 0.7 mm steel deck	≥ 18 mm OSB3 or ≥ 0.7 mm steel deck
Primer	CURIDAN[4]	Bitumen Primer+ SA	Bitumen Primer+ SA or Bitumen Primer HM
AVCL[4]	—	2 mm SELF-DAN AP 2000	0.5 mm SELF-DAN AL+ 1200
Adhesive[4]	—	Thermobond	Thermobond
Insulation[4]	—	25 to 100 mm (single layer) or 125 to 200 mm (double layer) polyisocyanurate (PIR) insulation with polypropylene fleece upper side and coated glass tissue lower side	25 to 100 mm (single layer) or 125 to 200 mm (double layer) glass tissue faced PIR insulation
Waterproofing	ESTERDAN 30/P ELAST underlay and ESTERDAN PLUS 50/GP ELAST capsheet	ESTERDAN 30/P ELAST underlay and ESTERDAN PLUS 50/GP ELAST capsheet	ESTERDAN 30/P ELAST SEMI ADHESIVO underlay and POLYDAN PRO 50/GP or POLYDAN PRO 60/GP capsheet

(1) Fire classification report, reference 21545B, issued by warringtonfire, is available from the Certificate holder on request.
(2) Fire classification report, reference 21545F, issued by warringtonfire, is available from the Certificate holder on request.
(3) Fire classification report, reference 21546F, issued by warringtonfire, is available from the Certificate holder on request.
(4) These components are outside the scope of this Certificate.

Table 5 External fire exposure classifications

Layer	System 4[1]
Substrate[2]	≥ 18 mm OSB3 (590 kg·m^{-3}) or ≥ 0.7 mm steel deck (9529 kg·m^{-3})
Primer	Bitumen Primer+ SA or Bitumen Primer HM
AVCL	2 mm SELF-DAN AP 2000[2] or 3 mm IMPERDAN FP 3 mm AP[2] or 2.5 mm GLASDAN 30 AP ELAST
Adhesive[2]	Thermobond
Insulation[2]	20 to 200 mm EPS 150 E insulation and 80 to 100 mm glass tissue faced PIR insulation
Waterproofing	ESTERDAN 30/P ELAST SEMI ADHESIVO underlay and POLYDAN PRO 50/GP or POLYDAN PRO 60/GP capsheet

(1) Fire classification report, reference 21546M, issued by warringtonfire, is available from the Certificate holder on request.
(2) These components are outside the scope of this Certificate.

2.1.2 On the basis of the data assessed, the constructions listed in Table 4 will be unrestricted by the documents supporting the national Building Regulations with respect to proximity to a relevant boundary. Restrictions may apply at junctions with compartment walls.

2.1.3 The construction listed in Table 5 will be restricted with respect to the proximity to a relevant boundary by the documents supporting the national Building Regulations. The distance to a relevant boundary must be at least 6 m. Restrictions may apply at junctions with compartment walls.

2.1.4 A roof incorporating the products will also be unrestricted under the national Building Regulations with respect to a relevant boundary in protected or inverted roof specifications, including an inorganic covering listed in the Annex of Commission Decision 2000/553/EC.

2.1.5 In Wales and Northern Ireland, when used on flat roofs using a substrate designated in the supporting documents 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.

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

2.2 Reaction to fire

2.2.1 The Certificate holder has declared a reaction to fire classification of Class E to UNE EN 13501-1 : 2018 for ESTERDAN 48 P ELAST.

2.2.2 On the basis of data assessed, roofs incorporating the products will be restricted in use by the documents supporting the national Building Regulations in some cases.

2.2.3 In England, the products, when used in pitches greater than 70°, excluding upstands, must not be used less than 1 m from a relevant boundary, on residential buildings more than 11 m in height or on other buildings more than 18 m in height. Restrictions apply on assembly and recreation buildings. These constructions must also be included in calculations of unprotected area.

2.2.4 In Wales and Northern Ireland, the products, when used in roof pitches greater than 70°, excluding upstands, must not be used less than 1 m from a relevant boundary, on other buildings more than 18 m in height or, in some cases, on assembly and recreation buildings. These constructions must also be included in calculations of unprotected area.

2.2.5 In Scotland, the use of the products is unrestricted with respect to building height and proximity to a relevant boundary. However, restrictions on the overall construction may apply, depending on the reaction to fire classification achieved by the build-up, which must be established on a case-by-case basis.

3 Hygiene, health and the environment

Data were assessed for the following characteristics.

3.1 Weathertightness

3.1.1 Results of weathertightness tests are given in Table 6.

Table 6 Weathertightness

Product assessed	Assessment method	Requirement	Result
• GLASDAN 40/GP ERF ELAST • ESTERDAN 30 P ELAST • IMPRIDAN 100 • 18 mm chipboard	Resistance to wind uplift to MOAT 50 : 4.1.1 : 1992	Maximum pressure not causing failure of the specimen	10 kPa
• GLASDAN 40/GP ERF ELAST • ESTERDAN 30 P ELAST • 80 mm Polyisocyanurate (PIR) • IMPRIDAN 500 • GLASDAN 30 AP ELAST • IMPRIDAN 100 • 18 mm chipboard	Resistance to wind uplift to MOAT 50 : 4.1.1 : 1992	Maximum pressure not causing failure of the specimen	6.5 kPa
• GLASDAN 40/GP ERF ELAST • ESTERDAN 30 P ELAST • 80 mm Polyisocyanurate (PIR) • IMPRIDAN 500 • GLASDAN 30 AP ELAST • IMPRIDAN 100 • 18 mm chipboard	Resistance to wind uplift to MOAT 50 : 4.1.1 : 1992	Maximum pressure not causing failure of the specimen	7.5 kPa

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

3.1.3 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.

3.1.4 The adhesion of ESTERDAN 30 P ELAST AUTOADHESIVO and ESTERDAN 30 P ELAST SEMIADHESIVO and the torch bonded products is sufficient to resist the effects of wind suction, elevated temperature and thermal shock conditions likely to occur in practice.

3.2 Condensation

3.2.1 The result of a water vapour resistance test is given in Table 7.

Table 7 Water vapour resistance

Product assessed	Assessment method	Requirement	Result
GLASDAN 30 AP ELAST	Water vapour diffusion – equivalent air layer thickness (s_d) to UNE EN 1931 : 2001	Value achieved	762 m(1)

(1) Water vapour resistance is s_d x 5.

3.2.2 On the basis of data assessed, the products that are used as AVCLs provide effective control to the passage of water vapour.

3.2.3 The products will adequately reduce the risk of interstitial condensation when designed and constructed in accordance with BS 5250 : 2021 and BRE Report BR 262 : 2002 in England and Wales. When carrying out condensation risk analysis calculations to BS 5250 : 2021, the values in Table 7 must be used.

3.3 Resistance to mechanical damage

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

3.3.2 On the basis of data assessed, GLASDAN, ESTERDAN POLYDAN ELAST and POLYDAN PRO Membranes can accept, without damage, the foot traffic and light concentrated loads associated with installation and maintenance and the effects of minor movement likely to occur in practice while remaining weathertight.

3.3.3 Where regular traffic in excess of the examples given in section 3.3.2 is envisaged, eg for maintenance of lift equipment, a walkway, such as DANOLOSA, or concrete slabs supported on bearing pads must be used. Reasonable care must be taken to avoid sharp objects or concentrated loads.

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 Specific test data were assessed as given in Table 8.

Table 8 Durability

Products assessed	Assessment method	Requirement	Result
POLYDAN 180-60/GP ELAST	Low temperature flexibility to		
- upper face	BS EN 1109 : 2013 – control	≤ –15°C	Pass
- lower face		≤ –15°C	Pass
- upper face	Heat aged at 70°C for 240 days	≤ 0°C	Pass
- lower face		≤ 0°C	Pass
POLYDAN 180-60/GP ELAST	Heat resistance to		
	BS EN 1110 : 2010 – control	≥ 100°C	Pass
	Heat aged at 70°C for 240 days	≥ 90°C	Pass

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 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 experienced and competent 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 resistance to wind uplift for warm roofs will be dependent on the cohesive strength of the insulation and the method by which it is secured to the roof deck. This must be taken into account when selecting a suitable insulation material.

9.1.8 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 this Certificate, the Certificate holder's instructions and the relevant clauses of BS 6229 : 2018, BS 8000-0 : 2014, BS 8000-4 : 1989 and BS 8217 : 2005.

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

9.2.4 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.

9.2.5 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.

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

9.2.7 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.

9.2.8 The 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.

9.2.9 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.

9.2.10 Where an angle fillet is not used, GLASDAN 800 P PERFORADO is terminated 100 mm from the roof edge and around all penetrations.

9.2.11 The 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.

9.2.12 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.

9.2.13 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.

9.2.14 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.

9.2.15 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.

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

9.2.17 Where a further roof covering is used, the waterproofing system is first covered with either an appropriate protection membrane, or sand into which the tiles are set. The Certificate holder can advise on suitable products, but such advice and products are outside the scope of this Certificate.

9.2.18 Only POLYDAN 180-48 P ELAST, POLYDAN PRO 50/GP, POLYDAN 180-50/GP ELAST, POLYDAN PRO 60/GP and POLYDAN 180-60/GP ELAST are suitable for use under permanent heavy protection such as paving slabs.

9.2.19 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.

9.2.20 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.

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

9.2.22 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.

9.2.23 If the roof is likely to be subjected to uncontrolled pedestrian access, the substructure must satisfy the requirements of BS 8217 : 2005, Clauses 6.12 and 6.13, and to prevent damage to the roof covering one of the surface finishes described in Clauses 8.19.3 and 8.19.4 of the Code of Practice must be used.

9.2.24 On completion of the roof, the non-mineral-finished products must have a surface finish applied in accordance with BS 8217 : 2005, Clauses 6.12 and 8.19. Surface finishes in the Code of Practice include:

- stone aggregate in dressing compound
- precast concrete paving slabs
- proprietary tiles in bonding compound.

9.2.25 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 product 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 this type of system.

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:

9.4.2.1 The products must be the subject of six-monthly inspections and maintenance in accordance with the recommendations of BS 6229 : 2018, Chapter 7, and the Certificate holder's own maintenance requirements, where relevant, to ensure continued satisfactory performance.

9.4.2.2 In the event of damage, the products must be repaired in accordance with the Certificate holder's instructions and this Certificate.

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, 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 handling 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).

Bibliography

BRE Report BR 262 : 2002 *Thermal insulation — avoiding risks*

BS 5250 : 2021 *Management of moisture in buildings — Code of practice*

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 8747 : 2007 *Reinforced bitumen membranes (RBMs) for roofing — Guide to selection and specification*

BS EN 1109 : 2013 *Flexible sheets for waterproofing — Bitumen sheets for roof waterproofing — Determination of flexibility at low temperature*

BS EN 1110 : 2010 *Flexible sheets for waterproofing — Bitumen sheets for roof waterproofing — Determination of flow resistance at elevated temperature.*

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*

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

CEN/TS 16459 : 2019 *External fire exposure of roofs and roof coverings — Extended application of test results from CEN/TS 1187*

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

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

MOAT 50 : 1992 *Technical guidelines for the assessment of thermal insulation systems intended for supporting waterproof coverings on flat and sloping roofs*

UNE EN 1931 : 2001 *Flexible sheets for waterproofing — Bitumen, plastic and rubber sheets for roof waterproofing — Determination of water vapour transmission properties*

UNE EN 13501-1 : 2018 *Fire classification of construction products and building elements — Classification using data from reaction to fire tests*

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
- 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
- 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