Bauder Ltd
70 Landseer Road
Ipswich
Suffolk IP3 0DH

Tel: 01473 257671 Fax: 01473 230761
e-mail: info@bauder.co.uk
website: www.bauder.co.uk

Agrément Certificate
06/4354
Product Sheet 1 Issue 6

BAUDER SINGLE PLY PVC ROOF WATERPROOFING MEMBRANES

THERMOFOL U WATERPROOFING MEMBRANES

This Agrément Certificate Product Sheet(1) relates to Thermofol U Waterproofing Membranes, a range of flexible polyvinyl chloride (PVC) polyester-reinforced membranes, for use as mechanically fastened, fully bonded, and loose laid and ballasted, single-ply roof waterproofing membranes on flat or pitched roofs, including green roofs and roof gardens, with limited access.

(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 Sixth issue: 13 June 2025
Originally certified on 11 July 2006

Hardy Giesler
Chief Executive Officer

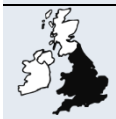
British Board of Agrément
1st Floor, Building 3, Hatters Lane
Croxley Park, Watford
Herts WD18 8YG
tel: 01923 665300
clientservices@bbacerts.co.uk
www.bbacerts.co.uk

SUMMARY OF ASSESSMENT AND COMPLIANCE

This section provides a summary of the assessment conclusions; readers must 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 Thermofol U Waterproofing 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 suitable substructures, 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)**	**Durability, workmanship and fitness of materials**
Comment:		The use of the products satisfies the requirements of 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 used on suitable substructures, 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:		All comments given for 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(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 suitable substructures, 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, Thermofol U Waterproofing Membranes, if installed, used 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 Thermofol U Waterproofing Membranes to be satisfactory for use as described in this Certificate. The products have been assessed for use as mechanically fastened, fully bonded, and loose laid and ballasted, single-ply roof waterproofing membranes on flat or pitched roofs, including green roofs and roof gardens, with limited access.

ASSESSMENT

Product description and intended use

Thermofol U Waterproofing Membranes are a range of flexible polyester-reinforced plasticised PVC membranes incorporating UV and flame-retardant stabilisers. The 1.5 mm thickness membrane is also available in a fleece-backed version.

The membranes are light grey in colour(1) and manufactured to the nominal characteristics given in Table 1.

(1) Also available in blue-grey, anthracite and other colours on request.

Table 1 Nominal characteristics

Parameters (units)	Membranes				
	U12 FR	U15 FR	U18 FR	U20 FR	U15V FR
Thickness (mm)	1.2	1.5	1.8	2.0	1.5(1)
Roll width (m)(2)	1.5	1.5	1.5	1.5	1.5
Roll length (m)	20	20	20	20	20
Roll weight (kg)	46	57	67	75	63
Mass per unit area ($kg \cdot m^{-2}$)	1.4	1.8	2.1	2.4	2.0

(1) Thickness excludes fleece backing.
(2) Other widths are available on request.

Ancillary items

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:

- Bauder Membrane Adhesive – for bonding Thermofol U15V fleece-backed membrane to substrates
- BauderPVC VBL 14 – a 0.6 mm thick hot-dip galvanized steel plate, laminated on one side with a 0.8 mm thick layer of Thermofol PVC, for use in creating flashings and detailing
- BauderPVC D18 – 1.8 mm unreinforced PVC membrane, for use in non-regular detailing
- BauderSYN DB-PE 100 – 0.16 mm thick polyethylene air & vapour control layer (AVCL)
- BauderTEC KSD Foil – self-adhesive bituminous AVCL with a foil facing
- BauderTEC KSD FBS – self-adhesive bituminous AVCL with a mica finished upper surface
- BauderTEC DBR 06 – self-adhesive bituminous AVCL with an aluminium foil facing
- BauderROCK – mineral wool insulation slabs
- BauderPIR FA rigid insulation boards
- BauderPIR FA G16 tapered polyisocyanurate (PIR) insulation boards
- Bauder ECO FF PIR Insulation
- BauderSYN VK-T 38 – tape 03 for sealing the seams of DB-PE 100 and 200
- BauderSYN BU-T 15 – tape 20 for sealing the DB-PE 100 and 200 AVCLs to upstands
- BauderPVC IE & AE preformed corners – shaped profiles for creating corner features
- Thermofol Contact Adhesive – for bonding PVC membranes
- BauderPVC LSF 2 mm embossed walkway membrane
- BauderGREEN SV 300 Protection Fleece 300 $g \cdot m^{-2}$ – to separate and protect membrane when overlaying existing bituminous roofing, or under ballasted/green roof systems
- a range of outlet and pipe flashing accessories
- mechanical fixings and plates for use in mechanically fixed specifications
- thermally broken tubes and fixings manufactured by a Single Ply Roofing Association (SPRA) Associate Fastener Member
- BauderPVC NA seam activator – for lap weld preparation of soiled or aged PVC membrane
- BauderPVC DP 25 décor profile – a standing seam profile
- Linear Fixing Bars – for use in bar mechanically-fastened specifications
- a range of outlets and pipe accessories.
- BauderVIP TE 60 vacuum insulation panels
- BauderGREEN XF301 lightweight sedum system – including accessory components
- BauderPVC RDS cord – 4 mm diameter cord, used to form peel stop detailing at perimeters
- BauderGREEN KFL AL 100/80 drainage trim, used in ballasted roof specifications.

Applications

Thermofol U Waterproofing Membranes are satisfactory for use as a waterproofing layer as follows:

- In mechanically fastened systems on flat and pitched roofs with limited access
- as fully adhered on flat and pitched roofs with limited access
- in loose-laid and ballasted on flat roofs with limited access
- as vertical detailing
- in green roofs and roof gardens.

Definitions for products and applications

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. Where traffic in excess of this is envisaged, such as pedestrian access roofs, additional protection to the membranes must be provided (see section 9).
- 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
- 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
- roof garden (intensive) — a roof with a substantial layer of growing medium with planting that can include shrubs and trees, generally accessible to pedestrians.

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

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

2.1 External fire spread

2.1.1 When tested to DD CEN/TS 1187 : 2012, Test 4 and classified to BS EN 13501-5 : 2016, the constructions given in Tables 2 to 8 of this Certificate achieved B_{ROOF}(t4).

Table 2 Tested systems for use with a pitch between 10° and 70°

Layer	System 1(1)	System 2(2)	System 3(3)	System 4(4)
Substrate(5)	OSB (18 mm / 634 kg·m^{-3})			
AVCL	KSD FBS AVCL (2.5 mm) self-adhesive	KSD FBS AVCL (2.5 mm) self-adhesive	KSD Foil AVCL (1.5 mm) self-adhesive	KSD Foil AVCL (1.5 mm) self-adhesive
Adhesive(5)	Solvent free PU adhesive	Solvent-free PU adhesive	Solvent-free PU adhesive	Solvent-free PU adhesive
Insulation(5)	BauderRock mineral wool (300 mm / 160 kg·m^{-3})	BauderRock mineral wool (85 mm / 160 kg·m^{-3})	FA PIR Insulation (260 mm / 30 kg·m^{-3})	FA PIR Insulation (60 mm / 30 kg·m^{-3})
Adhesive(5)	PU membrane adhesive	PU membrane adhesive	PU membrane adhesive	PU membrane adhesive
Membrane	U15V FR fleece backed (3.5 mm)			

(1) Fire classification report, P121290-1003, issued by BRE Global Ltd; available from the Certificate holder on request.
(2) Fire classification report, P121290-1005, issued by BRE Global Ltd; available from the Certificate holder on request.
(3) Fire classification report, Q100909-1005, issued by BRE Global Ltd; available from the Certificate holder on request.
(4) Fire classification report, Q100909-1007, issued by BRE Global Ltd; available from the Certificate holder on request.
(5) These components are outside the scope of this Certificate.

Table 3 Tested systems for use with a pitch between 10° and ≤ 70°

Layer	System 5[1]	System 6[2]	System 7[3]
Substrate[4]	OSB (18 mm / 634 kg·m^{-3})		
AVCL[4]	SYN DB-PE 100 AVCL (0.16 mm) loose-laid	SYN DB-PE 100 AVCL (0.16 mm) loose-laid	GV 120 (0.75 mm) loose-laid
Insulation[4]	FA PIR insulation (260 mm / 30 kg·m^{-3}) mechanically fastened	FA PIR insulation (60 mm / 30 kg·m^{-3}) mechanically fastened	N/A
Membrane	U15 FR PVC (1.5 mm) mechanically fastened[5]		

(1) Fire Classification Report Number Q101083-1010, issued by BRE Global Ltd; available from the Certificate holder on request.
(2) Fire Classification Report Number Q101083-1012, issued by BRE Global Ltd; available from the Certificate holder on request.
(3) Fire Classification Report Number Q100909-1023, issued by BRE Global Ltd; available from the Certificate holder on request.
(4) These components are outside the scope of this Certificate.
(5) Where joints to membrane occur, additional fixings at 45 mm from each edge of the membrane joints must be installed.

Table 4 Tested systems for use with a pitch < 10°

Layer	System 8[1]	System 9[2]	System 10[3]	System 11[4]
Substrate[5]	OSB (18 mm / 634 kg·m^{-3})			
AVCL[5]	KSD FBS AVCL (2.5 mm) self-adhesive			
Adhesive[5]	Solvent-free PU adhesive		PU adhesive	
Insulation[5]	BauderGlas G2 T3+ foamglass (280 mm / 100 kg·m^{-3})		FA PIR insulation (60 mm / 30 kg·m^{-3}) butt jointed	FA PIR insulation (260 mm / 30 kg·m^{-3}) butt jointed
Adhesive[5]	Solvent-free PU adhesive		PU adhesive	
Membrane	U15V FR fleece backed (3.5 mm)		U15V FR fleece backed (3.5 mm)	
Drainage layer[5]	N/A	N/A	SDF drainage mat (20 mm / 30 kg·m-^{3}) loose-laid and butt jointed	
Planting[5]	N/A	N/A	XF 301 sedum vegetation blanket (28 mm / 28 kg·m-^{2}) loose-laid and overlapped over moisture layer	

(1) Fire Classification Report Number P121290-1007, issued by BRE Global Ltd; available from the Certificate holder on request.
(2) Fire Classification Report Number P121290-1009, issued by BRE Global Ltd; available from the Certificate holder on request.
(3) Fire Classification Report Number P123681-1001, issued by BRE Global Ltd; available from the Certificate holder on request.
(4) Fire Classification Report Number P123681-1003, issued by BRE Global Ltd; available from the Certificate holder on request.
(5) These components are outside the scope of this Certificate.

Table 5 Tested systems for use with a pitch < 10°

Layer	System 12[1]	System 13[2]	System 14[3]	System 15[4]	System 16[5]
Substrate[7]	OSB (18 mm / 560 - 634 kg·m^{-3})				
Primer[7]	N/A	Bauder Activator Primer (80 g·m^{-2})	N/A	N/A	N/A
AVCL[7]	KSD FBS AVCL (2.5 mm) self-adhesive				
Insulation[7]	BauderRock mineral wool (100 mm / 160 kg·m^{-3}) adhered with solvent free PU adhesive	Bauder VIP TE Standard (60 mm / 50 kg·m^{-3}) adhered with PU adhesive	FA PIR foil faced PIR insulation (60 to 240 mm / 30 kg·m^{-3}) adhered with Bauder spray foam PU adhesive	BauderRock mineral wool (255 mm / 160 kg·m^{-3}) adhered with Bauder spray foam PU adhesive	FA PIR foil faced insulation (220 mm / 29 kg·m^{-3}) and EPP rigid foam (25 mm / 70 kg·m^{-3}) adhered with Bauder spray foam PU adhesive[6]
Adhesive[7]	PU adhesive	Bauder contact adhesive	Bauder spray foam contact adhesive	Bauder spray foam contact adhesive	PU moisture cured adhesive
Membrane	U15V FR fleece backed (3.5 mm)				

(1) Fire Classification Report Number Q100909-1001. issued by BRE Global Ltd; available from the Certificate holder on request.
(2) Fire Classification Report Number 19617C, issued by Warringtonfire; available from the Certificate holder on request.
(3) Fire Classification Report Number 19122C, issued by Warringtonfire; available from the Certificate holder on request.
(4) Fire Classification Report Number 19122G, issued by Warringtonfire; available from the Certificate holder on request
(5) Fire Classification Report Number 21272B, issued by Warringtonfire; available from the Certificate holder on request.
(6) Bauder spray foam contact adhesive, sprayed at an application rate of 120 g·m^{-2} utilised between the FA PIR foil-faced insulation and the EPP insulation board.
(7) These components are outside the scope of this Certificate.

Table 6 Tested systems for use with a pitch < 10°

Layer	System 17[1]	System 18[2]	System 19[3]	System 20[4]
Substrate	OSB (18 mm / 634 kg·m^{-3})			
AVCL[6]	SYN DB-PE 100 AVCL (0.16 mm) Loose laid with 100 mm overlap / mechanically fixed		KSD Foil AVCL (1.5 mm) self-adhesive	
Insulation[6]	FA PIR butt-jointed foil-faced PIR insulation (60 mm / 30 kg·m^{-3}) mechanically fastened	FA PIR foil-faced PIR insulation (260 mm / 30 kg·m^{-3}) mechanically fastened	FA PIR foil-faced PIR insulation (60 mm / 30 kg·m^{-3}) and EPP rigid foam tapered board (5 mm / 65 kg·m^{-3}) adhered	FA PIR foil-faced PIR insulation (120 mm / 30 kg·m^{-3}) and BauderRock mineral wool (30 mm / 160 kg·m^{-3}) adhered[5]
Adhesive[6]	PU adhesive, overlapped by 80 mm and with a heat-welded lap		PU membrane adhesive	Solvent-free PU adhesive
Membrane	Thermofol U15 V FR PVC (3.5 mm)			

(1) Fire Classification Report Number P125254-1001, issued by BRE Global Ltd; available from the Certificate holder on request.
(2) Fire Classification Report Number P125254-1003, issued by BRE Global Ltd; available from the Certificate holder on request.
(3) Fire Classification Report Number Q101083-1007, issued by BRE Global Ltd; available from the Certificate holder on request.
(4) Fire Classification Report Number Q100337-1005, issued by BRE Global Ltd; available from the Certificate holder on request.
(5) A solvent-free PU adhesive is utilised between the FA PIR foil-faced insulation and the BauderRock mineral wool insulation.
(6) These components are outside the scope of this Certificate.

Table 7 Tested systems for use with a pitch < 10°

Layer	System 21[1]	System 22[2]	System 23[3]	System 24[4]
Substrate[5]	OSB (18 mm / 634 kg·m^{-3})			
AVCL[5]	SYN DB-PE 100 AVCL (0.16 mm) Loose laid		DB100 AVCL (0.16 mm) adhesive with 100 mm overlap joint	
Attachment[5]	Solvent-free PU adhesive		Mechanically fixed with SFS BS-4 screws & R45 tubes	
Insulation[5]	BauderRock mineral wool (300 mm / 160 kg·m^{-3})	BauderRock mineral wool (85 mm / 160 kg·m^{-3})	ECO FF PIR insulation (80 mm / 30 kg·m^{-3})	ECO FF PIR insulation (240 mm / 30 kg·m^{-3})
Membrane	Thermofol U15 FR PVC (1.5 mm) Mechanically fixed with SFS BS-4 screws & R45 tubes		Thermofol U15 FR PVC (1.5 mm) Mechanically fixed with SFS BS-4 screws & R45 tubes and a 100 mm heat welded overlap	

(1) Fire Classification Report Number P121290-1001, issued by BRE Global Ltd; available from the Certificate holder on request.
(2) Fire Classification Report Number P121290-1011, issued by BRE Global Ltd; available from the Certificate holder on request.
(3) Fire Classification Report Number P127191-1001, issued by BRE Global Ltd; available from the Certificate holder on request.
(4) Fire Classification Report Number P127191-1003, issued by BRE Global Ltd; available from the Certificate holder on request.
(5) These components are outside the scope of this Certificate.

Table 8 Tested systems for use with a pitch < 10°

Layer	System 25[1]	System 26[2]	System 27[3]	System 28[4]	System 29[5]
Substrate[7]	OSB (18 mm / 634 kg·m^{-3})				
AVCL[7]	SYN DB-PE 100 AVCL (0.16 mm) Loose laid		GV 120 (0.75 mm) Loose laid with 100 mm overlap / mechanically fixed[6]	SYN DB-PE 100 AVCL (0.16 mm) Loose laid with 100 mm overlap / mechanically fixed[6]	
Insulation[7]	FA PIR insulation (60 mm/ 30 kg·m^{-3}) mechanically fastened	FA PIR insulation (260 mm / 30 kg·m^{-3}) mechanically fastened	N/A	FA PIR insulation (60 mm / 30 kg·m^{-3}) mechanically fastened	FA PIR insulation (260 mm / 30 kg·m^{-3}) mechanically fastened
Membrane	U20 FR PVC (2 mm) Mechanically fixed with SFS BS-4 screws & R45 tubes at 250 mm centres		U15 FR PVC (1.5 mm) Mechanically fixed with SFS BS-4 screws at 250 mm centres[6]	U15 FR PVC (1.5 mm) Mechanically fixed with SFS BS-4 screws & R45 tubes at 70 mm from each edge and corners and at 250 mm centres[6]	

(1) Fire Classification Report Number Q101083-1001, issued by BRE Global Ltd; available from the Certificate holder on request.
(2) Fire Classification Report Number Q101083-1003, issued by BRE Global Ltd; available from the Certificate holder on request.
(3) Fire Classification Report Number Q100909-1021, issued by BRE Global Ltd; available from the Certificate holder on request.
(4) Fire Classification Report Number Q100337-1002, issued by BRE Global Ltd; available from the Certificate holder on request.
(5) Fire Classification Report Number Q100337-1008, issued by BRE Global Ltd; available from the Certificate holder on request
(6) Where joints to membrane occur, additional fixings at 45 mm from each edge of the membrane joints must be installed.
(7) These components are outside the scope of this Certificate.

2.1.2 On the basis of data assessed, the constructions listed in Tables 2 to 8 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 A roof incorporating the products will also be unrestricted with respect to proximity to a relevant boundary under the national Building Regulations when used in the following circumstances:

- when used in protected roof specifications, including an inorganic covering 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 or green roofs.

2.1.4 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.

2.1.5 If allowed to dry, the plants used may allow the spread of flame across the roof. This must be taken into consideration when selecting suitable plants. 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.*

2.2 Reaction to fire

2.2.1 When tested to EN ISO 11925-2 : 2020 and classified to BS EN 13501-1 : 2018, the products given in Table 9 achieved Class E.

Table 9 Reaction to fire classification

Product assessed	Assessment method	Requirement	Result
Bauder Thermofol U 12 Bauder Thermofol U 15	EN ISO 11925-2 : 2020 Classified to EN 13501-1 : 2018	Classification achieved	Class E

2.2.2 On the basis of data assessed, the products will be restricted in use under 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, or 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 pitches greater than 70°, excluding upstands, must not be used less than 1 m from a relevant boundary, or on 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 complete system, which must be established on a case-by-case basis.

3 Hygiene, health and the environment

3.1 Weathertightness

3.1.1 Results of weathertightness tests are given in Table 10.

Table *10 Weathertightness*

Product assessed	Assessment method	Requirement	Result
Thermofol U	Peel resistance of joints to EN 12316-2 : 2000	≥ 150 N·(50 mm)$^{-1}$	Pass
Thermofol U15 Insulation: 100mm mineral wool Substructure: 0.75mm profiled steel roof sheet Screws: SFS BS 4.8 x 60 Plates: SFS RP 50 x 90 Distance between fasteners a = 240 mm, b = 1400mm	Dynamic wind uplift to DIN EN 16002 : 2018	Value achieved	Design load 780 N per fastener
Fleece Backed Bauder Thermofol U12 Bauder adhesive	Peel resistance to MOAT 65 : 2001 method A Concrete substrate	≥ 25 N·(50 mm)$^{-1}$	Pass

3.1.2 On the basis of data assessed, the products, including joints, when completely sealed and consolidated, will adequately resist the passage of moisture into the interior of a building and enable a roof to comply with the requirements of the national Building Regulations.

3.1.3 When mechanically fastened, the membranes will sufficiently resist the effects of wind suction likely to be experienced in the UK.

3.1.4 The resistance to wind uplift of a mechanically fastened waterproofing layer is provided by the fasteners passing through the membranes into the substrate. The number and position of fixings will depend on a number of factors including:

- wind uplift forces to be restrained
- pull-out strength of the fasteners
- tensile properties of the membranes
- appropriate calculation of safety factors.

3.1.5 The wind uplift forces must be calculated by a suitably experienced and competent individual in accordance with BS EN 1991-1-4 : 2005 and its UK National Annex.

3.1.6 The adhesion of the adhered membranes is sufficient to resist the effects of wind suction, elevated temperature, thermal shock conditions or other minor structural movements likely to occur in service.

3.1.7 When the membranes are bonded to insulation boards, the resistance to wind uplift will be dependent on the cohesive strength of the insulation and the method by which the insulation is secured to the roof deck. This must be taken into account when selecting suitable insulation material.

3.2 Resistance to mechanical damage

3.2.1 Results of resistance to mechanical damage tests are given in Table 11.

Table 11 Mechanical damage

Product assessed	Assessment method	Requirement	Result
Thermofol U12	Peel resistance to EN 12316-2 : 2000	≥ 150 N·(50 mm)$^{-1}$	Pass
Thermofol U12	Tensile strength to BS EN 12311-2 : 2000	Declared value	
	Longitudinal direction	≥ 1000 N·(50 mm)$^{-1}$	Pass
	Transverse direction	≥ 1000 N·(50 mm)$^{-1}$	Pass
Thermofol U12	Elongation to BS EN 12311-2 : 2000	Declared value	
	Longitudinal direction	≥ 19 %	Pass
	Transverse direction	≥ 18 %	Pass
Thermofol U12	Resistance to impact to MOAT 65 : 2001	Value achieved	
	Expanded polystyrene (EPS) substrate		I_{10}
	Perlite substrate		I_{10}
Thermofol U12	Tear resistance (nail shank) to BS EN 12310-1 : 1999	≥ 150 N	
	Longitudinal direction		Pass
	Transverse direction		Pass
Thermofol U12	Resistance to static loading to EN 12730 : 2001	Value achieved	
	EPS substrate		20 kg
	Concrete substrate		20 kg

3.2.2 On the basis of data assessed, the products can accept, without damage, the limited foot traffic and light concentrated loads associated with installation and maintenance.

3.2.3 Where traffic in excess of the examples given in section 3.2.2 is envisaged, such as pedestrian access roofs or for maintenance of lift equipment, suitable protection must be provided (for example, using concrete slabs supported on bearing pads). Reasonable care must be taken to avoid puncture by sharp objects or concentrated loads.

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

3.3 Resistance to root penetration

3.3.1 The result of a resistance to root penetration test is given in Table 12.

Table 12 Resistance to root penetration

Product assessed	Assessment method	Requirement	Result
Thermofol U15	Resistance to root penetration to FLL Method (2002)	No root penetration after 2 years	Pass

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

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 these products were assessed.

8.2 Specific test data were assessed as given in Table 13.

Table 13 Durability

Product assessed	Assessment method	Requirement	Result
Thermofol U12	Dimensional stability to EN 1107-2 : 2001		
	Longitudinal direction	≤ 0.5%	Pass
	Transverse direction	≤ 0.5%	Pass
Fleece-backed Bauder Thermofol U12 using Bauder adhesive on concrete	Peel resistance to MOAT 65 : 2001 method A Heat aged for 28 days at 80 °C	≥ 25 N·(50 mm)$^{-1}$ [1]	Pass
Thermofol U12 taken from existing site of at least 25 years of age	Low temperature foldability to BS EN 495-5 : 2013 UV aged to EOTA Technical Report TR-010 dated May 2004 for 400 MJ·m^{-2} at 50 °C	No cracks or fractures at 0 °C	
	Longitudinal direction		Pass
	Transverse direction		Pass
Thermofol U12	Low temperature foldability to EN 495-5 : 2000 Heat aged for 84 days at 70 °C according to EN 1296 : 2001	No cracks or fractures at -30 °C	
	Longitudinal direction upper side		Pass
	Transverse direction upper side		Pass
	Longitudinal direction lower side		Pass
	Transverse direction lower side		Pass
Thermofol U12 taken from existing site of at least 25 years of age	Resistance to impact load to BS EN 12691 : 2001 Heat aged for 50 days at 70°C		
	EPS substrate	I_{10}	Pass
	Perlite substrate	I_{15}	Pass
Thermofol U12 taken from existing site of at least 25 years of age	UV aged to EOTA TR-010 dated May 2004 for 400 MJ·m^{-2} at 50 °C		
	EPS substrate	I_{10}	Pass
	Perlite substrate	I_{15}	Pass
Thermofol U12	Peel resistance of joints to EN 12316-2 : 2000 following 28 days of thermal ageing at 80 °C to EN 1296 : 2001	≥ 150 N·(50 mm)$^{-1}$	Pass

8.3 Testing was carried out on a related representative product on samples taken from an existing site.

8.4 Visits were carried out to existing sites to assess performance in service.

8.5 Service life

Under normal service conditions, the products will have a life in excess of 35 years, provided they are designed, installed and maintained in accordance with this Certificate and the Certificate holder's instructions.

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 specified in this Certificate.

9.1.2 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.

9.1.3 Decks to which the products are to be applied must comply with the relevant requirements of BS 6229 : 2018 and, where appropriate, *NHBC Standards* 2025, Chapter 7.1.

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 must be made for loading deflections to ensure that the free drainage of water is maintained.

9.1.5 The ballast requirements for loose-laid roof specifications using the products 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.

9.1.6 Imposed loads, dead loading and wind load specifications 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.

9.1.7 The suitability of the substrate, for any specified adhesive bond or mechanical fixings, must be established before installation. Mechanical fixings must be checked before installation by carrying out in-situ pull-out or pull-through tests to determine the minimum safe working load the fixings can resist. The advice of the Certificate holder can also be sought in respect of suitable mechanical fixings and project specific design values but such advice is outside the scope of this Certificate.

9.1.8 Any ballast used in roofing specifications and growing medium used in green roofs and roof gardens must not be of a type that will be removed or become delocalised due to wind scour experienced on the roof.

9.1.9 It must be recognised that the type of plants used in roof gardens could significantly affect the expected wind loads experienced in service.

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

9.1.11 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 – should be removed at early germination stage
- other woody plants which spread aggressively, including rhododendron.

9.1.12 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.

9.1.13 The drainage systems for green roofs or roof gardens must be correctly designed, and the following points must be addressed:

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

9.1.14 Contact with bituminous, coal tar and oil-based products must be avoided as the membranes are not compatible with lower grades of bitumen. If contact with such products is likely, a separating layer must be interposed before installing the waterproofing sheet. Where doubt arises, the advice of the Certificate holder must be sought, but such advice is outside the scope of this Certificate.

9.1.15 The membranes must not come into contact with unfaced polystyrene insulation boards. A suitable separation layer must be used if this type of board is used.

9.1.16 Insulation materials used in conjunction with the products must be in accordance with the manufacturer'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 scope 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 and the Certificate holder's instructions. A summary of instructions and guidance is provided in Annex A.

9.2.3 Installation of Thermofol U must be carried out in accordance with this Certificate, the Certificate holder's instructions and the relevant clauses of BS 8000-0 : 2014, BS 8000-4 : 1989 and BS 8217 : 2005.

9.2.4 Substrates to which the products are applied must be sound, dry, clean and free from sharp projections such as nail heads and concrete nibs. When used over a rough substrate, a suitable protection layer must be laid first.

9.2.5 Installation must not be carried out during inclement weather (eg rain, fog or snow). When the temperature is below 5°C, suitable precautions against surface condensation must be taken.

9.2.6 For loose-laid and ballasted applications, the products are unrolled onto the substrate without folds or ripples, with a 100 mm overlap, and are mechanically fixed and fully adhered at details and perimeters. Flashing and lap jointing must be carried out as described in sections 9.2.19 to 9.2.23.

9.2.7 A suitable protection layer must be laid over the products prior to the application of the ballast.

9.2.8 Loose-laid applications must be covered by at least a 50 mm depth of well-rounded gravel. In areas of high-wind exposure, paving slabs set on a suitable support may be considered (eg pads). A minimum upstand height of 150 mm above the top of the ballast or paving must be allowed for detailing.

9.2.9 For mechanically fastened applications, the products are secured by plates and mechanical fixings or thermally broken tubes and fixings.

9.2.10 The products are unrolled onto the substrate, without folds or ripples, with a minimum mechanically fastened 100 mm side lap or a minimum adhered and ballasted 60mm side lap and a 150 mm head lap. Flashing and lap jointing must be carried out as described in sections 9.2.18 to 9.2.23.

9.2.11 The products are fixed to the deck (through insulation boards, where appropriate) in the joint overlaps, prior to welding of the joint, in accordance with the Certificate holder's instructions.

9.2.12 The fastener tubes or washers must be positioned a minimum of 10 mm from the edge of the lower membrane. The fixings must be installed at centres calculated from the average wind force in that location.

9.2.13 A minimum distance of 150 mm between fasteners must be observed at all times. This may require the use of narrower membranes to obtain the correct number of fasteners per square metre.

9.2.14 When fully adhering Thermofol U15V, the advice of the Certificate holder must be sought on the suitability of substrates, but this advice is outside the scope of the Certificate.

9.2.15 The product is unrolled onto the substrate without ripples and rolled back to expose the underside.

9.2.16 A coat of adhesive is applied to the substrate in a full and continuous coat.

9.2.17 The product is rolled back onto the adhesive approximately five to ten minutes after application. After initial contact, the surface of the membrane is rolled and pressed to ensure full contact.

9.2.18 Joints for the products must be made using hot-air or welding techniques in accordance with the Certificate holder's instructions.

9.2.19 If the lap area is contaminated, both sheets must be cleaned. The Certificate holder can advise on suitable materials for this purpose, but such advice and products are outside the scope of this Certificate.

9.2.20 Hot-air welding is conducted by using either an automatic or a hand-operated machine, with a temperature set in accordance with the Certificate holder's instructions.

9.2.21 The lap joint must be a minimum width of 30 mm for an automatic machine, and 40 mm for a hand-held machine.

9.2.22 The seams must be tested with a metal probe at least 15 minutes after welding, to identify poorly welded areas. Any such areas must be made good.

9.2.23 Flashings must be formed in accordance with the Certificate holder's instructions.

9.2.24 The NHBC requires that, once installed, the products 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 the 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 installers trained and approved by the Certificate holder.

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 satisfy 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 in BS 6229 : 2018, and the Certificate holder's own maintenance recommendations, where relevant, to ensure continued satisfactory performance. These inspections must be carried out by a suitably experienced and competent individual to ensure continued satisfactory performance. This must include an examination of the condition of the roof finishes to ensure that drain outlets and gutters are kept clear and unblocked.

9.4.2.2 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*.

9.4.2.3 For green roofs, to protect the roof waterproofing and any system components above the waterproofing, invasive plant species (see sections 9.1.10 and 9.1.11 of this Certificate) must be eliminated through maintenance.

9.4.2.4 The control and removal of invasive plant species is carried out by hand. Where this is not possible, any chemicals used(1), such as chemical fertilisers, must be checked for compatibility with the roof waterproofing layer and any system components above the waterproofing. The Certificate holder can advise on the suitability of a particular product, but such advice is outside the scope of this Certificate.

(1) 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.

9.4.2.5 If a leak occurs in the roof waterproof membrane, it must be repaired following removal of the gravel ballast, paving ballast, green roof or roof garden layer, water-flow-reducing layer and the insulation boards.

9.4.2.6 In the event of damage, repairs can be carried out by cleaning the area around the damage and applying a patch of the product, at least 50 mm beyond the defect, in the manner described in sections 9.2.19 and 9.2.20.

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 packaging bearing the products' name, Certificate holder's name, product identification, batch number 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 Rolls must be stored on their side, on a clean, level surface, and under cover.

†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 products in accordance with harmonised European Standard EN 13956 : 2012.

Management Systems Certification for production

The management system of the manufacturer has been assessed and registered as meeting the requirements of EN ISO 9001 : 2015 by ESC GmbH (Certificate DE-002735 QM).

Additional Guidance

A.1 Installation of the products must be carried out in accordance with the relevant clauses of the Single Ply Roofing Association (SPRA) *Single Ply : Design Guide*.

A.2 Guidance on the design, maintenance and repair of green roofs and roof gardens is available within *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 495-5 : 2013 *Flexible sheets for waterproofing — Determination of foldability at low temperature — Plastic and rubber sheets for roof waterproofing*

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 *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*

BS EN 12310-1 : 1999 *Flexible sheets for waterproofing — Determination of resistance to tearing (nail shank) — Bitumen sheets for roof waterproofing*

BS EN 12311-2 : 2000 *Flexible sheets for waterproofing — Determination of tensile properties. Plastic and rubber sheets for roof waterproofing*

BS EN 12691 : 2001 *Flexible sheets for waterproofing — Bitumen, plastic and rubber sheets for roof waterproofing — Determination of resistance to impact*

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*

DIN EN 16002 : 2018 *Flexible sheets for waterproofing - Determination of the resistance to wind load of mechanically fastened flexible sheets for roof waterproofing*

EN 495-5 : 2000 *Flexible sheets for waterproofing — Determination of foldability at low temperature — Plastic and rubber sheets for roof waterproofing*

EN 1107-2 : 2001 *Flexible sheets for waterproofing — Determination of dimensional stability — Plastic and rubber sheets for roof waterproofing*

EN 1296 : 2001 *Flexible sheets for waterproofing — Bitumen, plastic and rubber sheets for roofing — Method of artificial ageing by long term exposure to elevated temperature*

EN 12316-2 : 2000 *Flexible sheets for waterproofing — Determination of peel resistance of joints — Plastic and rubber sheets for roof waterproofing*

EN 12730 : 2001 *Flexible sheets for waterproofing — Bitumen, plastic and rubber sheets for roof waterproofing — Determination of resistance to static loading*

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

EN 13956 : 2012 *Flexible sheet for waterproofing — Plastic and rubber sheets for roof waterproofing — Definitions and characteristics*

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

EN ISO 11925-2 : 2020 *Reaction to fire tests — Ignitability of products subjected to direct impingement of flame — Single-flame source test*

EOTA Technical Report TR-010 dated May 2004 *Exposure procedure for artificial weathering*

MOAT 65 : 2001 *UEAtc Technical Guide for the Assessment of Non-Reinforced, Reinforced and/or Backed Roof waterproofing Systems made of PVC*

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