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Agrément Certificate
14/5162
Product Sheet 2

LANGLEY LIQUID-APPLIED ROOF WATERPROOFING SYSTEMS

PARACOAT 30 AND PARAQUARTZ 30

This Agrément Certificate Product Sheet⁽¹⁾ relates to Paracoat 30 and Paraquartz 30, polyurethane liquid-applied roof waterproofing systems. Paracoat 30 is for use on flat, zero fall and pitched roofs with limited access, and Paraquartz 30 on balconies with pedestrian access and walkway areas on roofs.

(1) Hereinafter referred to as 'Certificate'.

CERTIFICATION INCLUDES:

- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.

KEY FACTORS ASSESSED

Weathertightness — the systems will resist the passage of moisture into the building (see section 6).

Properties in relation to fire — tests indicate that the systems will enable a roof to be unrestricted under the national Building Regulations (see section 7).

Adhesion — the adhesion of the systems is sufficient to resist the effects of any likely wind suction and the effects of thermal or other minor movement likely to occur in practice (see section 8).

Slip resistance — the Paraquartz 30 system, when wet and dry, has a satisfactory co-efficient of friction to enable its use in pedestrian areas (see section 9).

Resistance to mechanical damage — the systems will accept, without damage, the limited foot traffic and loads associated with installation and maintenance (see section 10).

Durability — under normal service conditions, the unprotected systems will provide a durable waterproof covering with a service life of at least 30 years (see section 12).



The BBA has awarded this Certificate to the company named above for the systems described herein. These systems 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

Claire Curtis-Thomas

Date of Second issue: 16 March 2018

John Albon — Head of Approvals

Claire Curtis-Thomas

Originally certificated on 18 March 2015

Construction Products

Chief Executive

The BBA is a UKAS accredited certification body — Number 113. The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at www.bbacerts.co.uk

Readers are advised to check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA direct.

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Regulations

In the opinion of the BBA, Paracoat 30 and Paraquartz 30, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements of the following Building Regulations (the presence of a UK map indicates that the subject is related to the Building Regulations in the region or regions of the UK depicted):



The Building Regulations 2010 (England and Wales) (as amended)

Requirement: B4(2)	External fire spread
Comment:	On a suitable substructure, the use of the system can enable a roof to be unrestricted under this Requirement. See section 7 of this Certificate.
Requirement: C2(b)	Resistance to moisture
Comment:	The systems will enable a roof to satisfy this Requirement. See section 6.1 of this Certificate.
Regulation: 7	Materials and workmanship
Comment:	The systems are acceptable. See section 12 and the <i>Installation</i> part of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation: 8(1)(2)	Durability, workmanship and fitness of materials
Comment:	The systems satisfy the requirements of this Regulation. See sections 11.1 and 12 and the <i>Installation</i> part of this Certificate.
Regulation: 9	Building standards applicable to construction
Standard: 2.8	Spread from neighbouring buildings
Comment:	The systems, when applied to a non-combustible substrate, can be regarded as having low vulnerability under clause 2.8.1 ⁽¹⁾⁽²⁾ of this Standard. See section 7 of this Certificate.
Standard: 3.10	Precipitation
Comment:	The systems will enable a roof to satisfy the requirements of this Standard, with reference to clauses 3.10.1 ⁽¹⁾⁽²⁾ and 3.10.7 ⁽¹⁾⁽²⁾ . See section 6.1 of this Certificate.
Standard: 7.1(a)(b)	Statement of sustainability
Comment:	The systems can contribute to meeting the relevant requirements of Regulation 9, Standards 1 to 6 and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard.
Regulation: 12	Building standards applicable to conversions
Comment:	Comments in relation to the systems under Regulation 9, Standards 1 to 6 also apply to this Regulation, with reference to clause 0.12.1 ⁽¹⁾⁽²⁾ and Schedule 6 ⁽¹⁾⁽²⁾ . (1) Technical Handbook (Domestic). (2) Technical Handbook (Non-Domestic).



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

Regulation: 23(a)(b)(i)	Fitness of materials and workmanship
Comment:	The systems are acceptable. See section 12 and the <i>Installation</i> part of this Certificate.
Regulation: 28(b)	Resistance to moisture and weather
Comment:	The systems will enable a roof to satisfy the requirements of this Regulation. See section 6.1 of this Certificate.
Regulation: 36(b)	External fire spread
Comment:	On a suitable substructure, the use of the systems can enable a roof to be unrestricted under the requirements of this Regulation. See section 7 of this Certificate.

Construction (Design and Management) Regulations 2015

Construction (Design and Management) Regulations (Northern Ireland) 2016

Information in this Certificate may assist the client, designer (including Principal Designer) and contractor (including Principal Contractor) to address their obligations under these Regulations.

See sections: 3 *Delivery and site handling* (3.2 and 3.3) and 9 *Slip resistance* and of this Certificate.

Additional Information

NHBC Standards 2018

In the opinion of the BBA, Paracoat 30 and Paraquartz 30, 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 and balconies*.

Technical Specification

1 Description

1.1 Paracoat 30 is a polyurethane liquid-applied roof waterproofing system which comprises:

- Paracoat Base Coat — a red, one-part polyurethane for use as the first waterproofing and embedment coat of the roofing system
- Paracoat Top Coat — a one-part polyurethane for use as the second and top waterproofing coats of the roofing system
- Embedment Fleece — a 225 g·m⁻² glassfibre mat for use in reinforcing the system
- Langley PU Primer — for preparing substrates prior to application of the system and, when required, reactivating Paracoat Base Coat
- Paracoat Epoxy Metal Primer — a two-part primer for preparing metal substrates, including solar reflecting paint, prior to application of the system
- Langley PVC Primer — for preparing PVC-U surfaces (window sills/rooflight kerbs) prior to application of the waterproofing.

1.2 Paraquartz 30 is a polyurethane liquid-applied roof waterproofing system with wear resistance and anti-slip properties which comprises:

- Paraquartz Base Coat — a red, one-part polyurethane for use as the first waterproofing and embedment coat of the balcony/walkway system
- Paraquartz Top Coat — a one-part polyurethane for use as the second and top waterproofing coats of the balcony/walkway system
- Embedment Fleece — a 225 g·m⁻² glassfibre mat for use in reinforcing the system
- Paraquartz Chippings — 0.7 to 1.2 mm aggregate for use in the Paraquartz 30 system to improve slip and wear properties. Available in light grey, dark grey, black and red
- Paraquartz Clear Sealer Coat — a sealer coat for Paraquartz Chippings
- Langley PU Primer — for preparing substrates prior to application of the system and, when required, reactivating Paraquartz Base Coat
- Paracoat Epoxy Metal Primer — a two-part primer for preparing metal substrates, including solar reflecting paint, prior to application of the system
- Langley PVC Primer — for preparing PVC waterproofing membranes and, if necessary, PVC-U surfaces (window sills/rooflight kerbs) prior to application of the waterproofing
- Paracoat TPO Primer — for preparing TPO waterproofing membranes
- Paracoat EPDM Primer — for preparing EPDM waterproofing membranes.

1.3 The resins have the nominal characteristics of:

Specific gravity (g·cm⁻³)

base coat	1.46
top coat/clear sealer coat	1.41

Drying time per coat at 20°C, 50% RH (hours) 12

Flashpoint (°C) 44

Colour

base coat	red
top coat	dark and light grey
clear sealer coat	transparent.

1.4 The following items have been assessed by the BBA for use with the systems:

- Adepar JS — a self-adhesive, modified bitumen membrane for use as a carrier layer over insulation and the vapour control layer (VCL)
- Paraform Ultra and Tapered Parafoam Ultra — polyurethane insulation boards.

1.5 The following ancillary items are also used with the systems but are outside the scope of this Certificate:

- Biowash — for washing down substrates covered with moss and lichen prior to priming
- Parevapo SBS — a modified bitumen VCL
- LangStik SF — adhesive for insulation boards
- SCR Alliance — nailing layer over timber
- Langley Primer — for priming the substrate prior to application of the VCL.

2 Manufacture

2.1 The liquid components of the systems are manufactured by a batch-blending process.

2.2 As part of the assessment and ongoing surveillance of product quality, the BBA has:

- agreed with the manufacturer the quality control procedures and product testing to be undertaken
- assessed and agreed the quality control operated over batches of incoming materials
- monitored the production process and verified that it is in accordance with the documented process
- evaluated the process for management of nonconformities
- checked that equipment has been properly tested and calibrated
- undertaken to carry out the above measures on a regular basis through a surveillance process, to verify that the specifications and quality control operated by the manufacturer are being maintained.

3 Delivery and site handling

3.1 The resins are delivered to site in cans bearing the Certificate holder's details, product name, hazard labelling, transportation information, batch number and the BBA logo incorporating the number of this Certificate. The components are delivered to site in the pack sizes detailed in Table 1.

Table 1 Pack sizes

Component	Pack sizes
Paracoat Base Coat	15 litre can
Paracoat Top Coat	15 litre can
Paraquartz Base Coat	15 litre can
Paraquartz Top Coat	15 litre can
Embedment Fleece	
roll length	115 m
roll width	1.3 m
Paraquartz Chippings	25 kg bag
Paraquartz Clear Sealer Coat	5 litre can
Langley PU Primer	5 litre can
Paracoat Epoxy Metal Primer	5 kg box kit
Langley PVC Primer	5 litre can
Paracoat TPO Primer	5 litre can
Paracoat EPDM Primer	5 litre can

3.2 The resin and primer containers must be kept tightly sealed and must be stored in a cool, ventilated place, away from ignition sources and other chemicals. Storage temperatures of between 0°C and 25°C will give the resins and Langley PU Primer a shelf-life of six months, and Paracoat Epoxy Metal Primer a shelf-life of 12 months. At higher temperatures the shelf-life will be reduced progressively.

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

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Paracoat 30 and Paraquartz 30.

Design Considerations

4 Use

4.1 The Paracoat 30 system is satisfactory for use as a roof waterproofing membrane on flat, zero fall and pitched roofs with limited access.

4.2 The Paraquartz 30 system is satisfactory for use as a waterproofing membrane on balconies with pedestrian access and walkway areas on flat roofs.

4.3 The systems are for use on substrates of:

- concrete
- mastic asphalt
- metal
- reinforced bitumen membranes (including mineral surfaced)
- single-ply membranes (PVC, TPO and EPDM)
- wood
- insulation boards in conjunction with a carrier membrane.

4.4 Limited access roofs are defined for the purpose of this Certificate as those subjected only to pedestrian traffic for maintenance of the roof covering, cleaning of gutters, etc. Where traffic in excess of this is envisaged, special precautions, such as additional protection to the membrane, must be taken: for example, carborundum grit anti-slip finish incorporated into the final coat.

4.5 Flat roofs are defined for the purpose of this Certificate as those having a minimum finished fall of 1:80. Zero fall roofs are defined for the purpose of this Certificate as those having a finished fall which can vary between 0° and 0.7°. Reference should also be made to the appropriate clauses in Liquid Roofing and Waterproofing Association (LRWA) Note 7 — *Specifier Guidance for Flat Roof Falls*.

4.6 When designing flat roofs, twice the minimum finished fall should be assumed unless a detailed analysis of the roof is available, including overall and local deflection, direction of falls, etc. Pitched roofs are defined as those falls in excess of 1:6.

4.7 Decks to which the systems are to be applied must comply with the relevant requirements of BS 6229 : 2003, BS 8217 : 2005 and, where appropriate, *NHBC Standards 2018*, Chapter 7.1.

4.8 Insulation systems or materials used in conjunction with the systems must be suitable for the specification and be either:

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

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

5 Practicability of installation

The systems should only be installed by contractors who have been trained and approved by the Certificate holder.

6 Weathertightness



6.1 The systems will adequately resist the passage of moisture into the building and enable a roof to comply with the requirements of the national Building Regulations.

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

6.3 To achieve a weathertight coating it is essential that the application rate is as quoted in the Certificate holder's literature for the relevant system.

7 Properties in relation to fire



7.1 When tested to ENV 1187 : 2002 and classified in accordance with BS EN 13501-5 : 2005, a system comprising a 6 mm calcium silicate board, Paracoat Base Coat applied at 1.0 kg·m⁻² reinforced with 225 g·m⁻² Embedment Fleece, and two coats of Paracoat Top Coat applied at 0.75 kg·m⁻², achieved a classification of B_{ROOF}(t4).

7.2 The designation of other specifications, eg when used on combustible substrates, should be confirmed by:

England and Wales — test or assessment in accordance with Approved Document B, Appendix A, Clause 1

Scotland — test to conform to Mandatory Standard 2.8, clause 2.8.1⁽¹⁾⁽²⁾

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

Northern Ireland — test or assessment by a UKAS-accredited laboratory, or an independent consultant with appropriate experience.

8 Adhesion

8.1 The adhesion of the systems to concrete, asphalt, bitumen felts, single-ply roofing membranes, timber and metal is sufficient to resist the effects of any wind suction, elevated temperatures, thermal shock or minor movement likely to occur in practice.

8.2 Where systems are installed over carrier membranes on insulation, the resistance to wind uplift is dependent on the cohesive strength of the insulation.

9 Slip resistance

9.1 Results of tests on the Paraquartz 30 system indicate that it has satisfactory slip resistance in both dry and wet conditions and may be used in pedestrian access areas (see Table 2).

9.2 Results of tests on the Paracoat 30 system indicate that it has a satisfactory slip resistance in dry conditions and has a moderate risk of slip when wet, as defined in *The Assessment of Floor Slip Resistance — The UK Slip Resistance Group Guidelines; Issue 3, 2005* (see Table 2).

Table 2 Coefficient of friction

System	Coefficient of friction	
	Dry surface	Wet surface
Paracoat 30	0.88	0.21
Paraquartz 30	0.83	0.73

10 Resistance to mechanical damage

Results of tests indicate that the systems can accept the limited normal foot traffic and light concentrated loads associated with installation and maintenance, and pedestrian traffic on defined walkways. Reasonable care should be taken to avoid puncture by sharp objects or concentrated loads. In cases of doubt advice is available from the Certificate holder (see Table 3).

Table 3 Dynamic and static indentation

Test	Result		Method
Dynamic indentation ⁽¹⁾			EOTA TR 006
unaged			
hard substrate ⁽²⁾			
23°C	I ₄		
-30°C	I ₄		
soft substrate ⁽³⁾ at 23°C	I ₃		
heat aged ⁽⁴⁾			
hard substrate ⁽²⁾ at -30°C	I ₄		
UV aged ⁽⁵⁾			
hard substrate ⁽²⁾ at -10°C	I ₄		
low temperature cure			
hard substrate ⁽²⁾ at 23°C	I ₄		
High temperature cure			
hard substrate ⁽²⁾ at 23°C	I ₄		
Static indentation unaged ⁽⁶⁾	Paracoat	Paraquartz	EOTA TR 007
hard substrate ⁽²⁾			
23°C	L ₄	L ₄ ⁽⁷⁾	
90°C	L ₄	L ₃ ⁽⁷⁾	
soft substrate ⁽³⁾ at 23°C	L ₄ ⁽⁷⁾	Not tested	
water exposure ⁽⁸⁾			
hard substrate ⁽²⁾			
23°C	L ₄ ⁽⁸⁾	L ₁ ⁽⁷⁾⁽⁹⁾	
90°C	L ₃ ⁽⁸⁾	L ₁ ⁽⁷⁾⁽⁹⁾	

- (1) Only Paracoat 30 tested.
- (2) Steel substrate.
- (3) Bitumen felt on PIR insulation.
- (4) Heat aged at 70°C for 240 days.
- (5) UV aged at 50°C for an exposure of 1200 MJ·m⁻².
- (6) 30 year system tested unless otherwise stated.
- (7) 20 year system tested.
- (8) Water exposure at 60°C for 216 days.
- (9) Water exposure at 60°C for 144 days.

11 Maintenance



11.1 The systems should be the subject of annual inspections and roof drains kept clear, as is good practice with all membrane and liquid-applied flat roofing systems.

11.2 Where damage has occurred it should be repaired in accordance with section 16 and the Certificate holder's instructions.

12 Durability



Results of accelerated weathering tests confirm that a satisfactory retention of properties is achieved. All available evidence indicates that the systems should achieve an initial life expectancy of at least 30 years.

Installation

13 General

13.1 Installation of Paracoat 30 and Paraquartz 30 must be carried out only by specialist roofing contractors trained and approved by the Certificate holder and UK marketing company.

13.2 The systems must be applied when the air and substrate temperatures are greater than 5°C. Special precautions may be necessary when temperatures exceed 35°C, as shown in the Certificate holder's Technical Data Sheets.

13.3 Detailing (eg upstands) must be carried out in accordance with the Certificate holder's instructions.

14 Site and surface preparation

14.1 Substrates on which the systems are applied must be properly prepared in accordance with the Certificate holder's instructions.

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

14.3 Any areas of fungal growth, algae, moss etc must be treated with Biowash to ensure all spores are destroyed.

14.4 High pressure sand-blasting or water-jetting may be used to remove loose or flaking materials and residues following treatment with Biowash, but the substrate must be visibly dry before application of the systems.

14.5 Damaged areas of substrate (eg broken fibre-cement sheets, blistered bitumen or roofing felt) must be removed, replaced or repaired.

14.6 Deck surfaces must be free from sharp projections, such as protruding fixing bolts or concrete nibs.

14.7 Gutters and outlets must be checked to ensure that they are, and remain, clear of all debris.

14.8 The substrate is primed with the appropriate primer, in accordance with the Certificate holder's instructions, at the coverage rates given in Table 4.

Primer	Rate of coverage (m ² per litre)
Langley PU Primer	6 – 8 ⁽¹⁾
Paracoat Epoxy Metal Primer	10 ⁽²⁾
Langley PVC Primer	5 – 10
Paracoat TPO Primer	15 – 20
Paracoat EPDM Primer	8 – 10

(1) Dependent on the nature and surface of the substrate.

(2) A higher coverage rate is required for uneven substrates.

14.9 Paracoat Epoxy Metal Primer is mixed at a ratio of four (Part A) to one (Part B).

15 Application

15.1 Application can be by brush, roller or spray. Brush application is normally used only for small roof areas and for embedding Paracoat GFM reinforcement into the waterproofing.

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

- application must not take place when the relative humidity is in excess of 95%, or in fog. The temperature/humidity must be such that there is no risk of surface condensation occurring before or during application
- air and substrate temperatures must be in excess of 5°C
- the resin components are conditioned at a temperature of 10°C or greater, for use in airless spray applications
- the primer, where used, must be cured
- the wind speed must be such that it does not interfere with the application or cause overspray. No attempt to spray should be made if the wind speed exceeds 6.7 m·s⁻¹ (15 mph), unless precautions such as the use of wind barriers are taken.

15.3 Work should only commence on an area if it can be sprayed to the full thickness before weather changes occur.

15.4 Paracoat/Paraquartz Base Coat is applied at a coverage rate of 1.0 kg·m⁻². On rough, porous or undulating substrates a higher coverage rate will be required and the advice of the Certificate holder must be sought.

15.5 Embedment Fleece reinforcement is embedded in the base coat while the membrane is still wet, in accordance with the Certificate holder's instructions.

15.6 Once the base coat is partially cured, the top coat is applied in two coats at a coverage rate of 0.75 kg·m⁻² per coat, allowing the first coat to partially cure before the second coat is applied.

15.7 For the Paraquartz 30 system, Paraquartz Chippings are broadcast into the wet top coat at a coverage rate of 0.25 kg·m⁻². A finishing coat of Paraquartz Clear Sealer Coat is applied at a coverage rate of 0.75 kg·m⁻².

15.8 The finished dry thickness of the base coat, second coat and top coat combined should not be less than 1.5 mm. The dry thickness of Paraquartz Clear Sealer Coat in the Paraquartz 30 system should not be less than 1 mm.

16 Repair

The repair of minor damage to the systems can be achieved effectively by cleaning back to the unweathered material and recoating the damaged area with the membrane at the total application rate stated in section 15.

Technical Investigations

17 Tests

17.1 Tests were conducted on the Paracoat 30 system and the results assessed to determine:

- watertightness
- tensile strength and elongation at break
- tensile bond strength on concrete, mastic asphalt, steel, bitumen felt, plywood, PVC roofing membrane, TPO roofing membrane and EPDM roofing membrane
- dynamic indentation at 23°C and -30°C on PIR insulation with bonded bitumen carrier membrane and steel
- static indentation at 23°C and 90°C on PIR insulation with bonded bitumen carrier membrane and steel
- fatigue cycling
- coefficient of friction
- UV aged for 1200 MJ·m⁻² at 50°C — repeat tensile strength and dynamic indentation at -10°C
- heat aged for 240 days at 70°C — repeat tensile strength, dynamic indentation at -30°C and fatigue cycling
- water exposure for 216 days at 60°C — repeat tensile bond strength for all substrates and static indentation
- the effect of application temperatures — repeat tensile strength and dynamic indentation at 23°C.

17.2 Tests were conducted on the Paraquartz 30 system and the results assessed to determine:

- watertightness
- static indentation at 23°C and 90°C on steel
- coefficient of friction.

17.3 Infra-red characterisation tests on the resins were carried out for reference purposes.

18 Investigations

18.1 The manufacturing process was evaluated, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

18.2 Data on fire performance were evaluated.

Bibliography

BS 6229 : 2003 *Flat roofs with continuously supported coverings — Code of practice*

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

BS EN 13501-5 : 2005 *Fire classification of construction products and building elements — Classification using data from external fire exposure to roof tests*

ENV 1187 : 2002 *Test methods for external fire exposure to roofs*

EOTA Technical Report TR-006 : May 2004 *Determination of the resistance to dynamic indentation*

EOTA Technical Report TR-007 : June 2003 *Determination of the resistance to static indentation*

19 Conditions

19.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is issued only to the company, firm, organisation or person named on the front page — no other company, firm, organisation or person may hold or claim that this Certificate has been issued to them
- is valid only within the UK
- has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective
- is copyright of the BBA
- is subject to English Law.

19.2 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.

19.3 This Certificate will remain valid for an unlimited period provided that the product/system and its manufacture and/or fabrication, including all related and relevant parts and processes thereof:

- are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA
- continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine
- are reviewed by the BBA as and when it considers appropriate.

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

19.5 In issuing this Certificate, the BBA is not responsible and is excluded from any liability to any company, firm, organisation or person, for any matters arising directly or indirectly from:

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

19.6 Any information relating to the manufacture, supply, installation, use, maintenance and removal of this product/system which is contained or referred to in this Certificate is the minimum required to be met when the product/system is manufactured, supplied, installed, used, maintained and removed. It does not purport in any way to restate the requirements of the Health and Safety at Work etc. Act 1974, or of any other statutory, common law or other duty which may exist at the date of issue or reissue of this Certificate; nor is conformity with such information to be taken as satisfying the requirements of the 1974 Act or of any statutory, common law or other duty of care.