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Agrément Certificate
12/4907
Product Sheet 1 Issue 4

SOLCO DAMP-PROOF COURSES

SOLCOURSE HIGH PERFORMANCE DAMP PROOF COURSE

This Agrément Certificate Product Sheet(1) relates to Solcourse High Performance Damp Proof Course, for use in walls as a horizontal, vertical or stepped damp-proof course (DPC) (including preformed cavity trays), in either solid or cavity walls of brick, block, stone or concrete.

(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 product described herein. This product has been assessed by the BBA as being fit for its intended use provided it is installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of Fourth issue: 23 October 2023
Originally certificated on 19 April 2012

Hardy Giesler
Chief Executive Officer

This BBA Agrément Certificate is issued under the BBA's Inspection Body accreditation to ISO/IEC 17020. Sections marked with † are not issued under accreditation.

The BBA is a UKAS accredited Inspection Body (No. 4345), Certification Body (No. 0113) and Testing Laboratory (No. 0357).

Readers MUST check that this is the latest issue of this Agrément Certificate by either referring to the BBA website or contacting the BBA directly.

The Certificate should be read in full as it may be misleading to read clauses in isolation.

Any photographs are for illustrative purposes only, do not constitute advice and should not be relied upon.

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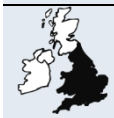
SUMMARY OF ASSESSMENT AND COMPLIANCE

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 Solcourse High Performance Damp Proof Course, 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:	**A1**	**Loading**
Comment:		The product can contribute to satisfying this Requirement. See section 1 of this Certificate.
Requirement:	**B4(1)**	**External fire spread**
Comment:		The product is restricted by this Requirement in some cases. See section 2 of this Certificate.
Requirement:	**C2(a)(b)**	**Resistance to moisture**
Comment:		The product will enable a wall to satisfy this Requirement. See section 3 of this Certificate.
Regulation:	**7(1)**	**Materials and workmanship**
Comment:		The product is acceptable. See sections 8 and 9 of this Certificate.

The Building (Scotland) Regulations 2004 (as amended)

Regulation:	**8(1)**	**Fitness and durability of materials and workmanship**
Comment:		The use of the product satisfies the requirements of this Regulation. See sections 8 and 9 of this Certificate.
Regulation:	**9**	**Building standards - construction**
Standard:	1.1(a)(b)	Structure
Comment:		The product can contribute to satisfying the requirements of this Standard, with reference to clause 1.1.1[(1)(2)]. See section 1 of this Certificate.
Standard:	3.4	Moisture from the ground
Standard:	3.10	Precipitation
Comment:		The product will enable a wall to satisfy the requirements of these Standards, with reference to clauses 3.4.1[(1)(2)] and 3.10.1[(1)(2)]. See section 3 of this Certificate.
Standard:	7.1(a)	Statement of sustainability
Comment:		The product can contribute to satisfying the relevant requirements of Regulation 9, Standards 1 to 6, and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard.
Regulation:	**12**	**Building standards - conversions**
Comment:		All comments given for the product 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 product is acceptable. See sections 8 and 9 of this Certificate.
Regulation:	**28(a)(b)**	**Resistance to moisture and weather**
Comment:		The product will enable a wall to satisfy the requirements of this Regulation. See section 3 of this Certificate.
Regulation:	**30**	**Stability**
Comment:		The product can contribute to satisfying the requirements of this Regulation. See section 1 of this Certificate.
Regulation:	**36(a)**	**External fire spread**
Comment:		The product is restricted by this Regulation in some cases. See section 2 of this Certificate.

Additional Information

NHBC Standards 2023

In the opinion of the BBA, Solcourse High Performance Damp Proof Course, 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 6.1 *External masonry walls.*

Fulfilment of Requirements

The BBA has judged Solcourse High Performance Damp Proof Course to be satisfactory for use as described in this Certificate. The product has been assessed for use in walls as a horizontal, vertical or stepped damp-proof course (DPC) (including preformed cavity trays), in either solid or cavity walls of brick, block, stone or concrete.

ASSESSMENT

Product description and intended use

The Certificate holder provided the following description for the product under assessment. Solcourse High Performance Damp Proof Course consists of flexible sheets, manufactured from a blend of thermoplastic polymers and other additives, and extruded into roll form.

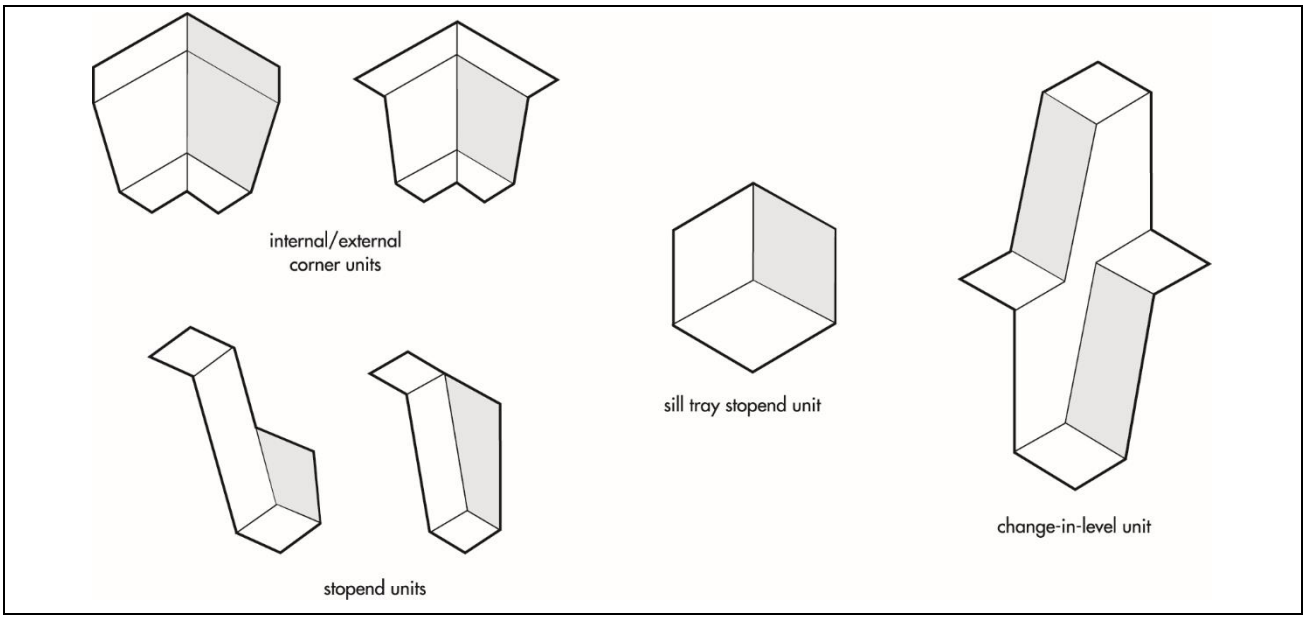
The product has the nominal characteristics given in Table 1.

Table 1 Nominal characteristics of Solcourse High Performance Damp Proof Course

Characteristic (unit)	Value
Thickness (mm)	0.80
Mass ($kg \cdot m^{-2}$)	0.78
Roll length (m)	20
Roll width (mm)	100–1000
Colour	Black

Preformed cavity tray units are flexible units for angles in stepper or horizontal damp-proof coursing. Typical examples are shown in Figure 1.

Figure 1 Typical range of preformed cavity tray units



Cavity trays, steps, angles and stop ends are pre-formed in the factory (see Figure 1). These components may be used separately or with each other.

Product assessment – key factors

The product was assessed for the following key factors, and the outcomes of the assessments are shown below. Conclusions relating to the Building Regulations apply to the whole of the UK unless otherwise stated.

1 Mechanical resistance and stability

Data were assessed for the following characteristic.

1.1 Behaviour under load

1.1.1 Results of behaviour under load tests are given in Table 2.

Table 2 Results of behaviour under load tests

Product assessed	Assessment method	Requirement	Result
Representative relative product	Shear resistance to BS DD 86-1 : 1983	Value achieved	0.35 $N \cdot mm^{-2}$

1.1.2 Solcourse High Performance Damp Proof Course will not extrude under load, up to the point of compressive failure of the wall and will not adversely affect the ability of a properly designed and built wall to sustain and transmit compression loads.

2 Safety in case of fire

Data were assessed for the following characteristic.

2.1 Reaction to fire

2.1.1 The Certificate holder has not declared a reaction to fire classification for the product to BS EN 13501-1 : 2018.

2.1.2 On the basis of data assessed, preformed cavity trays, between two leaves of masonry, are unrestricted in terms of height and proximity to a relevant boundary by the documents supporting the national Building Regulations.

2.1.3 In England and Wales, other than preformed cavity trays, the product must not be used in external walls of buildings that have a storey at least 18 m above ground level and contain one or more dwellings, an institution, or a room for residential purposes, student accommodation, care homes, sheltered housing, hospitals, dormitories in boarding schools and, in England only, hotels, hostels and boarding houses.

2.1.4 In Northern Ireland, other than preformed cavity trays, the product must not be used in external walls of buildings that have a storey at least 18 m above ground level and contain one or more dwellings, an institution, or a room for residential purposes (excluding any room in a hostel, hotel or boarding house), student accommodation, care homes, sheltered housing, hospitals, dormitories in boarding schools, nursing homes and places of lawful detention.

3 Hygiene, health and the environment

Data were assessed for the following characteristics.

3.1 Resistance to water and water vapour

3.1.1 Results of resistance to water and water vapour tests are given in Table 3.

Table 3 Results of resistance to water and water vapour tests

Product assessed	Assessment method	Requirement	Result
Representative related product	Water vapour permeability to BS 3177 : 1959 (25°C / 75% RH)	Value achieved	0.65 $g \cdot m^{-2} \cdot day^{-1}$
	Water vapour transmission to BS 3177 : 1959 (25°C / 75% RH)	Value achieved	316 $MN \cdot s \cdot g^{-1}$
	Resistance to water pressure to MOAT 27 : 1983 under 6 m head of water	No leakage	Pass
	Resistance to leakage of joints to MOAT 27 : 1983 under 1 m head of water	No leakage	Pass
	Tensile strength of joints to MOAT 27 : 1983	Value achieved	235 N

3.1.2 On the basis of data assessed, when correctly specified and installed, the product will provide an effective barrier against liquid water and water vapour, either from a source external to the structure or from one part of the structure to another.

3.2 Resistance to mechanical damage

3.2.1 Results of resistance to mechanical damage tests are given in Table 4.

Table 4 Results of resistance to mechanical damage tests

Product assessed	Assessment method	Requirement	Result
Representative related product	Tensile strength to BS 2782-3 : 1976 (Method 320A)	Value achieved Machine direction Cross direction	 11.8 $N \cdot mm^{-2}$ 9.8 $N \cdot mm^{-2}$
	Elongation to BS 2782-3 : 1976 (Method 320A)	Value achieved Machine direction Cross direction	 438% 500%
	Tear strength to BBA Method (based on BS 2782-3 : 1980 (Method 360B)	Value achieved Machine direction Cross direction	 87 $N \cdot mm^{-2}$ 113 $N \cdot mm^{-2}$

3.2.2 The product will withstand movement of the wall and is unlikely to be impaired by normally occurring movements up to the point where the wall itself is deemed to have failed.

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 this product were assessed.

8.2 Specific test data were assessed as given in Table 5.

Table 5 Results of durability tests

Product assessed	Assessment method	Requirement	Result
Representative related product	Low temperature flexibility to MOAT 27 : 1983	No cracks	-25°C
	Dimensional stability to MOAT 27 : 1983	Value achieved Machine direction Cross direction	 3.0% shrinkage 0.2% shrinkage
	Tensile strength to BS 2782-3 : 1976 (Method 320A) after heat ageing at 80°C for 56 days	Value achieved Machine direction Cross direction	 11.9 $N \cdot mm^{-2}$ 7.3 $N \cdot mm^{-2}$
	Tensile strength to BS 2782-3 : 1976 (Method 320A) after UV ageing for 100 light hours	Value achieved Machine direction Cross direction	 12.8 $N \cdot mm^{-2}$ 9.2 $N \cdot mm^{-2}$
	Tensile strength to BS 2782-3 : 1976 (Method 320A) after water exposure at 23°C for 28 days	Value achieved Machine direction Cross direction	 12.3 $N \cdot mm^{-2}$ 11.1 $N \cdot mm^{-2}$
	Elongation to BS 2782-3 : 1976 (Method 320A) after heat ageing at 80°C for 56 days	Value achieved Machine direction Cross direction	 467% 358%
	Elongation to BS 2782-3 : 1976 (Method 320A) after heat ageing at 80°C for 56 days	Value achieved Machine direction Cross direction	 501% 494%
	Elongation to BS 2782-3 : 1976 (Method 320A) after water exposure at 23°C for 28 days	Value achieved Machine direction Cross direction	 391% 541%
	Tensile strength of joints to MOAT 27 : 1983 after heat ageing at 80°C for 28 days	Value achieved	290 N
	Tensile strength of joints to MOAT 27 : 1983 after exposure to water at 23°C for 7 days	Value achieved	257 N

8.3 In the opinion of the BBA, the product is compatible with all normal construction materials with which it is likely to be in contact.

8.4 Service life

Under normal service conditions, the product will have a life of at least equivalent to the structure in which it is incorporated, provided it is 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 General standards of good design practice are given in BS EN 1996-1-1 : 2005, BS EN 1996-2 : 2006 and BS EN 1996-3 : 2006, and their UK National Annexes, and PD 6697 : 2019.

9.1.2 The presence of the product can reduce the shear and tensile (and therefore bending) strengths of a wall at that point, and designs may need to take account of this. Allowable stresses on the DPC are detailed in the product literature and further guidelines are available from the Certificate holder.

9.1.3 Where there is doubt about the compatibility with materials in contact, the advice of the Certificate holder's Technical Department should be sought, but such advice is outside the scope of this 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 follow normal good practice for the detailing of damp-proof courses, as set out in PD 6697 : 2019, and must be in accordance with the relevant clauses of BS 8000-3 : 2020, BS 8215 : 1991, BRE Digest 380, and the Certificate holder's instructions.

9.2.3 The product must extend through the full thickness of the wall or wall-leaf, including pointing, applied rendering or other facing material.

9.2.4 The product must be laid on a wet, even bed of mortar and perforations in adjacent courses of brickwork must be closed with mortar and project 5 mm beyond the finished face.

9.2.5 The product must always be sandwiched between wet mortar and not laid dry.

9.2.6 All lap joints in the product must have a minimum 100 mm overlap, be completely sealed with suitable tape and supported by a suitable joint system in accordance with the Certificate holder's instructions.

9.2.7 Preformed cavity tray units must be used at stop ends, and at all corners or changes in levels of cavity trays. Where the product is used as a cavity tray, all laps must be sealed.

9.2.8 In beam-and-block flooring, the product may be laid dry on a brick or block wall provided the following conditions are satisfied:

9.2.8.1 The minimum bearing of the beams recommended by the flooring system manufacturer is achieved.

9.2.8.2 The dead and applied loads upon the product via the beam do not exceed 2.5 $N \cdot mm^{-2}$.

9.2.8.3 The surface of the wall onto which the product and beam are to be installed is clean, smooth and free from projections and perforations. Failure to comply with this requirement could lead to perforation of the product. If this requirement cannot be met, the product must be laid on an even bed of mortar.

9.2.8.4 Any loose aggregate is swept from the wall prior to installation of the product and from the product prior to installation of beam.

9.3 Workmanship

Practicability of installation was assessed by the BBA and on the basis of the Certificate holder's information. To achieve the performance described in this Certificate, installation of the product must be carried out by a competent general builder, or a contractor, experienced with this type of product.

9.4 Maintenance and repair

9.4.1 As the product is confined within the wall and wall cavity, and has suitable durability, maintenance is not required.

9.4 2 Damaged areas of the product can be repaired prior to installation by cutting and/or replacing the damaged section, ensuring joints are made in accordance with section 9.2. Once covered, the product cannot be repaired.

10 Manufacture

10.1 The production processes for the product 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 product is delivered to site in rolls wrapped in pre-printed wrappers bearing the product name, roll dimensions and a roll manufacturing number. The rolls are packed on pallets with polythene wrapping.

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 end and under cover. Contact with organic solvents must be avoided.

11.2.2 If stored at low temperatures, the DPC should be left in a warm place before use to improve handling.

ANNEX A – SUPPLEMENTARY INFORMATION †

Supporting information in this Annex is relevant to the product 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.

UKCA marking

The Certificate holder has taken the responsibility of UKCA marking the product in accordance with Designated Standard EN 14909 : 2012.

CE marking

The Certificate holder has taken the responsibility of CE marking the product in accordance with harmonised European Standard EN 14909 : 2012.

Additional information on installation

A.1 The product is handled and cut using the same techniques as those used for traditional flexible damp-proof courses. It retains sufficient flexibility when used at the lowest temperature at which walls are normally built and does not become tacky in warm, ambient weather conditions.

A.2 Difficulties may occur when forming certain details, particularly when bending Solcourse High Performance Damp Proof Course through two angles at the same time. In such cases, care must be taken to achieve a satisfactory seal, and where necessary preformed cavity tray units should be used. Care should be taken at temperatures below 5°C to avoid the risk of condensation on jointed surfaces which may affect the efficiency of suitable self-adhesive tape.

A.3 When using Solcourse High Performance Damp Proof Course with boot lintels or similar constructions, it is recommended that the material is installed following the lintel profile, where appropriate.

A.4 As with other DPC materials, damage can occur during cleaning of mortar droppings from the DPC unless care is taken. The following recommendations minimise damage occurring:

A.4.1 Cavity battens should be used to prevent excessive amounts of mortar droppings reaching the DPC.

A.4.2 Mortar droppings should be removed before they have had time to harden.

A.4.3 Implements such as steel rods should never be used for cleaning.

A.4.4 Damp-proof courses should be examined for damage as work proceeds.

Bibliography

BRE Digest 380 *Damp-proof courses*

BS 2782-3 : 1976 (Method 320A) *Methods of testing plastics — Mechanical properties — Tensile strength, elongation and elastic modulus*

BS 2782-3 : 1980 (Method 360B) *Methods of testing plastics — Mechanical properties — Determination of tear strength of sheet and sheeting (trouser tear method)*

BS 3177 : 1959 *Method for determining the permeability to water vapour of flexible sheet materials used for packaging*

BS 8000-3 : 2020 *Workmanship on building sites — Code of practice for masonry*

BS 8215 : 1991 *Code of practice for design and installation of damp-proof courses in masonry construction*

BS DD 86-1 : 1983 *Methods of test for flexural bond strength and short term shear strength*

BS EN 1996-1-1 : 2005 + A1 : 2012 *Eurocode 6 — Design of masonry structures — General rules for reinforced and unreinforced masonry structures*
NA to BS EN 1996-1-1 : 2005 + A1 : 2012 UK National Annex to *Eurocode 6 — Design of masonry structures — General rules for reinforced and unreinforced masonry structures*
BS EN 1996-2 : 2006 *Eurocode 6 — Design of masonry structures — Design considerations, selection of materials and execution of masonry*
NA to BS EN 1996-2 : 2006 UK National Annex to *Eurocode 6 — Design of masonry structures — Design considerations, selection of materials and execution of masonry*
BS EN 1996-3 : 2006 *Eurocode 6 — Design of masonry structures : Simplified calculation methods for unreinforced masonry structures*
NA + A1 : 2014 to BS EN 1996-3 : 2006 UK National Annex to *Eurocode 6 — Design of masonry structures : Simplified calculation methods for unreinforced masonry structures*

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

EN 14909 : 2012 *Flexible sheets for waterproofing — Plastic and rubber damp-proof courses — Definitions and characteristics*

MOAT 27 : 1983 *General Directive for the Assessment of Roof Waterproofing Systems*

PD 6697 : 2019 *Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2*

Conditions of Certificate

Conditions

1 This Certificate:

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

2 Publications, documents, specifications, legislation, regulations, standards and the like referenced in this Certificate are those that were current and/or deemed relevant by the BBA at the date of issue or reissue of this Certificate.

3 This Certificate will be displayed on the BBA website, and the Certificate Holder is entitled to use the Certificate and Certificate logo, provided that the product and its manufacture and/or fabrication, including all related and relevant parts and processes thereof:

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

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

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

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

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