Forterra Building Products Limited
5 Grange Park Court
Roman Way
Northampton NN4 5EA

Tel: 0330 123 1018 Fax: 01530 273183
e-mail: asktechnical@forterra.co.uk
website: www.forterra.co.uk

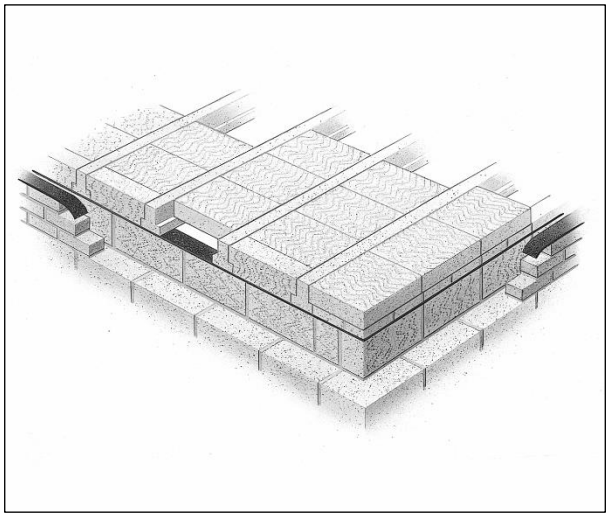
Agrément Certificate
91/2723
Product Sheet 1

THERMALITE BLOCKS

THERMALITE FLOORBLOCKS

This Agrément Certificate Product Sheet(1) relates to Thermalite Floorblocks, autoclaved aerated concrete (aircrete) blocks for use in beam and block floors in single-occupancy dwellings, domestic garages and other buildings where the floor is designed to meet the required loading.

(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

Concentrated loads — an ultimate failure point load of 19.5 kN for a sand-grouted floor was achieved in tests (see section 6).

Thermal insulation — the thermal conductivity (λ value) of the blocks may be taken as 0.16 $W \cdot m^{-1} \cdot K^{-1}$(1) for 'protected blockwork' applications (see section 7).

(1) 0.14 $W \cdot m^{-1} \cdot K^{-1}$ ($\lambda_{10, dry, unit}$), declared dry value*.

Condensation risk — condensation is unlikely to occur in a sand/cement finish applied over the product (see section 8).

Properties in relation to fire — the blocks are 'non-combustible' as defined in the national Building Regulations and have a Class A1 reaction to fire classification (see section 9).

Durability — the blocks have adequate durability for the design life of the building (see section 13).

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 Third issue: 23 April 2019

Originally certificated on 20 November 1991

Paul Valentine – Technical Excellence Director

Claire Curtis-Thomas
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.

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

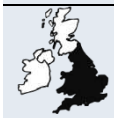
British Board of Agrément
Bucknalls Lane
Watford
Herts WD25 9BA

©2019

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

Regulations

In the opinion of the BBA, Thermalite Floorblocks, 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:	**A1**	**Loading**
Comment:		The product will contribute to a floor satisfying this Requirement. See section 6 of this Certificate.
Requirement:	**B3(1)**	**Internal fire spread (structure)**
Comment:		The product is 'non-combustible' and is unrestricted under this Requirement. See section 9.1 of this Certificate.
Requirement:	**C2(c)**	**Resistance to moisture**
Comment:		The product will contribute to a floor satisfying this Requirement. See section 8.1 of this Certificate.
Requirement:	**E2(b)**	**Protection against sound within a dwelling-house etc**
Comment:		With a suitable finish, floors incorporating the product can satisfy this Requirement. See section 10 of this Certificate.
Requirement:	**L1(a)(i)**	**Conservation of fuel and power**
Comment:		Floors incorporating the product can contribute to satisfying this Requirement. See section 7 of this Certificate.
Regulation:	**7**	**Materials and workmanship (applicable to Wales only)**
Regulation:	**7(1)**	**Materials and workmanship (applicable to England only)**
Comment:		The product is acceptable. See section 13 and the *Installation* part of this Certificate.
Regulation:	**26**	**CO_2 emission rates for new buildings**
Comment:		Floors incorporating the product can contribute to satisfying this Regulation. See section 7 of this Certificate.

The Building (Scotland) Regulations 2004 (as amended)

Regulation:	**8(1)**	**Durability, workmanship and fitness of materials**
Comment:		The use of the product satisfies the requirements of this Regulation. See section 13 and the *Installation* part of this Certificate.
Regulation:	**9**	**Building standards applicable to construction**
Standard:	1.1(a)(b)	Structure
Comment:		The product will contribute to a floor satisfying this Standard. See section 6 of this Certificate.
Standard:	2.3	Structural protection
Comment:		The blocks are 'non-combustible' and floors designed and constructed from them can satisfy this Standard, with reference to clauses 2.3.1$^{(1)(2)}$ to 2.3.3$^{(1)(2)}$. See section 9.1 of this Certificate.
Standard:	3.15	Condensation
Comment:		The product will contribute to a floor satisfying this Standard, with reference to clauses 3.15.1$^{(1)}$ and 3.15.5$^{(1)(2)}$. See section 8.1 of this Certificate.

Standard:	5.2	Noise reduction between rooms
Comment:		Floors incorporating the product can contribute to satisfying this Standard. See section 10 of this Certificate.
Standard:	6.1(b)	Carbon dioxide emissions
Standard:	6.2	Building insulation envelope
Comment:		Floors incorporating the product can contribute to satisfying these Standards, with reference to clauses 6.2.1[(1)] to 6.2.3[(1)]. See section 7 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 satisfying a bronze level of sustainability as defined in this Standard.
Regulation:	**12**	**Building standards applicable to conversions**
Comment:		Comments in relation to 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(a)(i)**	**Fitness of materials and workmanship**
Comment:	**(iii)(b)(i)**	The product is acceptable. See section 13 and the *Installation* part of this Certificate.
Regulation:	**29**	**Condensation**
Comment:		The product will contribute to a floor satisfying this Regulation. See section 8.1 of this Certificate.
Regulation:	**30(a)(b)**	**Stability**
Comment:		Floors constructed using the product will have sufficient strength and stiffness to transfer the floor loads to the supporting walls. See section 6 of this Certificate.
Regulation:	**35(1)**	**Internal fire spread – Structure**
Comment:		The product is 'non-combustible' and is unrestricted under this Regulation. See section 9.1 of this Certificate.
Regulation:	**39(a)(i)**	**Conservation measures**
Regulation:	**40(2)**	**Target carbon dioxide emissions rate**
Comment:		Floors built with the product can contribute to satisfying the U value requirement. See section 7 of this Certificate.
Regulation:	**50(b)**	**Protection against sound within a dwelling or room for residential purposes**
Comment:		Floors incorporating the product can contribute to satisfying this Standard. See section 10 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: 1 *Description* (1.2) and 3 *Delivery and site handling* (3.1) of this Certificate.

Additional Information

NHBC Standards 2019

In the opinion of the BBA, Thermalite Floorblocks, 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 5.2 *Suspended Ground Floors*.

CE marking

The Certificate holder has taken the responsibility of CE marking the floor end block and flooring slip in accordance with harmonised standard BS EN 771-4 : 2011(1). An asterisk (*) appearing in this Certificate indicates that data shown is given in the manufacturer's Declaration of Performance.

(1) Applies to products used in walling applications only.

Constructive Details Ltd

The blocks described in this Certificate have been included in an assessment of thermal bridging details from Constructive Details Ltd (CDL). The handbook containing these details is free to view and download from the CDL website at www.constructivedetails.co.uk.

Technical Specification

1 Description

1.1 Thermalite Floorblocks are produced from cement, lime, pulverized fuel ash (pfa) and coarse sand, with aluminium powder used as an aerating agent.

1.2 The blocks have the characteristics and sizes given in Table 1 and are available as:

- floor blocks — infill blocks for use between beams
- floor end blocks — for infill closing of beams at ends
- flooring slips — for bedding on the wall and for closing edges of the floor.

Table 1 Block characteristics

Characteristic (unit)	Type of block		
	floor block	floor end block	flooring slip
face dimension (mm)	440 x 350 440 x 215 440 x 540	440 x 140	215 x 100
width (mm)	100	150, 175	40, 65
gross dry density ($kg \cdot m^{-3}$)	660	730	730
mean compressive strength ($N \cdot mm^{-2}$)	4.0	7.3	7.3
minimum compressive strength (individual block) ($N \cdot mm^{-2}$)	3.2	5.84	5.84

2 Manufacture

2.1 The blocks are manufactured by mixing the raw materials into a slurry which is discharged into moulds. The slurry rises and sets to form a cake which is cut into blocks of the required dimensions using tensioned wires. Curing takes place in autoclaves under steam and pressure to increase the physical and chemical stability of the blocks, before removal and packaging.

2.2 Floor blocks, floor end blocks and flooring slips are manufactured to the requirements of BS EN 771-4 : 2011.

2.3 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.

2.4 The management system of Forterra Building Products Ltd has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2015 by CPC (Certificate CP00213).

3 Delivery and site handling

3.1 The blocks are supplied banded or as shrink-wrapped standard packs, and may be off-loaded with mechanical grabs or fork lift trucks.

3.2 The blocks must be stored clear of the ground on a firm, level surface, and must be protected from rain and water from the ground. If supplied, shrink-wrapping should be kept in place until the blocks are required for use.

3.3 Particular care should be taken when moving and installing the blocks on a floor under construction to mitigate the risk of them falling into the sub-floor void.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Thermalite Floorblocks.

Design Considerations

4 Use

Thermalite Floorblocks are suitable for use in the construction of beam and block floors in single-occupancy dwellings, domestic garages and other buildings where the floor is designed to meet the required loading (excluding separating floors). Where the floor is to be constructed above a basement, the underside should be provided with a suitable finish (see section 9.2).

5 Practicability of installation

The product is designed to be installed by a competent general builder, or a contractor, experienced with this type of product.

6 Concentrated loads

6.1 The Floorblocks must be incorporated in a floor construction comprising precast concrete beams (which are outside the scope of the Certificate). A suitably qualified and experienced engineer should ensure that the floor is adequate to resist the imposed loading, in accordance with BS EN 1990 : 2002, BS EN 1991-1-1 : 2002 and BS EN 1992-1-1 : 2004, and their UK National Annexes. The following partial factors should be applied in these calculations:

- A partial factor for permanent actions of 1.35
- A partial factor for variable actions of 1.5
- A partial factor for materials (unreinforced masonry) of 2.3.

6.2 Laboratory tests on typical floor constructions incorporating Thermalite Floorblocks, prestressed concrete beams and grout achieved an ultimate failure load of 19.5 kN when subjected to point loading applied over a 100 x 100 mm area. This equates to a design load of 5.6 kN using the partial factors listed in Section 6.1.

7 Thermal insulation

For the purposes of calculating thermal transmittance (U values), the thermal conductivity of the blocks should be taken as 0.16 $W \cdot m^{-1} \cdot K^{-1}$.

8 Condensation risk

8.1 At ground-floor level over a ventilated void, the extent of condensation forming on the upper surface of, or within, a floor system will depend upon the infill blocks floor insulation, the finish used and its moisture permeability properties, and the temperatures, relative humidities and level of air contact of the surfaces. With a sand/cement screed finish over a floor constructed with the product, condensation is unlikely to occur. Provision for a water vapour control layer may be necessary in areas of high humidity where additional insulation and particle board are used.

8.2 If the product is to be used in floors of rooms expected to have high humidities, adequate permanent ventilation must be provided to avoid possible problems from the formation of interstitial condensation in the floor.

8.3 When designing floors, reference may be made to TSO publication *Limiting thermal bridging and air leakage : Robust construction details for dwellings and similar buildings* TSO 2002 and BRE report BR 262 : 2002.

9 Properties in relation to fire

9.1 The blocks have a reaction to fire classification of Class A1* to BS EN 13501-1 : 2007 and are classified as non-combustible as defined in the national Building Regulations.
Note: this applies to products used in flooring and walling applications

9.2 When used above a basement or at upper-floor levels, the ceiling finish must provide a reaction to fire classification capable of satisfying the requirements of the national Building Regulations.

10 Resistance to the passage of sound

Within new dwellings in England, Wales and Scotland, intermediate floors incorporating the product must incorporate suitable ceiling and floor finishes to limit airborne sound transmission. Constructions achieving an R_w of at least 40 dB in England and Wales and 43 dB in Scotland are acceptable.

11 Moisture movement

The moisture movement of the blocks may be taken as a nominal value of 0.5 $mm \cdot m^{-1}$.

12 Maintenance

As the product is confined within a floor space and has suitable durability (see section 13), maintenance is not required.

13 Durability

The exposure conditions beneath a suspended floor over a ventilated void and soil, with no oversite concrete or other surface seal, are classified as 'XC3', with 'XØ' applying to the unreinforced autoclaved aerated concrete blocks, in accordance with BS EN 1992-1-1 : 2004 (Table 4.1) and its UK National Annex. The product will have adequate durability for these exposure conditions for the design life of the building.

14 Site preparation

14.1 The ground beneath the floor should be free from topsoil and vegetation. Oversite concrete or other surface seal is not normally required.

14.2 Damp-proofing and ventilation arrangements must be in accordance with normal good practice (for example, provision of damp-proof sleeves to ventilators and adequate drainage of the sub-floor) (see also section 14.6).

14.3 A continuous damp-proof course must be laid along the support wall below the floor in accordance with BS 8215 : 1991.

14.4 A void at least 150 mm deep must be provided between the underside of the floor and the ground surface. With good natural drainage or site drains provided to prevent water collection and standing, the ground level beneath the floor does not need to be raised to the external ground level but, where the levels differ, the ability of the perimeter walls to act as retaining walls must be checked.

14.5 In Scotland, it is considered to be good practice [and is an NHBC (Scotland) requirement] for the solum area beneath all suspended floors to be brought up to at least the level of the adjoining ground, except where an arrangement of damp-proof membranes or damp-proof courses is installed to prevent the ingress of groundwater to the solum set at a lower level.

14.6 Opposing external walls must have ventilation openings placed to ensure that ventilating air will have a free path between opposite sides and to all parts of the floor void. The openings should not be less than either 1500 mm^2 per metre run of external wall or 500 mm^2 per metre run of floor areas, whichever gives the greater opening area.

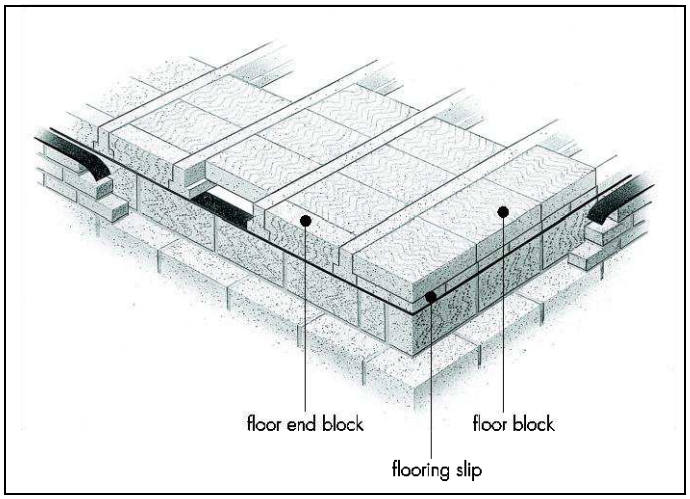
15 Floor installation

15.1 When deciding on the suitability and specification of any beam to be used with the blocks, reference should be made to prestressed concrete beam flooring systems which carry current BBA certification, and the Certificate holder should be consulted. Reference should also be made to BS EN 15037-1 : 2008, BS EN 1992-1-1 : 2004 and BS EN 1992-1-2 : 2004, and their UK National Annexes.

15.2 The beam manufacturer's recommendations for placement and fixing must be followed.

15.3 The floor end blocks are placed between the ends of the beam units, and positioned to ensure correct spacing (see Figure 1). Where transmission of sound via a cavity is a consideration, infill blocks must be fully bedded and levelled, and vertical joints filled with mortar.

Figure 1 Typical floor arrangement



15.4 Normally, a whole block is used to bear on the first beam and the outside wall of a bay (except when a beam is laid alongside the wall). When this occurs, the block is bedded on the wall with a normal mortar joint. The unit compressive strength of the block must be equal to or greater than the unit compressive strength of the blocks used to form the wall. The mortar must be to the same specification as the mortar used for construction of the wall.

15.5 The blocks must be provided with adequate bearing by clearing the joist flanges of debris and ensuring adjacent blocks are abutted as closely as possible.

15.6 The joints between the blocks and beams must not exceed 5 mm and must be grouted. The grout should be a mix of cement/sand, with sufficient water added to produce a slurry of suitable consistency to suit the beam profile. The recommended application is by brushing or pouring into the joints.

15.7 Where the infill is of a non-standard block size (eg next to services), the void can be filled by cutting the blocks to fit. Cutting can be carried out using a masonry handsaw (specialist equipment is not required). The blocks must not be cut or drilled in such a way as to impair their structural performance.

15.8 Care must be taken to avoid overloading the floor during construction. Once it has been fully grouted, it should only be used for short-term materials storage and construction traffic. Planks should be laid across the joists and as close as possible to the floor bearings, before stacking materials.

15.9 The floor should be thoroughly examined prior to the application of the finish and any damaged blocks must be replaced.

15.10 Application of the screed should be strictly in accordance with the relevant recommendations of BS 8204-1 : 2003.

15.11 In areas where landfill gas or methane may be present, and in areas where full radon precautions are required, a gas-proof barrier must be used. Full details are given in BRE Guidance documents BRE Report 211 and BRE Report 212. Guidance can also be found in CIRIA 665 : 2007 and the *Ground Gas Handbook* 2009.

16 Incorporation of services

16.1 Services must not be attached to beams or blocks in such a way as to impair their durability or strength.

16.2 Services must be protected from potential damage owing to floor movement, eg by wrapping in flexible materials or by ducting. Consideration must be given to differential movements between the floor beams and other parts of the building and between adjacent beams, particularly where adjacent beams are of different spans.

16.3 Blocks must not be chased out to accommodate horizontal services. Horizontal services and conduit must be installed within the depth of the floor finish.

16.4 Vertical service pipes can be accommodated between infill blocks by reinstating the floor with in-situ concrete.

17 Concrete screeds

House floors

17.1 A minimum thickness of 50 mm sand/cement (3:1) screed in accordance with BS 8204-1 : 2003 is required.

17.2 A 50 mm thickness sand/cement screed detailed for house floors can be laid directly on the grouted floor, or a 65 mm thickness sand/cement screed if laid above thermal insulation. The floor construction must comply with the requirements of BS 5250 : 2011 in respect of the requirements for damp-proof membranes and vapour-control layers.

Domestic garages

17.3 The screed must be a minimum of 50 mm thick concrete with a minimum compressive strength class C20/25. Advice must be sought from the Certificate holder and the beam manufacturers with particular regard to beam spacing and the need for reinforcement.

Other floor deck toppings

17.4 Where floor deck toppings other than those detailed in sections 17.1 to 17.3 are to be considered, advice must be sought from the Certificate holder.

Technical Investigations

18 Tests

18.1 Tests were carried out on Thermalite Floorblocks and the results assessed to determine:

- dimensional accuracy
- dry density
- compressive strength.

18.2 Small test units incorporating the blocks with appropriate sections of commercially available, prestressed concrete floor beams, were grouted and subjected to point loading to destruction under surveillance by the BBA.

18.3 The results of tests on infill blocks subjected to static and impact loads were assessed.

19 Investigations

19.1 A site visit was carried out to assess:

- practicability of installation
- resistance to site handling and site traffic
- requirements for maintenance and repair.

19.2 An assessment was made of the risk of condensation.

19.3 A user survey was conducted to evaluate the performance in use.

19.4 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.

Bibliography

BRE Report 211 *Radon : Guidance on protective measures for new dwellings*

BRE Report 212 *Construction of new buildings on gas contaminated land*

BRE Report 262 : 2002 *Thermal performance : avoiding risk*

BS 5250 : 2011 *Code of practice for control of condensation in buildings*

BS 8204-1 : 2003 + A1 : 2009 *Screeds, bases and in situ floorings — Concrete bases and cementitious levelling screeds to receive floorings — Code of practice*

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

BS EN 771-4 : 2011 + A1 : 2015 *Specification for masonry units — Autoclaved aerated concrete masonry units*

BS EN 1990 : 2002 *Eurocode — Basis of structural design*
UK National Annex to BS EN 1990 : 2002 *Eurocode — Basis of structural design*

BS EN 1991-1-1 : 2002 *Eurocode 1 – Actions on structures – General actions – Densities, self-weight, imposed loads for buildings*
UK National Annex to BS EN 1991-1-1 : 2002 *Eurocode 1 – Actions on structures – General actions – Densities, self-weight, imposed loads for buildings*

BS EN 1992-1-1 : 2004 *Eurocode 2 — Design of concrete structures — General rules and rules for buildings*
UK National Annex to BS EN 1992-1-1 : 2004 *Eurocode 2 — Design of concrete structures — General rules and rules for buildings*

BS EN 1992-1-2 : 2004 *Eurocode 2 — Design of concrete structures — General rules — Structural fire design*
UK National Annex to BS EN 1992-1-2 : 2004 *Eurocode 2 — Design of concrete structures — General rules — Structural fire design*

BS EN 13501-1 : 2007 *Fire classification of construction products and building elements — Classification using test data from reaction to fire tests*

BS EN 15037-1 : 2008 *Precast concrete products – Beam-and-block floor systems*

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

CIRIA 665 : 2007 *Assessing risks posed by hazardous ground gases to building*

TSO 2002 *Limiting thermal bridging and air leakage; Robust construction details for dwellings and similar buildings*

20 Conditions

20.1 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.

20.2 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.

20.3 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.

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

20.5 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.

20.6 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.

British Board of Agrément
Bucknalls Lane
Watford
Herts WD25 9BA
©2019
tel: 01923 665300
clientservices@bbacerts.co.uk
www.bbacerts.co.uk