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Agrément Certificate

12/4956

Product Sheet 1

XTRATHERM XTROLINER (XO)

XTRATHERM PITCHED ROOF INSULATION (XO/PR)

This Agrément Certificate Product Sheet⁽¹⁾ relates to Xtratherm Pitched Roof Insulation (XO/PR), a rigid polyisocyanurate foam board with a textured aluminium-foil-facing on both sides, for use in timber pitched roofs, horizontal ceilings, dwarf walls and dormer cheeks of new and existing domestic and non-domestic buildings.

(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.

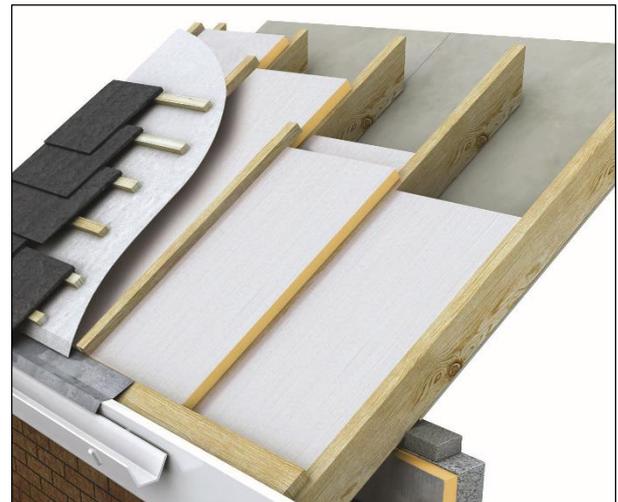
KEY FACTORS ASSESSED

Thermal performance — the product has a declared thermal conductivity* (λ_D) of $0.021 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ (see section 6).

Condensation risk — the product can contribute to limiting the risk of condensation (see section 7).

Behaviour in relation to fire — the product has a reaction to fire classification* of C-s2, d0 to BS EN 13501-1 : 2007 (see section 8).

Durability — the product will have a life equivalent to that of the roof structure in which it is incorporated (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 Agreement

Date of Second issue: 23 May 2016

Originally certificated on 05 December 2012

John Albon – Head of Approvals
Construction Products

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

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Regulations

In the opinion of the BBA, Xtratherm Pitched Roof Insulation (XO/PR), 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:	C2(c)	Resistance to moisture
Comment:		The product can contribute to satisfying this Requirement. See sections 7.1 and 7.5 of this Certificate.
Requirement:	L1(a)(i)	Conservation of fuel and power
Comment:		The product can contribute to satisfying this Requirement. See sections 6.1 and 6.2 of this Certificate.
Regulation:	7	Materials and workmanship
Comment:		The product is acceptable. See section 13 and the <i>Installation</i> part of this Certificate.
Regulation:	26	CO₂ emission rates for new buildings
Regulation:	26A	Fabric energy efficiency rates for new dwellings (applicable to England only)
Regulation:	26A	Primary energy consumption rates for new buildings (applicable to Wales only)
Regulation:	26B	Fabric performance values for new dwellings (applicable to Wales only)
Comment:		The product can contribute to satisfying these Regulations. See section 6 of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)	Durability, workmanship and fitness of materials
Comment:		The product is acceptable. See section 13 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards applicable to construction
Standard:	3.15	Condensation
Comment:		The product can contribute to satisfying this Standard, with reference to clauses 3.15.1 ⁽¹⁾⁽²⁾ , 3.15.3 ⁽¹⁾⁽²⁾ , 3.15.4 ⁽¹⁾⁽²⁾ , 3.15.5 ⁽¹⁾⁽²⁾ and 3.15.7 ⁽¹⁾⁽²⁾ . See sections 7.1 and 7.6 of this Certificate.
Standard:	6.1(b)	Carbon dioxide emissions
Standard:	6.2	Building insulation envelope
Comment:		The product can contribute to satisfying these Standards, with reference to clauses 6.1.1 ⁽¹⁾ , 6.1.2 ⁽²⁾ , 6.1.6 ⁽¹⁾ , 6.2.1 ⁽¹⁾⁽²⁾ , 6.2.3 ⁽¹⁾ , 6.2.4 ⁽²⁾ , 6.2.5 ⁽²⁾ , 6.2.6 ⁽¹⁾ , 6.2.7 ⁽¹⁾ , 6.2.8 ⁽²⁾ , 6.2.9 ⁽¹⁾⁽²⁾ , 6.2.10 ⁽¹⁾ , 6.2.11 ⁽¹⁾⁽²⁾ , 6.2.12 ⁽²⁾ and 6.2.13 ⁽¹⁾⁽²⁾ . See section 6 of this Certificate.
Standard:	7.1(a)(b)	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 construction meeting a bronze level of sustainability as defined in this Standard. In addition, the product can contribute to a construction meeting a higher level of sustainability as defined in this Standard, with reference to clauses 7.1.4 ⁽¹⁾⁽²⁾ [Aspects 1 ⁽¹⁾⁽²⁾ and 2 ⁽¹⁾], 7.1.6 ⁽¹⁾⁽²⁾ [Aspects 1 ⁽¹⁾⁽²⁾ and 2 ⁽¹⁾] and 7.1.7 ⁽¹⁾⁽²⁾ [Aspect 1 ⁽¹⁾⁽²⁾]. See section 6.1 of this Certificate.

Regulation:	12	Building standards applicable to conversions
Comment:	Comments made 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	Fitness of materials and workmanship
Comment:	The product is acceptable. See section 13 and the <i>Installation</i> part of this Certificate.	
Regulation:	29	Condensation
Comment:	The product can contribute to satisfying this Regulation. See section 7.1 of this Certificate.	
Regulation:	39(a)(i)	Conservation measures
Regulation:	40(2)	Target carbon dioxide emission rates
Comment:	The product can contribute to satisfying these Regulations. See section 6 of this Certificate.	

Construction (Design and Management) Regulations 2015

Construction (Design and Management) Regulations (Northern Ireland) 2007

Information in this Certificate may assist the client, Principal Designer/CDM co-ordinator, designer and contractors to address their obligations under these Regulations.

See sections: 3 *Delivery and site handling* (3.3) and 14 *General* (14.2) of this Certificate.

Additional Information

NHBC Standards 2016

NHBC accepts the use of Xtratherm Pitched Roof Insulation (XO/PR), provided it is installed, used and maintained in accordance with this Certificate, in relation to *NHBC Standards*, Chapter 7.2 *Pitched roofs*.

CE marking

The Certificate holder has taken the responsibility of CE marking the product in accordance with harmonised European Standard BS EN 13165 : 2012. An asterisk (*) appearing in this Certificate indicates that data shown are given in the manufacturer's Declaration of Performance.

Technical Specification

1 Description

1.1 Xtratherm Pitched Roof Insulation (XO/PR) comprises rigid polyisocyanurate foam board, with a textured aluminium-foil-facing on both sides.

1.2 The product has the nominal characteristics shown in Table 1.

Table 1 Nominal characteristics

Length* (mm)	2400
Width* (mm)	1200
Thickness* (mm)	25 to 120 (in 5 mm increments)
Minimum compressive strength at 10% compression* (kPa)	150
Edge profile	square

1.3 Ancillary items used with this product but outside the scope of this Certificate:

- roof tile underlay
- spiral fixings
- galvanized slab nails, ring shank nails and clout nails
- pre-treated counter battens and tiling laths
- roofing slates or tiles
- vapour control layer (VCL) and plasterboard.

2 Manufacture

2.1 Raw materials are injected onto the lower foil-facer on a conveyor belt. The exothermic reaction expands the foam, which then comes into contact with the upper foil-facer. An automated process cures the product and cuts it to the required size.

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 being operated by the manufacturer are being maintained.

2.3 The management system of Xtratherm Ltd has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2008 and BS EN ISO 14001 : 2004 by the Loss Prevention Certification Board (Certificates 851 and EMS 718 respectively).

3 Delivery and site handling

3.1 The product is delivered to site shrink-wrapped in polythene packs containing a label with the product description and characteristics, the manufacturer's name and the BBA logo incorporating the number of this Certificate.

3.2 It is essential that the product is stored such that it is raised off the ground, inside or under cover on a flat, dry, level surface in a well-ventilated area. The product must be protected from rain, snow and prolonged exposure to sunlight. Boards that have been allowed to get wet or that are damaged must not be used. Nothing should be stored on top of the boards.

3.3 The product must not be exposed to a naked flame or other ignition sources, or to organic solvents or other chemicals.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Xtratherm Pitched Roof Insulation (XO/PR).

4 General

4.1 Xtratherm Pitched Roof Insulation (XO/PR) is for use as thermal insulation in new and existing pitched roofs of dwellings or other buildings with similar temperature and humidity conditions:

- above and between sloping rafters
- between and below sloping rafters
- below horizontal ceilings joists
- between and/or to the inner face of studs in dwarf walls and dormer cheeks.

4.2 Roofs should be designed and constructed in accordance with the relevant clauses of BS 5250 : 2011, BS 5534 : 2014, BS 8212 : 1995 and BS EN 1995-1-1 : 2004.

4.3 The product is not a structural component. During installation, care should be exercised to ensure that the product is not subjected to any construction or traffic loads. Roof timbers of adequate strength should be used to support such loads.

4.4 It is essential that detailing and jointing of the boards achieves a convection-free envelope (see section 7.3). Any gaps should be filled and/or taped. Ridges, abutments and penetrations should also be sealed. Flue pipes passing through the insulation should be suitably sleeved.

4.5 Proper care and attention must be given to maintaining the integrity/continuity of VCL's.

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 Thermal performance



6.1 Calculations of the thermal transmittance (U value) should be carried out in accordance with BS EN ISO 6946 : 2007 and BRE Report BR 443 : 2006 using the declared thermal conductivity* (λ_D) value of $0.021 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ for the product and a foil surface emissivity (ϵ) of 0.03. When considering insulation requirements, designers should refer to the detailed guidance contained in the documents supporting the national Building Regulations. The product can contribute to a roof achieving typical design U values referred to in these documents.

6.2 The U value of a completed roof will depend on the insulation thickness, number and type of fixings, and the roof structure and its internal finish. Calculated U values for example constructions are given in Table 2.

Table 2 Example U value⁽¹⁾

U value (W·m ⁻² ·K ⁻¹)	Element type	Timber dimensions (mm)	Xtratherm Pitched Roof Insulation (XO/PR) ⁽²⁾ (mm) and location with respect to rafter/joist or stud		
			Inside	Between	Outside
0.20 0.18 0.15	Existing sloping roof with ventilated space below underlay	50 x 100 at 400 centres	65 75 95	50 50 50	— — —
0.20 0.18 0.15	Existing sloping roof with ventilated space below underlay	50 x 150 at 400 centres	55 55 60	60 75 100	— — —
0.18 0.18 0.16 0.16	New sloping roof with LR underlay	47 x 100 at 600 centres	45 — — 45	80 65 80 100	— 50 50 —
0.20 0.18 0.13			47 x 150 at 600 centres	— — —	125 ⁽³⁾ 60 115
0.16 0.13	Horizontal ceiling	47 x 100 at 400 centres		80 110	— ⁽⁴⁾ — ⁽⁴⁾
0.16 0.13		35 x 100 at 600 centres	75 105	— ⁽⁴⁾ — ⁽⁴⁾	— —
0.28 0.19	Dwarf wall or dormer check	38 x 89 at 600 centres	75 ⁽³⁾ 50	— 80	— —
0.28 0.19		38 x 140 at 600 centres	— 50	115 ⁽³⁾ 80	— —

(1) Plasterboard taken as 12.5 mm at 0.25 W·m⁻¹·K⁻¹ and all timber % taken from BRE Report BR 443 : 2006

(2) Nearest available thickness.

(3) Includes a 0.01 W·m⁻²·K⁻¹ gap correction.

(4) 100 mm mineral wool at 0.040 W·m⁻¹·K⁻¹.

Junctions

6.3 Care must be taken in the overall design and construction of junctions with other elements and openings to minimise thermal bridges and air infiltration. Detailed guidance can be found in the documents supporting the national Building Regulations.

7 Condensation risk

Interstitial condensation



7.1 Roofs will adequately limit the risk of interstitial condensation when they are designed and constructed in accordance with BS 5250 : 2011, Annexes D, G and H.

7.2 For the purposes of assessing the risk of interstitial condensation, the insulation core vapour resistivity may be taken as approximately 300 MN·s·g⁻¹·m⁻¹ and the resistance value of each individual foil-facing taken as 7000 MN·s·g⁻¹.

7.3 The product, when installed on the internal surface of rafters, joists or studs, has an intrinsically high vapour resistance and, when installed in a continuous layer with tightly-butted joints and durably-taped filled/sealed gaps and joints, will provide a convection-free envelope of high vapour resistance. Therefore, a suitable vapour-permeable, roof tile underlay may be laid over the insulation boards without a ventilated air space. When using a high resistance (type HR) underlay, the space below it must be ventilated in accordance with BS 5250 : 2011, Annex H.

7.4 Where high humidity may be expected, a vapour control layer (VCL) such as 0.125 mm thickness polythene sheet with sealed and lapped joints should also be used unless a condensation risk analysis in accordance with BS 5250 : 2011 shows that it is not necessary.

Surface condensation



7.5 Roofs will adequately limit the risk of surface condensation when the thermal transmittance (U value) does not exceed $0.35 \text{ W}\cdot\text{m}^{-2}\cdot\text{K}^{-1}$ at any point and the junctions with walls are designed in accordance with section 6.3 of this Certificate.



7.6 Roofs will adequately limit the risk of surface condensation when the thermal transmittance (U value) does not exceed $1.2 \text{ W}\cdot\text{m}^{-2}\cdot\text{K}^{-1}$ at any point. Guidance may be obtained from BS 5250 : 2011, Annexes G and H, and BRE Report BR 262: 2002.

8 Behaviour in relation to fire

8.1 The product has a reaction to fire classification* of C-s2, d0 to BS EN 13501-1 : 2007.

8.2 The product must not be carried over junctions between roofs and walls that are required to provide a minimum period of fire resistance. The continuity of fire resistance must be maintained, as described in the documents supporting the relevant national Building Regulations.

8.3 When installed between or under the rafters, the insulation will be contained between the roof and internal lining board until one is destroyed. Therefore, the product will not contribute to the development stages of a fire or present a smoke or toxic hazard.

9 Strength

The product, when installed in accordance with the manufacturer's instructions and this Certificate, will resist the loads likely to be met during installation and in service.

10 Structural stability (over-rafter application only)

10.1 Resistance to wind uplift will depend largely on the building geometry and its geographical location and should be calculated in accordance with BS EN 1991-1-4 : 2005 and its UK National Annex. Snow loadings should be calculated in accordance with BS EN 1991-1-3 : 2003 and its UK National Annex. These calculations should be performed by a suitably experienced and competent individual.

10.2 When calculating the counter batten fixing spacing required to resist the calculated loadings, the requirements of BS EN 1995-1-1 : 2004 and its UK National Annex should be followed. The Certificate holder can advise on the use of suitable proprietary fixings and spacings.

11 Resistance to moisture

An effective roof tile underlay will protect the product from wind-driven snow or rain penetrating the tiling in service.

12 Maintenance

As the product is confined within the pitched roof by the overlay and has suitable durability (see section 13), maintenance is not required.

13 Durability



The product is durable, rot-proof and sufficiently stable, and will remain effective as an insulating material for the life of the roof structure in which it is incorporated.

Installation

14 General

14.1 Xtratherm Pitched Roof Insulation (XO/PR) must be installed in accordance with the relevant clauses of BS 5534 : 2014 and the manufacturer's instructions. Installation can be carried out in all conditions normal to roofing work.

14.2 The product is light to handle but some handling difficulties may be experienced in windy conditions. Since the product will not support the weight of operatives, appropriate care must be taken during installation and tiling.

14.3 The product can be cut easily using a sharp knife or fine tooth saw. Care must be taken to prevent damage, particularly to edges. Damaged boards should not be used.

14.4 A tight fit must be ensured between the product and rafters, the product at the ridge and at roof/wall junctions.

14.5 It is important to fill/seal gaps and joints in the insulation envelope (see section 4.4).

14.5 The product should be installed in conjunction with an appropriate internal lining board, for example standard gypsum plasterboard to BS EN 520 : 2004 in accordance with BS 8212 : 1995.

15 Procedure

Over-rafter insulation

15.1 A preservative treated-timber stop batten, the same thickness as the insulation board, is fixed to the rafters close to the eaves to provide a firm fixing point for the counter battens. The product is laid over the rafters, commencing at the stop batten. The product should be tightly butted and positioned in a staggered pattern, with all the joints running from eaves to ridge occurring over the rafters. The procedure is continued until the whole area is covered.

15.2 Any gaps must be sealed with flexible sealant or expanding foam (outside the scope of this Certificate). Large-headed clout nails can be used as a temporary securing measure until the counter battens are secured into place.

15.3 Counter battens, underlay and tiling battens should be installed in accordance with conventional good practice.

Insulation between and over rafters

15.4 The product is cut to size and placed between the rafters on timber batten carriers or sarking clips, which are fixed with nails. The upper face of the product must be kept flush with the top of the rafter. The second layer is placed over the rafters as described in sections 15.1 to 15.3.

Insulation between rafters

15.5 Following completion of the roof cladding, the product is cut to size and placed between the rafters. Timber battens or clips are fixed to the inner face of the rafters, allowing sufficient depth for the insulation to sit flush with the underside of the rafters.

15.6 A sealed polythene VCL, with a minimum thickness of 125 µm and with lapped and sealed joints, is placed over the rafter face before applying the internal finish.

Insulation between and under rafters

15.7 If required, after installation as described in section 15.5, a second layer of the product may be added below the rafters running transverse to the first to provide a staggered layer, and secured accordingly.

15.8 The product should be butted tightly against itself to prevent gaps, and joints taped.

15.9 The insulation is sealed at all service penetrations.

Horizontal ceiling above a room in the roof — below joists only

15.10 Mineral wool insulation is packed between the ceiling joists, flush with the upper surface of the ceiling joist.

15.11 The product is temporarily fixed to the underside of the timber joists.

15.12 The line of the timber joists is marked on the boards to allow fixing of plasterboard.

External finishing — warm roofs

15.13 A vapour-permeable roof tile underlay is laid in accordance with the manufacturer's instructions.

15.14 Preservative-treated counter battens (minimum 38 mm deep) are fixed at each rafter run from eaves to ridge using proprietary fixings at required centres in accordance with the fixing manufacturer's instructions. The counter batten is also fixed to the anchor batten, with short lengths being tightly butted together.

15.15 Tiling laths are fixed horizontally at spacings to suit the specified tiles or slates, with the nails penetrating the full depth of the laths and counter batten.

Internal finishing

15.16 The VCL and plasterboard are fixed over the product and secured with conventional nails or screws to the appropriate length, and finished in accordance with conventional good practice.

Dwarf walls and dormer cheeks — between studs

15.17 Timber stop battens or clips are fixed to the inner face of the studs, allowing sufficient depth for the insulation to sit flush with the inside of the studs. The product is cut to size and placed between the studs and held in place with clout nails. The procedure continues in the same manner as described in section 15.6.

Dwarf walls and dormer cheeks — between studs and lining

15.18 Timber stop battens or clips are fixed to the inner face of the studs, allowing sufficient depth for the insulation to sit flush with the inside of the studs. The product is cut to size and placed between the studs and held in place with clout nails.

15.19 A second layer of the product is temporarily fixed with clout nails to the inner face of the timber studding.

15.20 The line of the timber studs is marked on the boards to allow fixing of plasterboard.

15.21 The insulation is sealed at all service penetrations.

15.22 The plasterboard is fixed over the product and secured with conventional nails or screws to the appropriate length, and finished in accordance with conventional good practice.

16 Tests

Tests were carried out to determine:

- density
- bending strength
- bowing under a thermal gradient.

17 Investigations

17.1 Results of test data were assessed in relation to:

- dimensions
- thermal conductivity
- dimensional stability
- tensile strength perpendicular to faces
- compressive strength
- reaction to fire.

17.2 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.

17.2 An assessment of the risk of interstitial condensation was made.

17.3 Example U values were calculated.

Bibliography

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

BS 5534 : 2014 *Code of practice for slating and tiling (including shingles)*

BS 8212 : 1995 *Code of practice for dry lining and partitioning using gypsum plasterboard*

BS EN 520 : 2009 *Gypsum plasterboards — Definitions, requirements and test methods*

BS EN 1991-1-3 : 2003 *Eurocode 1 : Actions on structures — General actions — Snow loads*

NA to BS EN 1991-1-3 : 2003 UK National Annex to *Eurocode 1 : Actions on structures — General actions — Snow loads*

BS EN 1991-1-4 : 2005 *Eurocode 1 : Actions on structures — General actions — Wind actions*

NA to BS EN 1991-1-4 : 2005 UK National Annex to *Eurocode 1 : Actions on structures — General actions — Wind actions*

BS EN 1995-1-1 : 2004 *Eurocode 5 : Design of timber structures — General — Common rules and rules for buildings*

NA to BS EN 1995-1-1 : 2004 UK National Annex to *Eurocode 5 : Design of timber structures — General — Common rules and rules for buildings*

BS EN 13165 : 2012 *Thermal insulation products for buildings — Factory made rigid polyurethane foam (PUR) products — Specification*

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

BS EN 13501-5 : 2015 *Fire Classification of construction products and building elements*

BS EN ISO 6946 : 2007 *Building components and building elements — Thermal resistance and thermal transmittance — Calculation method*

BS EN ISO 9001 : 2008 *Quality management systems — Requirements*

BS EN ISO 14001 : 2004 *Environmental Management systems — Requirements with guidance for use*

BRE Report (BR 262 : 2002) *Thermal insulation: avoiding risks*

BRE Report (BR 443 : 2006) *Conventions for U-value calculations*

18 Conditions

18.1 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 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.

18.2 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.

18.3 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.

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

18.5 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.

18.6 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.