

Kingspan Insulation Ltd

Pembridge
Leominster
Herefordshire HR6 9LA
Tel: [REDACTED] Fax: [REDACTED]
e-mail: info@kingspaninsulation.co.uk
website: www.kingspaninsulation.co.uk

Agreement Certificate
14/5134
Product Sheet 7

KINGSPAN KOOLTHERM RANGE FOR FLOORS, WALLS AND PITCHED ROOFS

KOOLTHERM K15 RAINSCREEN INSULATION BOARD

This Agreement Certificate Product Sheet⁽¹⁾ relates to Kooltherm K15 Rainscreen Insulation Board, a rigid phenolic board with foil composite facings, for use as external thermal insulation on new and existing steel frame or masonry walls. The product is used in domestic and non-domestic buildings in conjunction with masonry or steel frame substrates and weathertight ventilated cladding systems.

(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 — depending on the thickness, the product has a thermal conductivity* of between 0.021 W·m⁻¹·K⁻¹ and 0.020 W·m⁻¹·K⁻¹ (see section 6).

Condensation risk — the product can contribute to reducing the risk of surface and interstitial condensation (see section 7).

Behaviour in relation to fire — the product is classified as Class 0 or 'low risk' as defined in the national Building Regulations (see section 8).

Durability — the product will have a life equivalent to that of the wall structure in which it is incorporated (see section 14).

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 First issue: 8 October 2015

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 Agreement Certificate by either referring to the BBA website or contacting the BBA direct.

Regulations

In the opinion of the BBA, Kingspan K15 Rainscreen Insulation Board, 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, 7.3 and 7.4 of this Certificate.
Requirement:	L1(a)(i)	Conservation of fuel and power
Comment:		The product can contribute to satisfying this Requirement. See section 6 of this Certificate.
Regulation:	7	Materials and workmanship
Comment:		The product is acceptable. See section 14 and the <i>Installation</i> part of this assessment.
Regulation:	26	CO ₂ emission rates for new buildings
Regulation:	26A	Fabric energy efficiency rates for new dwelling (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 this Regulation. 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 to a construction satisfying this Regulation. See section 14 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards applicable to construction
Standard:	3.15	Condensation
Comment:		When used in conjunction with an appropriate vapour control layer (VCL) the product will be unrestricted under this Standard, with reference to clauses 3.15.1 ⁽¹⁾⁽²⁾ , 3.15.4 ⁽¹⁾⁽²⁾ and 3.15.5 ⁽¹⁾⁽²⁾ . See sections 7.2, 7.3 and 7.4 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⁾ , 6.1.3 ⁽²⁾ , 6.1.5 ⁽²⁾ , 6.1.6 ⁽¹⁾ , 6.2.1 ⁽¹⁾ , 6.2.3 ⁽¹⁾ , 6.2.4 ⁽¹⁾ , 6.2.5 ⁽¹⁾⁽²⁾ and 6.2.10 ⁽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 a 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:		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	Fitness of materials and workmanship
Comment:		The product is acceptable. See section 14 and the <i>Installation</i> part of this Certificate.
Regulation:	29	Condensation
Comment:		The product can contribute to satisfying this Regulation. See section 7.3 and 7.4 of this Certificate.
Regulation:	39(a)(i)	Conservation measures
Regulation:	40(2)	Target carbon dioxide emission rate
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 section: 3 *Delivery and site handling* (3.3) of this Certificate.

NHBC Standards 2014

NHBC accepts the use of Kooltherm K15 Rainscreen Insulation Board, provided it is installed, used and maintained in accordance with this Certificate, in relation to *NHBC Standards*, Chapter 6.1 *External masonry walls* and Chapter 6.9 *Curtain walling and cladding*. Current NHBC guidance precludes the use of façade systems not utilising a drained cavity.

CE marking

The Certificate holder has taken the responsibility of CE marking the product in accordance with harmonised European standard BS EN 13166 : 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 Kooltherm K15 Rainscreen Insulation Board comprises a rigid phenolic insulation core with composite foil on both sides.

1.2 The product has the following nominal characteristics:

length (mm)	2400 ⁽¹⁾
width (mm)	1200 ⁽¹⁾
thickness* (mm)	40 to 140 ⁽¹⁾
density (kg·m ⁻³)	40 to 42.

(1) Other board sizes and thicknesses may be available on request.

1.3 Weather resistance is provided by an external cladding system (outside the scope of this Certificate) which introduces a ventilated cavity to the external face of the product.

1.4 Ancillary items for use with the board but outside the scope of this Certificate are:

- steel frame
- cladding and rainscreen cladding tapes
- fasteners and aluminium top hat supports and brackets
- sheathing and lining boards
- fire barriers
- tiles.

2 Manufacture

2.1 The insulation component is manufactured using conventional techniques for phenolic foams and then laminated to the composite foil.

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.

2.3 The management system of Kingspan Insulation Ltd has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2008 by LPCB (Certificate 388) and BSI (Certificate Q05508).

3 Delivery and site handling

3.1 The product is delivered to the site with cardboard protecting the edges. Each pack is labelled with the manufacturer's name, product name, board dimensions, product code, production lot numbers and the BBA logo incorporating the number of this Certificate.

3.2 Where possible, packs should be stored inside. If stored outside, they should be off the ground on a clean, dry, level surface and under cover to protect against moisture and mechanical damage.

3.3 Where large volumes are stored, particularly indoors, flammable materials and ignition sources/naked flame should not be permitted in the vicinity.

3.4 Contact with solvents should be avoided and damaged or wet boards should be discarded.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Kooltherm K15 Rainscreen Insulation Board.

Design Considerations

4 Use

4.1 Kooltherm K15 Rainscreen Insulation Board is used in domestic and non-domestic buildings in conjunction with masonry or steel frame substrates and weathertight ventilated cladding systems.

4.2 Care must be taken in the overall design and construction of elements incorporating the product to ensure appropriate:

- sheathing or bracing for frame elements. The product must not be relied on to provide any structural contribution, eg racking strength
- fire resistance, for both elements and junctions
- cavity barriers and fire dampers
- resistance to the ingress of precipitation and moisture from the ground.

4.3 The wall and sub-frame should be structurally sound and should have been designed and constructed in accordance with:

- BS 8000-3 : 2001
- BS EN 351-1 : 2007
- BS EN 1993-1-3 : 2006
- BS EN 1996-1-2 : 2005
- BS EN 1996-3 : 2006.

4.4 The designer should select a construction appropriate to the local wind-driven rain index to BS EN 1996-2 : 2006, paying due regard to the design detailing, workmanship and materials to be used.

4.5 The product, in conjunction with an appropriate cladding, is for use in any exposure zone, provided a drainage cavity of minimum 15 mm is maintained.

4.6 The construction should be made weathertight as soon as practically possible to ensure maximum protection of the product.

5 Practicability of installation

The system incorporating the product is designed to be installed by a competent general builder experienced with this type of system.

6 Thermal performance

6.1 Calculations of the thermal transmittance (U value) of specific external wall constructions 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 the boards shown in Table 1. The U value of a typical wall construction will depend on the insulating value of the wall and its internal and external finishes.

Table 1 Declared thermal conductivity value

Thickness (t) (mm)	Thermal conductivity ($W \cdot m^{-1} \cdot K^{-1}$)
$t \geq 45$	0.020
$25 \geq t \leq 45$	0.021

6.2 When the product is placed on the outside of the steel frame or masonry substrate, additional insulation may be required, eg between the studs, to meet thermal requirements for the whole construction of the wall. Example U values are given in Table 2.

Table 2 Example U values

U value (W·m ⁻² ·K ⁻¹)	Insulation thickness requirement (mm)		
	Steel frame ⁽¹⁾⁽²⁾	Masonry	
	90 mm warm steel frame	215 mm brickwork ⁽¹⁾⁽³⁾ (refurbishment) $\lambda = 0.56 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$	100 mm AAC blockwork ⁽¹⁾⁽⁴⁾ (new-build) $\lambda = 0.15 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$
0.18	115	110	95
0.19	100	100	90
0.26	70	70	60
0.28	65	60	55
0.30	60	55	50
0.35	50	45	40

(1) Assuming fixings (19.6 mm²) at 3.13 m² and steel thermal conductivity 50 W·m⁻¹·K⁻¹.

(2) OSB at 0.13 W·m⁻¹·K⁻¹.

(3) Brick at 93.3%, $\lambda = 0.56 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ bridging with 6.7% mortar, $\lambda = 0.88 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$.

(4) Dense block at 93.3%, $\lambda = 0.15 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ bridging with mortar.

(5) Plaster at 0.43 W·m⁻¹·K⁻¹ and plasterboard at 0.25 W·m⁻¹·K⁻¹.



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

7 Condensation risk

Surface condensation



7.1 Walls will limit the risk of surface condensation adequately when the thermal transmittance (U value) does not exceed 0.7 W·m⁻²·K⁻¹ at any point, and the junctions with other elements are designed in accordance with the guidance referred to in section 6.3 of this Certificate.



7.2 Walls will adequately limit the risk of surface condensation when the thermal transmittance (U value) does not exceed 1.2 W·m⁻²·K⁻¹ at any point. Guidance may be obtained from BS 5250 : 2011, Annex G, and BRE Report BR 262 : 2002.

Interstitial condensation



7.3 The product will adequately limit the risk of interstitial condensation when the walls are designed and constructed in accordance with BS 5250 : 2011, Annexes D and G.

7.4 The water vapour resistance of each component of the product is shown in Table 3.

Table 3 Water vapour transmission factors

Material	Water vapour resistance (MN·s·g ⁻¹)	Water vapour resistivity (MN·s·g ⁻¹ ·m ⁻¹)
Phenolic foam	—	439
Aluminium foil	111	—

7.5 If required (depending on the cladding system, location and construction design), a dynamic interstitial condensation risk should be carried out in accordance with BS EN 15026 : 2007.

7.6 A well-sealed VCL should be placed on the warm side of the construction, should the condensation risk analysis shows this is necessary.

8 Behaviour in relation to fire

8.1 The product is classified as Class 0 or 'low risk', as defined in the documents supporting the national Building Regulations.

8.2 When tested⁽¹⁾ to BS 8414-1 : 2002 or BS 8414-2 : 2005, the following specific cladding constructions met the criteria as stated in BRE Report BR 135 : 2013:

Construction 1:

- 60 mm K15 insulation board, mechanically fixed to a non-combustible substrate
- 6 mm cement particle boards mechanically fixed at 600 mm centres to an aluminium railing system onto the substrate

- 40 mm deep ventilated cavity provided between the boards and the cement particle board
- fire stopping of 2.5 mm thick graphite-based intumescent strip bonded to a nominal 0.6 mm thick galvanized steel sheet, positioned 0.5 m and 4 m above the fire chamber on both the main face and the wing face
- the temperature measured during the stated test time did not exceed 600°C.

Construction 2:

- double layers of 12.5 mm plasterboard
- 150 mm steel frame
- 12 mm cement board sheathing with installed brackets to fit the insulation
- 140 mm K15 insulation board
- horizontal and vertical firebreaks
- secondary frame consisting of rails to secure decorative panels
- Carea⁽²⁾ Mineral composite grooved panels.

Construction 3:

- double layers of 12.5 mm Gyproc⁽²⁾ plasterboard
- 150 mm steel frame
- 12 mm cement particle board
- aluminium top hat supports
- aluminium helping hand brackets
- horizontal intumescent expanding fire break
- vertical non expanding fire breaks
- 80 mm K15 insulation board
- 30 mm standard tiles (grey).

Construction 4:

- double layers of 12.5 mm Gyproc⁽²⁾ plasterboard
- 150 mm steel frame
- 12 mm cement particle board
- aluminium top hat supports
- aluminium helping hand brackets
- 1000 mm x 150 mm x 195 mm acoustic and insulation vertical fire barriers and horizontal fire barriers with intumescent strips
- 140 mm K15 insulation board
- 30 mm terracotta tiles.

(1) The test results in this Certificate relate to the specific constructions and a separate full scale test or an assessment by a competent person/ persons would be required to establish the performance of any combinations of materials (please consult Building Control Alliance - Technical Guidance Note18 or Kingspan Insulation's Routes to compliance document).

(2) Outside the scope of this Certificate.

8.3 The product incorporated in the construction defined in section 8.2 can be used in buildings with a floor more than 18 m above ground level. Fire breaks should be used at every floor level after the first floor and at all openings. The product's use in other constructions is limited to 18 m in height.

8.4 The following fire resistance results were obtained when tested to BS EN 1365-1 : 1999.

Table 4 Results of fire resistance to BS EN 1365-1 : 1999

Lining	Wall construction			Result (minutes)			
	Frame	Sheathing	Insulation	Integrity	Insulation	Loadbearing	Direction
2 x 12.5 mm fire resistant plasterboard	C-section steel studs at least 75 mm deep	8 mm fibre cement board	60 mm Kooltherm K15	60	60	60	inside to out
2 x 12.5 mm fire resistant plasterboard	C-section steel studs at least 75 mm deep	2 layers of 8 mm fibre cement board	60 mm Kooltherm K15	60	60	60	both directions

8.5 Cavities incorporating the product must have suitably designed cavity barriers at edges, around openings and at junctions, with fire resisting elements in accordance with the relevant provisions of the national Building Regulations.

9 Strength and stability

9.1 Though the product will not be exposed to wind, it will experience movement of substrate, and so each installation should be designed to withstand, without damage or permanent deformation, the pressures imposed by wind forces.

9.2 The wall and sub-frame to which the product is fixed, or between which it is installed, should be structurally sound and constructed in accordance with sections 4.2 to 4.5. However, when designing the wall for strength, stability and racking, no contribution from the insulation should be assumed.

9.3 Wind loads should be calculated in accordance with BS EN 1991-1-4 : 2005. The higher pressure coefficients applicable to corners of buildings should be used.

9.4 The product may be capable of transmitting its self-weight to the structure. The adequacy of fixing to the structural frame or substrate for specific installations is outside the scope of this Certificate and must be verified by a suitably qualified engineer. Particular care is required around window and door openings to ensure that the structure is capable of sustaining additional weight owing to reveal/frame details.

9.5 The cladding must be fixed to the frame or masonry substrate and designed by a suitably qualified individual in accordance with relevant standards and requirements.

10 Resistance to moisture

10.1 External walls should be in good condition and must resist the ingress of rain when the construction is in accordance with BS EN 1996-1-1 : 2005, BS EN 1996-2 : 2006 and BS EN 1996-3 : 2006.

10.2 Care must be taken to ensure that the types of façades and wall finishes, and the design and detailing around openings, are appropriate for the anticipated exposure conditions and, if appropriate, resist the movement of the frame.

10.3 The product should be kept dry before the cladding is applied.

10.4 To resist the passage of moisture from the ground, adequate damp-proof courses (dpc) and membranes must be provided in accordance with conventional practice. The boards must not be used in situations where they bridge the dpc in walls.

11 Proximity of flues and appliances

When the product is installed in close proximity to certain flue pipes and/or heat producing appliances, the following provisions to the national Building Regulations are acceptable:

England and Wales — Approved Document J

Scotland — Mandatory Standard 3.19, clauses 3.19.1⁽¹⁾⁽²⁾ to 3.19.4⁽¹⁾⁽²⁾ and 3.19.8⁽¹⁾⁽²⁾

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

Northern Ireland — Technical Booklet L.

12 Acoustic performance

The product has been assessed at 60 mm thickness for airborne sound transmission in accordance with BS EN ISO 140-3 : 1995 and BS EN ISO 717-1 : 1997. The degree of sound insulation achieved for completed constructions will depend substantially on the design and quality of construction of the wall and the internal finish; some examples are given in Table 5. Further improvements may be achieved through the use of additional acoustic insulation.

Table 5 Airborne sound transmission of constructions with different finishes and sheathing board thicknesses.

Typical wall construction with 60 mm phenolic as insulation for cladding and various internal finishes of the wall, as follows	Sheathing board (thickness/mm)	Airborne sound reduction R_w (C, C _i) (dB)
12.5 mm wallboard	9	40(-2; -7)
15 mm acoustic plasterboard	9	42(-2; -9)
2 x 15 mm acoustic plasterboard	9	46(-2; -8)
12.5 mm fire-resistant plasterboard	9	41(-2; -8)
2 x 12.5 mm fire-resistant plasterboard	9	45(-2; -8)
12.5 mm wallboard and 19 mm plank	10	46(-2; -8)
15 mm wallboard	10	43(-3; -8)

13 Maintenance

As the boards are confined between the wall and the cladding, and provided the integrity of the cladding is maintained throughout the life of the system and has suitable durability (see section 14), maintenance is not required.

14 Durability

 When installed in accordance with the Certificate holder's instructions, the board will have a life equivalent to that of the structure in which it is incorporated.

15 General

15.1 Installation of Kooltherm K15 Rainscreen Insulation Board must be strictly in accordance with the Certificate holder's instructions.

15.2 The product can be cut using a fine-toothed saw or sharp knife but care must be taken to prevent damage, particularly to edges.

15.3 It is important to ensure a tight fit between boards. Trimming must be accurate, to achieve close butting joints and continuity of insulation.

15.4 Rainscreen cladding tape should be applied to the external joints of insulation board to provide a weathertight finish.

16 Procedure

Fitting boards

16.1 Boards should be installed in a stretcher bond pattern with a minimum 200 mm stagger, using the number of fasteners per board as determined on site; the fasteners are located along the edges or at corners between 50 mm and 150 mm from the board edge.

Cladding

16.2 Each proprietary rainscreen cladding system utilises its own mechanisms for attaching cladding panels to the wall structure. Guidance for the site work should be sought from the system manufacturers.

17 Repair

Damaged boards should be replaced before the installation of weatherproofing cladding.

Technical Investigations

18 Investigations

18.1 An examination was made of test data relating to:

- dimensional stability under specified temperature and humidity
- cohesive strength
- water vapour permeability
- thermal conductivity
- flexural strength/bending behaviour
- water absorption
- water penetration
- density
- dimensional accuracy and flatness
- reaction to fire
- condensation risk
- durability
- burning characteristics.

18.2 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.

Bibliography

- BS 5250 : 2011 *Code of practice for control of condensation in buildings*
- BS 8000-3 : 2001 *Workmanship on building sites — Code of practice for masonry*
- BS 8414-1 : 2002 *Fire performance of external cladding systems — Test methods for non-loadbearing external cladding systems applied to the face of a building*
- BS EN 351-1 : 2007 *Durability of wood and wood-based products — Preservative-treated solid wood — Classification of preservative penetration and retention*
- BS EN 1365-1 : 1999 *Fire resistance tests for loadbearing elements — Walls*
- BS EN 1991-1-4 : 2005 *Eurocode 1 : Actions on structures — General actions — Wind actions*
- BS EN 1993-1-3 : 2006 *Eurocode 3 : Design of steel structures — General rules — Supplementary rules for cold-formed members and sheeting*
- BS EN 1996-1-1 : 2005 *Eurocode 6 : Design of masonry structures — General rules for reinforced and unreinforced masonry structures*
- BS EN 1996-1-2 : 2005 *Eurocode 6 : Design of masonry structures — General rules — Structural fire design*
- BS EN 1996-2 : 2006 *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*
- BS EN 13166 : 2012 *Thermal insulation products for buildings — Factory made products phenolic foam (PF) products — Specification*
- BS EN 15026 : 2007 *Hygrothermal performance of building components and building elements — Assessment of moisture transfer by numerical simulation*
- BS EN ISO 140-3 : 1995 *Acoustics — Measurement of sound insulation in buildings and of building elements — Laboratory measurement of airborne sound insulation of building elements*
- BS EN ISO 717-1 : 1997 *Acoustics — Rating of sound insulation in buildings and of building elements — Airborne sound insulation*
- 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*
- BRE Report BR 262 : 2002 *Thermal insulation: avoiding risks*

Conditions of Certification

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.