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Agrément Certificate

07/4444

Product Sheet 2

QUINN THERM

QUINN THERM QW INSULATED DRY LINING BOARD

This Agrément Certificate Product Sheet⁽¹⁾ relates to the Quinn Therm QW Insulated Dry Lining Board, a rigid polyisocyanurate (PIR) foam board with composite foil-facings, for use as insulation within a dry lining system to improve the thermal insulation of new and existing external masonry walls, of 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 0.022 W·m⁻¹·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 Class F to BS EN 13501-1 : 2007 for 20 mm to 55 mm thicknesses and Class E for 60 mm to 200 mm thicknesses (see section 8).

Durability — the product is durable, rot-proof and sufficiently stable to remain effective as an insulation for the life of the building (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 Second issue: 6 April 2016

John Albon – Head of Approvals
Construction Products

Originally certificated on 18 November 2011

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, Quinn Therm QW Insulated Dry Lining 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 and 7.6 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 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 14 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⁾ , 3.15.4 ⁽¹⁾⁽²⁾ and 3.15.5 ⁽¹⁾⁽²⁾ . See sections 7.1 and 7.7 of this Certificate.
Standard:	6.1(b)	Carbon dioxide emissions
Standard:	6.2	Building insulation envelope
Comment:		The product can contribute to satisfying this Standard with reference to clauses or parts of clauses 6.1.1 ⁽¹⁾ , 6.1.6 ⁽¹⁾ , 6.2.1 ⁽¹⁾⁽²⁾ , 6.2.3 ⁽¹⁾ , 6.2.4 ⁽¹⁾⁽²⁾ , 6.2.5 ⁽¹⁾⁽²⁾ , 6.2.6 ⁽¹⁾⁽²⁾ , 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 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 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 7.1 of this Certificate.
Regulation:	39(a)(i)	Conservation measures
Regulation:	40(2)	Target carbon dioxide emission rate
Comment:		The product can contribute to a building 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* (3.4) of this Certificate.

Additional Information

NHBC Standards 2016

NHBC accepts the use of Quinn Therm QW Insulated Dry Lining Board, when installed and used in accordance with this Certificate, in relation to *NHBC Standards 2016*, Chapter 6.1 *External masonry walls*.

CE marking

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

Technical Specification

1 Description

Quinn Therm QW Insulated Dry Lining Board comprises a rigid polyisocyanurate (PIR) board with composite foil-facings, with the nominal characteristics given in Table 1.

Table 1 Nominal characteristics

Length x Height (mm)	1200 x 450
Thickness (mm)	20 to 200 (in 5 mm increments)
Edge profile	Plain edge (butt jointed)
Facings	Printed composite foil facing one side, unprinted composite foil facing other side

2 Manufacture

2.1 Quinn Therm QW Insulated Dry Lining Board is manufactured by blending together polyol and MDI in a continuous foaming process aided by a blowing agent, and sandwiched between two composite foil-facings. After formation, the boards are left to cure and are cut to size.

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

- agreed with the Certificate holder/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 Quinn Therm Ltd has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2008 by Certification Europe (Certificate 2500/262).

3 Delivery and site handling

3.1 The product is delivered to site in polythene-wrapped packs. Each pack contains a label with the manufacturer's name, board dimensions and the BBA logo incorporating the number of this Certificate.

3.2 The product must be protected from prolonged exposure to sunlight, and stored dry, flat and raised above ground level (to avoid contact with ground moisture). Where possible, packs should be stored inside. If stored outside, the product should be under cover, or protected by opaque polythene sheeting.

3.3 The product is light and easy to handle and care should be exercised to avoid crushing the edges or corners. If damaged, the product should be discarded.

3.4 The product must not be exposed to open flame or other ignition sources, or solvents or other chemicals.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Quinn Therm QW Insulated Dry Lining Board.

Design Considerations

4 Use

4.1 Quinn Therm QW Insulated Dry Lining Board is suitable for use as insulation within a dry-lining system, and is effective in improving the insulation of solid or cavity masonry walls of new and existing domestic and non-domestic buildings. It should be installed in accordance with the Certificate holder's instructions.

4.2 The boards may be installed on masonry construction including clay and calcium silicate bricks, concrete blocks, and natural and reconstituted stone blocks.

4.3 Walls should be designed and constructed in accordance with the relevant clauses of:

- BS EN 1996-1-1 : 2005, BS EN 1996-1-2 : 2005, BS EN 1996-2 : 2006 and BS EN 1996-3 : 2006, and their respective UK National Annexes
- BS 8000-3 : 2001.

4.4 All walls must be in a good state of repair without evidence of rain penetration, damp or frost damage.

4.5 The surfaces of masonry walls should be sound and free from loose material; large projections should be removed and holes filled and levelled. A survey of the wall may be required to establish the extent of any packing that may be required to ensure the support battens provide a uniform plane for the boards to be fixed.

4.6 The installation of insulated dry lining systems requires careful detailing around doors and windows to achieve a satisfactory surface for finishing. In addition, every attempt should be made to minimise the risk of thermal bridging at reveals and where heavy separating walls are attached to the external wall. New work must be designed to accommodate the thickness of the dry lining, particularly at reveals, heads and sills and in relation to ceiling height. On existing walls, consideration should be given to lining the reveals with a thinner layer of insulation and lining board.

4.7 Services can be incorporated in the void formed between the insulation and the lining boards, making chasing of the wall unnecessary. Where the services have a greater depth than the void, the wall should be chased in preference to the insulation. It is recommended that services penetrating the insulation or any vapour check lining board, eg light switches and power outlets, be kept to a minimum to limit damage to vapour checks.

4.8 When the product is to be installed in existing buildings, it should be realised that a small reduction in room size will occur and that permanent fixtures, eg baths, will present difficulties.

4.9 If present, mould or fungal growth should be treated prior to the application of the product.

4.10 For optimum thermal performance, the product should be installed with the correct orientation of its foil-facing. See section 15.7.

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) 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)* of $0.022 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ for the insulation, and a tested aged emissivity (ϵ_D) (to BS 15976 : 2011) of 0.06 for the unprinted foil-facing.

6.2 The U value of a completed wall will depend on the insulation thickness, number and type of fixings, the insulating value of the substrate masonry and its internal finish. Calculated U values for example constructions are given in Table 2. For improved thermal/carbon emissions performance, the designer should consider additional fabric and/or services measures.

Table 2 Example U values — Dry lining to external wall

U value (W·m ⁻² ·K ⁻¹)	Quinn Therm QW Insulated Dry Lining Board Insulation thickness (mm)	
	Dry lining to 215 mm solid brickwork wall ⁽¹⁾	Dry lining to uninsulated masonry cavity wall ⁽²⁾
0.18	100	95
0.19	95	90
0.25	65	65
0.26	65	60
0.27	60	55
0.28	55	55
0.30	55	50
0.35	40	40

(1) Solid brickwork wall comprises 215 mm thick external brickwork solid wall ($\lambda = 0.77 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$), Quinn Therm QW insulation board, 22 mm deep timber battens (11.8%, $\lambda = 0.13 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$), 12.5 mm plasterboard $\lambda = 0.21 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$. QW insulation boards fixed to battens using 3.4 mm diameter stainless steel fixings — 4.17 fixings per m² (12 fixings per board).

(2) Cavity wall comprises 103 mm thick external brickwork ($\lambda = 0.77 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$), 50 mm clear cavity, 100 mm thick dense blockwork ($\lambda = 1.13 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$), Quinn Therm QW insulation board, 22 mm deep timber battens (11.8%, $\lambda = 0.13 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$), 12.5 mm plasterboard $\lambda = 0.21 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$. QW insulation boards fixed to battens using 3.4 mm diameter stainless steel fixings — 4.17 fixings per m² (12 fixings per board).

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

7.2 The risk of summer condensation on the foil component must be considered for solid masonry walls orientated from ESE through south to WSW, in accordance with BRE Report BR 262 : 2002, section 3.10.

7.3 The foil-facings have a water vapour resistance of 1000 MN·s·g⁻¹ and the insulation core has a water vapour resistivity of 300 MN·s·g⁻¹·m⁻¹ and, therefore, will provide a significant resistance to water vapour transmission.

7.4 Where calculations to Annex D of BS 5250 : 2011 indicate a risk of persistent condensation, a site-specific dynamic analysis to BS EN 15026 : 2007 should be considered.

7.5 Provided all joints between the product are sealed (see section 4.5 and *Installation* part of this Certificate) in accordance with the Certificate holder's instructions, the system can offer significant resistance to water vapour transmission.

Surface condensation



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



7.7 Walls 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, and the junctions with other elements are designed in accordance with the guidance referred to in BS 5250 : 2011, Annex G. Further guidance may be obtained from BRE Report BR 262 : 2002 and section 6.3 of this Certificate.

8 Behaviour in relation to fire

8.1 The product has a reaction to fire classification* of Class F to BS EN 13501-1 : 2007 for 20 mm to 55 mm thicknesses and Class E for 60 mm to 200 mm thicknesses.

8.2 When properly installed, the insulation will be contained between the wall and internal lining board until one is compromised. Therefore, the insulation will not contribute to the development of a fire.

9 Infestation

The use of the product does not in itself promote infestation. The creation of voids within the structure, ie gaps between the wall lining and the boards, may provide habitation for insects or vermin in areas already infested. Care should be taken to ensure, wherever possible, that all voids are sealed, as any infestation may be difficult to eradicate. There is no food value in the materials used.

10 Proximity of flues and appliances

When installing the product in close proximity to certain flue pipes and/or heat-producing appliances, the relevant provisions of the national Building Regulations are applicable:

England and Wales — Approved Document J

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

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

Northern Ireland — Technical Booklet L.

11 Materials in contact – wiring installations

11.1 As with any other forms of insulation, de-rating of electrical cables should be considered where the insulation restricts the air cooling of cables.

11.2 Electrical cables that are likely to come into contact with the insulation component of the thermal liner must be protected by a suitable conduit or PVC-U trunking. The installation of electrical services must be carried out in accordance with BS 7671 : 2008.

12 Wall-mounted fittings

The recommendations of the Certificate holder must be followed. Any objects fixed to the wall, other than lightweight items, are outside the scope of this Certificate.

13 Maintenance

As the product is confined within the wall construction and has suitable durability (see section 14), maintenance is not required.

14 Durability



The durability of the product is satisfactory. Provided the product is fixed to a satisfactory stable and durable wall, it will have a life equal to the building in which it is installed. Under normal conditions of occupancy it is unlikely to suffer damage, but if damage does occur the product can be repaired or replaced.

Installation

15 General

15.1 A qualified plumber is required to make alterations to heating systems. A qualified electrician must be used to make good the electrical wirings and services.

15.2 The building should be examined for the following:

- suitability of substrate
- detailing around windows and doors
- position and numbers of electrical sockets and switches
- wall fittings and fixtures – including coving and skirting
- areas where flexible sealants must be used
- ventilation plates.

15.3 Before starting to fit the product, the position of all main service cable and pipe runs must be clearly marked on the walls to avoid damage. All plaster coving, skirting board and laminate floor angle beads must be removed.

15.4 Before fixing the product, sufficient time must be allowed for damp-proofing treatments, where applied, to dry out (for information see BS 6576 : 2008 for dry-lining in conjunction with a chemical damp-proof course application).

15.5 Care must be taken when exposing electrical cables (see section 11).

15.6 All insulated dry lining installations require careful planning and setting out. Installation should be in accordance with BS 8212 : 1995, good dry lining practice and the Certificate holder's instructions. A typical installation method is shown in Figure 1.

15.7 Quinn Therm QW Insulated Dry Lining Board has printed logos applied to the outer foil-facing on one side only. To ensure optimum thermal performance, the boards must be installed with the unprinted foil-face always facing the cavity side.

15.8 The product can be cut using a sharp knife or fine-toothed saw, to fit around windows, doors and air bricks. It is essential that cut pieces completely fill the spaces for which they are intended and are adequately secured.

15.9 To avoid thermal bridging, the boards should be used to line window reveals. Suitable provisions will also need to be adopted at junctions and other details such as separating floors. Further guidance can be obtained from BRE Report BR 262 : 2002.

16 Procedure

16.1 The wall is surveyed to establish its flatness and suitability for receiving the product. The product may be used on any stable, dry wall capable of taking the fixings for the timber battens.

16.2 The insulation boards are cut to fit and placed against the wall; joints and perforations are sealed with self-adhesive aluminium foil-tape. The insulation boards are temporarily secured in place. Permanent fixing is provided by the timber battens and internal lining board with suitable mechanical fixings (see Figures 1 and 2). The timber battens are placed against the insulation boards and mechanically fixed horizontally through the top, centre and bottom of the insulation into the wall substrate.

Figure 1 Typical installation

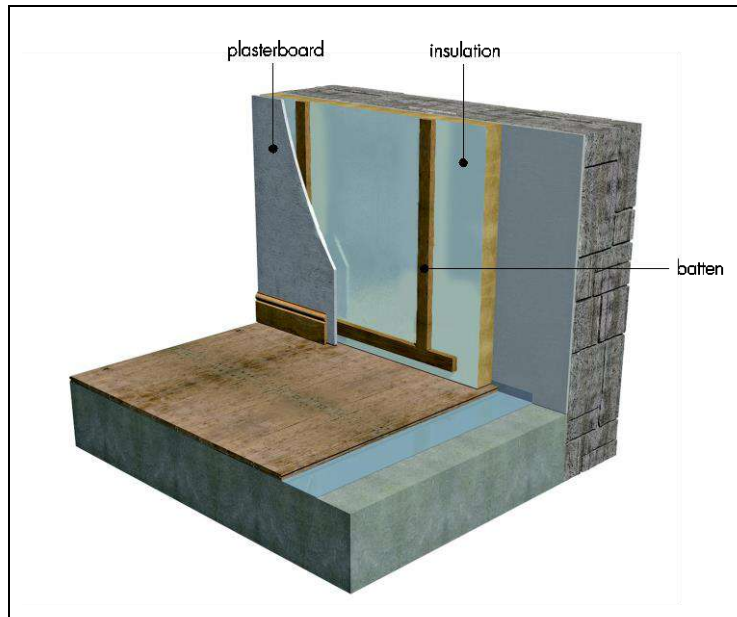
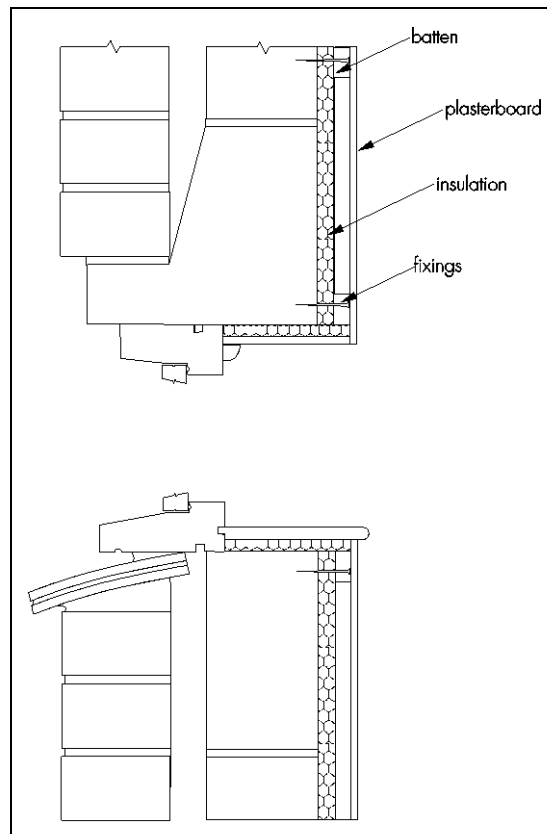


Figure 2 Opening detail



16.3 The battens must be of sufficient thickness and spacing (up to 600 mm) to provide adequate grounds to which the lining board can be fixed, and provide for any services that are to be incorporated into the void between the insulation board and lining board. Horizontal battens should be fitted at the top and bottom of walls and openings.

16.4 It is recommended that the timber battens be treated with a specific preservative for wood.

16.5 Jointing and finishing of the lining is carried out in the appropriate manner. Timber skirting can be fixed into the horizontal batten at floor level.

Technical Investigations

17 Tests

Results of tests were assessed to determine:

- thermal conductivity
- dimensional stability at specified temperature and humidity
- thickness.

18 Investigations

18.1 An examination was made of data to analyse:

- dimensional accuracy
- squareness
- density
- flatness
- water vapour transmission
- reaction to fire.

18.2 A condensation risk analysis was carried out.

18.3 A series of U value calculations were carried out.

18.4 A calculation was undertaken to confirm the declared thermal conductivity.

18.5 The manufacturing process was examined, 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 7671 : 2008 *Requirements for electrical installations. IEE Wiring Regulations. Seventeenth Edition*

BS 6576 : 2008 *Code of practice for diagnosis of rising damp in walls of buildings and installation of chemical damp-proof courses*

BS 8000-3 : 2001 *Workmanship on building sites — Code of practice for masonry*

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

BS 15976 : 2011 *Flexible sheets for waterproofing - Determination of emissivity*

BS EN 1996-1-1 : 2005 *Eurocode 6 : Design of masonry structures — General rules for reinforced and unreinforced masonry structures*

NA to BS EN 1996-1-1 : 2005 *UK National Annex to 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*

NA to BS EN 1996-1-2 : 2005 *UK National Annex to 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*

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 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 13165 : 2012 *Thermal insulation products for buildings — Factory made rigid polyurethane foam (PU) 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 15026 : 2007 *Hygrothermal performance of building components and building elements — Assessment of moisture transfer by numerical simulation*

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*

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

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 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.