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Agrément Certificate

17/5405

Product Sheet 3

CELOTEX INSULATION

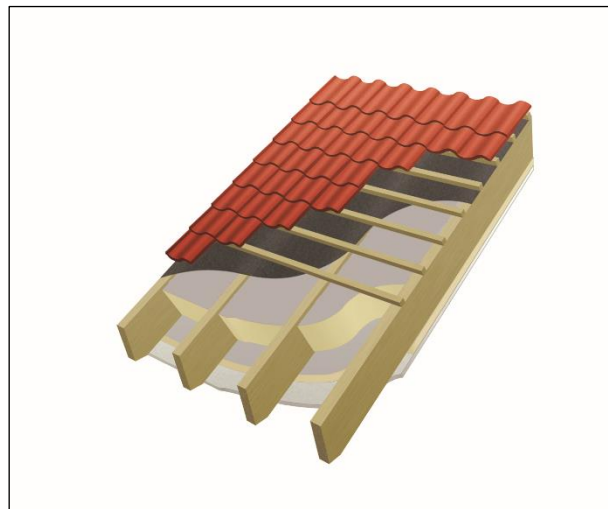
CELOTEX RANGE OF PIR INSULATION BOARDS FOR PITCHED ROOF INSULATION

This Agrément Certificate Product Sheet⁽¹⁾ relates to the Celotex Range of PIR Insulation Boards for Pitched Roof Insulation, comprising rigid polyisocyanurate (PIR) foam boards with foil-facings, for use as insulation installed above, between and/or below rafters in tiled or slated pitched roofs in 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 products have declared thermal conductivities (λ_D) of $0.022 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ for Celotex TB4000, Celotex GA4000 and Celotex XR4000, and $0.021 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ for Celotex FR5000 (see section 6).

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

Durability — the products are durable, rot-proof and sufficiently stable to remain effective as insulation for the life of the building (see section 13).

The BBA has awarded this Certificate to the company named above for the products described herein. These products have been assessed by the BBA as being fit for their intended use provided they are installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of First issue: 20 March 2017

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

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Regulations

In the opinion of the BBA, the Celotex Range of PIR Insulation Boards for Pitched Roof Insulation, 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 products 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 products can contribute to satisfying this Requirement. See section 6 of this Certificate.
Regulation:	7	Materials and workmanship
Comment:		The products are acceptable. See section 11 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 England only)
Regulation:	26B	Fabric performance values for new dwellings (applicable to Wales only)
Comment:		The products 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 products are acceptable. See section 11 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards applicable to construction
Standard:	3.15	Condensation
Comment:		The products 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 products 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 ⁽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 products 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 products under Regulation 9, 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 products are acceptable. See section 11 and the <i>Installation</i> part of this Certificate.
Regulation:	29	Condensation
Comment:		The products 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 products 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) 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: *3 Delivery and site handling (3.4) and 12 General (12.2)* of this Certificate.

Additional Information

NHBC Standards 2017

NHBC accepts the use of Celotex Range of PIR Insulation Boards for Pitched Roof Insulation, when installed and used 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 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

The Celotex Range of PIR Insulation Boards for Pitched Roof Insulation comprises Celotex TB4000, Celotex GA4000, Celotex XR4000 and Celotex FR5000, rigid polyisocyanurate foam (PIR) boards with foil-facings. The nominal characteristics of the products are given in Table 1 of this Certificate.

Table 1 Nominal characteristics

Product	Facings	Board size (mm)	Thickness range (mm)	Edge profile
Celotex TB4000	Composite foil-facing both sides (printed on one side only) ⁽¹⁾	1200 x 2400	12 to 45	square edge
Celotex GA4000	Composite foil-facing both sides (printed on one side only) ⁽¹⁾	1200 x 2400	50 to 100	square edge
Celotex XR4000	Composite foil-facing both sides (printed on one side only) ⁽¹⁾	1200 x 2400	110 to 200	square edge
Celotex FR5000	Aluminium foil-facings both sides (no printing)	1200 x 2400	25 to 150	square edge

(1) See sections 4.3 and 14.3.

2 Manufacture

2.1 Celotex PIR insulation is manufactured by a lamination process, formed between aluminium foil-facings that are glued together in a continuous laminator, where the adhesive is a mixture of two primary chemicals, polyol and MDI. An added blowing agent causes this adhesive to expand into foam that hardens which is then cut to its finished board size and packed.

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 Celotex Ltd has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2008 and BS EN ISO 14001 : 2004 by SGS UK Ltd (Certificate Numbers GB91/504 and GB11/83526).

3 Delivery and site handling

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

3.2 The products 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, they should be under cover, or protected with opaque polythene sheeting.

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

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

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on the Celotex Range of PIR Insulation Boards for Pitched Roof Insulation.

4 Use

4.1 The Celotex Range of PIR Insulation Boards for Pitched Roof Insulation is suitable for use as insulation within tiled or slated pitched roofs, in conjunction with internal lining board, roof tile underlay, timber counter battens and tiling battens in tiled or slated, in new and existing domestic or non-domestic buildings, and may be installed:

- above sloping rafters
- above and between sloping rafters
- between and below sloping rafters.

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 For optimum thermal performance, the products shall be installed with the correct orientation of their foil-facings. See section 12.3.

4.4 Vapour permeable roof tile underlays used in conjunction with the product must have a current BBA Certificate and must be used in accordance with, and within the limitations of, that Certificate.

4.5 It is essential that detailing and jointing of the boards achieves a convection-free envelope of high vapour resistance. 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.

4.6 A ventilated air space of minimum depth 50 mm may be required between the underside of the roof tile underlay and the upper face of the product, dependent on the specification of the roof tile underlay used (see section 7.2).

5 Practicability of installation

The products are designed to be installed by a competent general builder, or a contractor, experienced with these types of products.

6 Thermal performance



6.1 Calculations of the thermal transmittance (U value) of specific roof constructions should be carried out in accordance with BS EN ISO 6946 : 2007 and BRE Report BR 443 : 2006, using the following values:

Celotex TB4000, Celotex GA4000 and Celotex XR4000

- PIR insulation core — declared thermal conductivity(λ_D)* of $0.022 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$
- composite foil-facings both sides, printed on one side only — for unprinted facing, an aged emissivity (ϵ) (to BS EN 15976 : 2011) of 0.05.

Celotex FR5000

- PIR insulation core — declared thermal conductivity(λ_D)* of $0.021 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$
- aluminium foil-facings both sides, unprinted — aged emissivity (ϵ) (to BS EN 15976 : 2011) of 0.03.

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

Table 2 Example U values — pitched roof

Target U value ($W \cdot m^{-2} \cdot K^{-1}$)	Insulation Thickness (mm)					
	Over Rafters		Between Rafters		Between and Under Rafters	
	Celotex TB4000, Celotex GA4000, Celotex XR4000	Celotex FR5000	Celotex TB4000, Celotex GA4000, Celotex XR4000	Celotex FR5000	Celotex TB4000, Celotex GA4000, Celotex XR4000	Celotex FR5000
0.13	—	150	—	—	—	—
0.15	140 ⁽³⁾	150	—	—	*130 ⁽³⁾ +50 ⁽²⁾	*120+60
0.16	130 ⁽³⁾	120	—	—	*125 ⁽³⁾ +50 ⁽²⁾	*120+50
0.18	110 ⁽³⁾	100	—	—	100 ⁽³⁾ +50 ⁽¹⁾	100+50
0.20	90 ⁽²⁾	90	—	—	100 ⁽²⁾ +40 ⁽¹⁾	100+40
0.25	70 ⁽²⁾	70	*130 ⁽³⁾	130	85 ⁽²⁾ +25 ⁽¹⁾	80+25

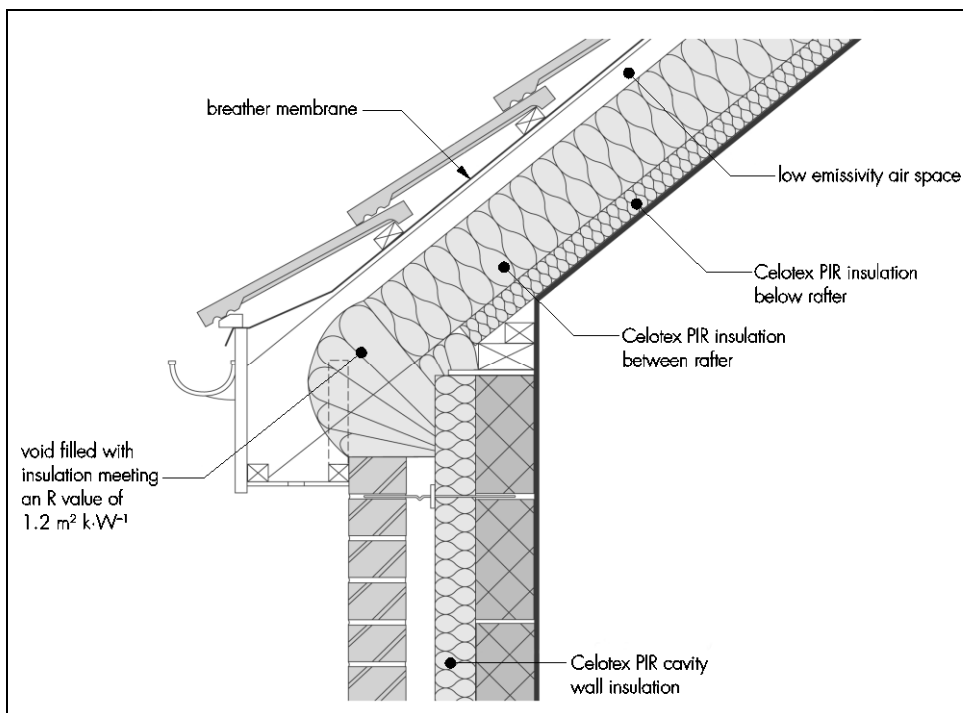
*With additional 12, 19 or 38 mm timber battens added beneath 150 mm rafters to maintain 50 mm vented cavity (138 mm maximum depth of insulation between rafters).

- (1) Celotex TB4000.
- (2) Celotex GA4000.
- (3) Celotex XR4000.

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. An example of an acceptable junction detail is shown in Figure 1.

Figure 1 Junction between roofs and walls



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 Annex H and the relevant guidance.

7.2 The foil-facings have a water vapour resistance of $1000 \text{ MN}\cdot\text{s}\cdot\text{g}^{-1}$ and the insulation core has a water vapour resistivity of $300 \text{ MN}\cdot\text{s}\cdot\text{g}^{-1}\cdot\text{m}^{-1}$ and, when installed with tightly butted joints, filled/sealed gaps and joints, will provide a continuous convection-free envelope of high vapour resistance. Therefore, a suitable vapour-permeable (LR) roof tile underlay may be laid over the insulation boards without 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.

7.3 Where the products are installed in a roof with either a horizontal or sloping ceiling (ie room-in-the-roof), a 'warm roof' space is created and ventilation should be designed in accordance with BS 5250 : 2011 Annex H. However, any insulation in a horizontal ceiling should be removed.

7.4 Where high humidity may be expected, a vapour control layer (VCL), such as 0.125 mm thickness polyethylene with sealed and lapped joints, should also be installed unless a site-specific condensation risk analysis in accordance with BS EN 15026 : 2007 indicates otherwise.

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 Annex H. Further guidance may be obtained from BRE Report BR 262 : 2002 and section 6.3 of this Certificate.

8 Strength and stability (over rafter application only)

8.1 The products, when installed in accordance with the manufacturer's instructions and this Certificate, will resist the loads likely to be met in service. During installation, care should be exercised to ensure that the products are not subjected to any construction, or foot traffic loads. Roof timbers of adequate strength should be used to support such loads.

8.2 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.

8.3 The Certificate holder and fixing manufacturer must advise on the use of the correct proprietary fixings and fixing capacity. When considering this and calculating the fixing spacing required to resist the calculated loadings, the requirements of BS EN 1995-1-1 : 2004 and its National Annex, must be followed.

9 Behaviour in relation to fire

9.1 The products have an NPD classification (No Performance Determined).

9.2 When installed between, under or over rafters, with an internal lining board securely fixed to timber (eg 12.5 mm thick plasterboard), the products will be contained between the element and internal lining board until one is destroyed. Therefore, the products will not contribute to the development stages of a fire until the lining is compromised.

9.3 Elements must incorporate cavity barriers at edges, around openings, at junctions with fire resisting elements and in cavities in accordance with the relevant provisions of the national Building Regulations.

10 Maintenance

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

11 Durability



The products are durable, rot-proof and sufficiently stable to remain effective as an insulation for the life of the building.

Installation

12 General

12.1 Installation of the Celotex Range of PIR Insulation Boards for Pitched Roof Insulation must be 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.

12.2 The products are 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.

12.3 Celotex TB4000, Celotex GA4000, and Celotex XR4000 have printed logos applied to the outer foil-facing on one side only. To ensure optimum thermal performance these boards must be installed with the unprinted foil-face always facing the cavity side. This does not apply to Celotex FR5000 as it does not have any printed logo applied to its foil-facings.

12.4 The products 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. Small areas of damaged facing may be repaired with self-adhesive aluminium foil tape.

12.5 It is important to fill/seal gaps and joints in the insulation envelope, including at all service penetrations.

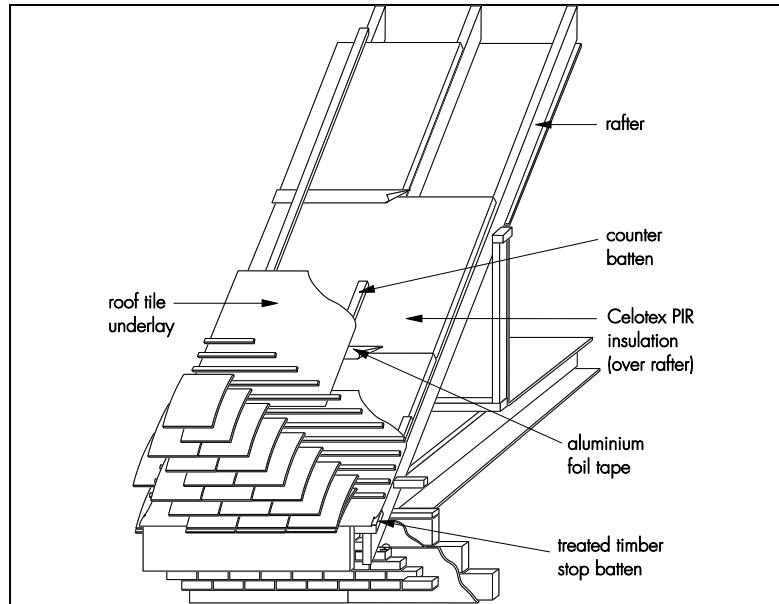
12.6 For installation of roof tiles or slates, and internal lining boards see *Finishing* 13.18 and 13.19 of this Certificate.

13 Procedure

Insulation above rafters

13.1 A treated-timber stop batten, the same thickness as the insulation board, is fixed to the rafters at eaves level and the insulation boards are butted directly against it (see Figure 2).

Figure 2 Insulation above rafters



13.2 The insulation boards should be temporarily fixed onto the rafters using broad-headed clout nails and with joints running up the roof slope occurring over the rafters. Cross-joints may be unsupported. For correct orientation of boards see section 12.3.

13.3 All insulation board joints should be tightly butted. At ridges and verges the boards should be cut to achieve a close butt joint.

13.4 Once the insulation boards have been fixed to the rafters, all joints between boards and between boards and stop battens should be sealed using self-adhesive aluminium foil-tape.

13.5 Counter battens, underlay and tiling battens should be installed using one of the following alternative methods of fixing.

Method 1

13.6 Counter battens (38 mm by 50 mm) should be fixed using suitable fixings at maximum centre-to-centre spacing of 400 mm. These fixings should pass through the counter batten and insulation and penetrate the supporting timber by a minimum of 37 mm.

13.7 The roof tile underlay should be installed in the conventional manner. Tiling battens should be nailed through the underlay into the counter batten in accordance with BS 5534 : 2014 at the required batten gauge. Where permeable tile underlays are used they should be installed in accordance with the appropriate Agrément Certificate.

Method 2

13.8 Counter battens 12 mm by 50 mm (or 19 mm by 50 mm in Scotland) should be fixed using suitable fixings at maximum centre-to-centre spacing of 900 mm. These fixings should pass through the counter batten and the insulation and penetrate the supporting timber by a minimum of 37 mm.

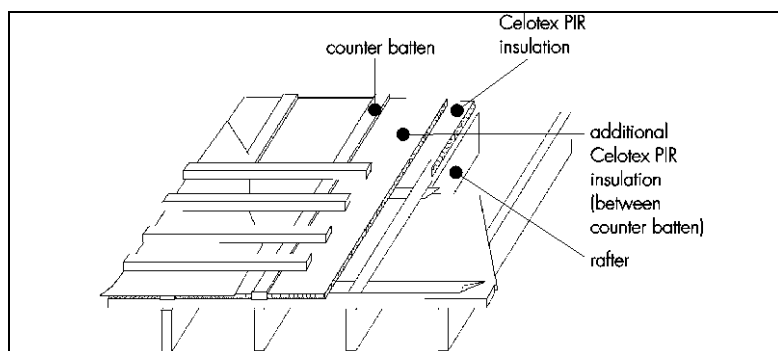
13.9 The roof tile underlay should be installed in the conventional manner and held in place by tiling battens fixed by the fixings passing through the tiling batten, roof tile underlay, counter batten and insulation and penetrating the supporting timber by a minimum of 37 mm at the required batten gauge in accordance with BS 5534 : 2003. Where vapour permeable roof tile underlays are used they should be installed in accordance with the appropriate Agrément Certificate.

13.10 When the product thickness is not greater than 25 mm, the counter battens (38 mm by 50 mm) may be fixed through the insulation to the supporting timber by means of slab nails (3.35 mm diameter, 100 mm long) at maximum centre-to-centre spacing of 400 mm.

Method 3

13.11 Where additional insulation is required, an additional layer of insulation can be installed between the counter battens, but the counter battens should be at least 12 mm thicker than the insulation boards (see Figure 3).

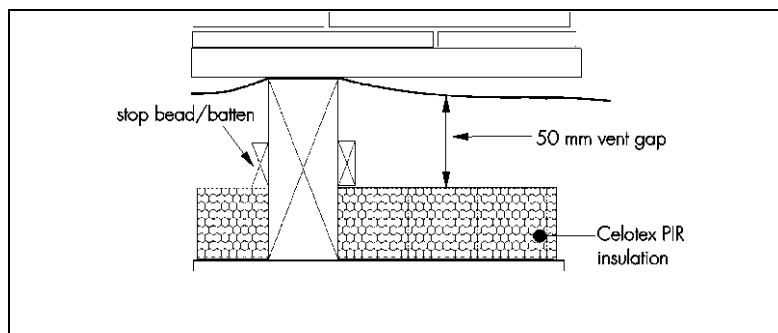
Figure 3 Additional insulation



Insulation between rafters

13.12 Following completion of the roof structure, the products are cut and fitted from the inside tightly between the rafters, flush with the underside and butted against stop beads or battens which maintain a ventilated air gap at least 50 mm deep (see Figure 4). Where vapour-permeable (LR) roof tile underlays are used, the insulation may be installed without a ventilated air space (see section 7.2).

Figure 4 Insulation between rafters

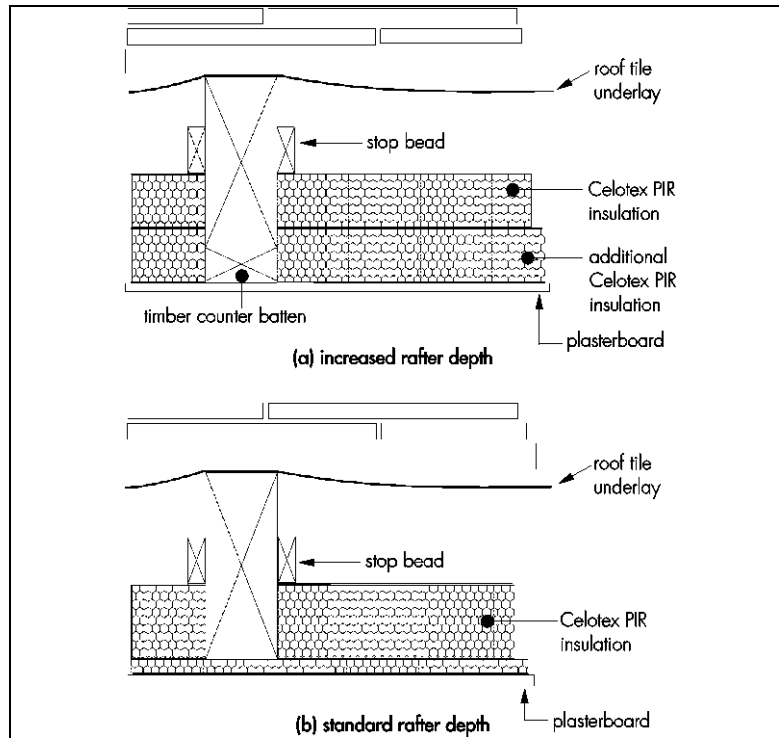


13.13 Horizontal joints are butted and taped and a VCL is fitted to the underside of the rafters.

13.14 Where the rafter depth cannot accommodate the required thickness of insulation and maintain the required 50 mm ventilated gap, one of the following options may be considered:

- the rafter depth is increased by attaching timber counter battens to the underside of the rafter [see Figure 5(a)], or preferably,
- a second layer of insulation is added to the underside of the rafters [see Figure 5(b)].

Figure 5 Additional insulation

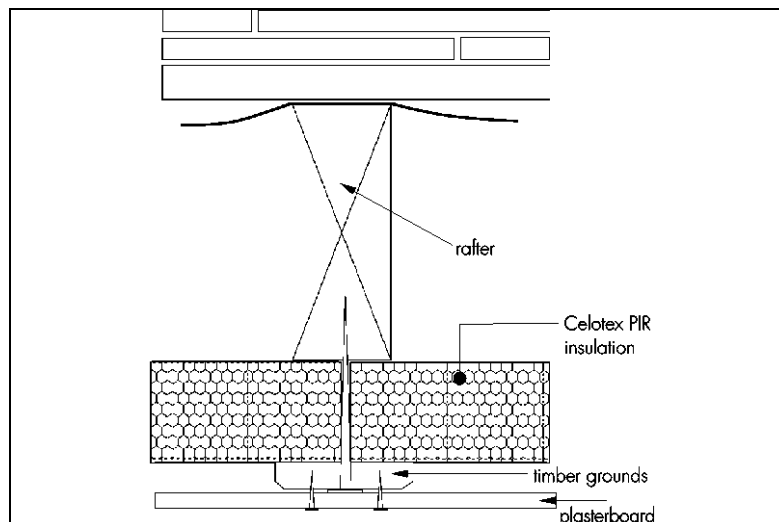


13.15 Boards may be attached to the underside of rafters either as a single layer or in conjunction with insulation boards between the rafters.

13.16 Boards are temporarily fixed with broad-headed clout nails and joints butted and taped. Appropriate internal lining panels may then be fixed through the insulation and into the underside of the rafters.

13.17 Where the insulation thickness makes securing of the internal lining panels impractical, timber grounds of appropriate depth may be fixed through to the rafters and the panels secured to the grounds (see Figure 6).

Figure 6 Added timber grounds



Finishing

13.18 Roof tiles or slates are installed in accordance with the relevant Clauses of BS 5534 : 2014. When applying roof tiles or slates the recommendations of the manufacturer should be followed.

13.19 Internal lining panels appropriate to the application, for example standard gypsum plasterboard to BS EN 520 : 2004 should be fixed in accordance with BS 8212 : 1995 and required decoration applied.

Technical Investigations

14 Tests

Results of tests were assessed to determine:

- thermal conductivity
- compressive strength
- load compression characteristics
- effect of cyclic loading.

15 Investigations

15.1 An examination was made of data relating to:

- dimensional accuracy
- density
- compressive strength
- dimensional stability
- water vapour transmission
- reaction to fire.

15.2 A condensation risk analysis was carried out.

15.3 A series of U value calculations was carried out.

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

15.5 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 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 : 2004 *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 (PU) products — Specification*

BS EN 15026 : 2007 *Hygrothermal performance of building components and building elements. Assessment of moisture transfer by numerical simulation.*

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

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*

16 Conditions

16.1 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.

16.2 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.

16.3 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.

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

16.5 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.

16.6 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.