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Agrément Certificate

17/5433

Product Sheet 1

PAVATEX WOOD-FIBRE INSULATION FOR CLAD WALLS

ISOROOF AND PAVATHERM-PLUS SHEATHING BOARDS

This Agrément Certificate Product Sheet⁽¹⁾ relates to Isorooft and Pavatherm-Plus Sheathing Boards, wood-fibre boards for use as external thermal insulating sheathing board, as part of the NBT insulation system, on new or existing masonry or timber- or steel-frame substrates, with ventilated rainscreen cladding systems. The products are for use in domestic and non-domestic buildings up to 18 m in height.

(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 a declared thermal conductivity (λ_D) of $0.043 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ for Pavatherm-Plus and $0.047 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ for Isorooft (see section 6).

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

Behaviour in relation to fire — the products have a classification of Class E for reaction to fire in accordance with BS EN 13501-1 : 2007 (see section 8).

Durability — the products will have a life equivalent to that of the wall structure in which they are incorporated (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: 18 July 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
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, Isorooft and Pavatherm-Plus Sheathing Boards, 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:	B3(1)(4)	Internal fire spread (structure)
Comment:	The use of the products is restricted by this Requirement. See sections 8.1 and 8.2 of this Certificate.	
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 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 products can contribute to satisfying these Regulations although compensating fabric and/or services measures may need to be taken. See section 6 of this Certificate.	



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)(2)	Durability, workmanship and fitness of materials
Comment:	The products are acceptable. See section 13 and the <i>Installation</i> part of this Certificate.	
Regulation:	9	Building standards applicable to construction
Standard:	2.4	Cavities
Standard:	2.6	Spread to neighbouring buildings
Comment:	The use of the products is restricted by these Standards. See sections 8.1 and 8.2 of this Certificate.	
Standard:	3.15	Condensation
Comment:	The products 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 7.6 of this Certificate.	
Standard:	6.1(a)(b)	Carbon dioxide emissions
Standard:	6.2	Building insulation envelope
Comment:	The products can contribute to satisfying clauses, or parts of, 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⁾ of these Standards. 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 products 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 these products 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 products are acceptable. See section 13 and the *Installation* part of this Certificate.

Regulation: 29

Condensation

Comment:

The products can contribute to satisfying this Regulation. See section 7.1 of this Certificate.

Regulation: 35(a)(i)

Internal fire spread – structure

Comment:

The use of the products is restricted by this Regulation. See sections 8.1 and 8.2 of this Certificate.

Regulation: 39(a)(i)

Conservation measures

Regulation: 40(2)

Target carbon dioxide emissions rate

Comment:

The products can contribute to meeting 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 section: 3 *Delivery and site handling* (3.2) of this Certificate.

Additional Information

NHBC Standards 2017

NHBC accepts the use of Isorooft and Pavatherm-Plus Sheathing Boards, provided they are installed, used and maintained in accordance with this Certificate, in relation to *NHBC Standards*, Chapters 6.2 *External timber framed walls*, 6.9 *Curtain walling and cladding* and 6.10 *Light Steel Frames*. Current NHBC guidance precludes the use of façade systems not utilising a drained cavity.

CE marking

The manufacturer has taken the responsibility of CE marking Isorooft and Pavatherm-Plus Sheathing Boards in accordance with harmonised European Standard EN 13171 : 2012. An asterisk (*) appearing in this Certificate indicates that data shown are given in the manufacturer's Declaration of Performance.

1 Description

1.1 Isorooft and Pavatherm-Plus Sheathing Boards are wood-fibre insulation boards. The Pavatherm-Plus board incorporates an outer layer of 20 mm thick Isorooft board.

Figure 1 Isorooft / Pavatherm-Plus Sheathing Boards within a system



1.2 The boards have the nominal characteristics given in Table 1.

Table 1 Nominal characteristics

Characteristics (units)	Board type	
	Isorooft	Pavatherm-Plus
Length ⁽¹⁾ (mm)	2500	1800
Width (mm)	770	580
Thickness (mm)	20, 35, 52, 60	60, 80, 100, 120, 140, 160
Edge detail	tongue-and-groove (all edges)	tongue-and-groove (all edges)

(1) Other sizes available.

1.3 Ancillary items used with the products but outside the scope of this Certificate include the following (details may be obtained from the Certificate holder):

- tape — butyl rubber tape with laminated aluminium foil
- primer — for use on cut pieces/edges, prior to taping
- adhesive and dispensing gun
- appropriate fixings for timber, steel frame and masonry
- washers
- rainscreen cladding.

2 Manufacture

2.1 The boards are manufactured using conventional techniques for wood-fibre products.

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 the manufacturer has been assessed and registered as meeting the requirements of ISO 9001 : 2008 and ISO 14001: 2004 by SQS (Certificate 14086).

3 Delivery and site handling

3.1 The product name and lot number are printed on at least one board per pallet/pack. Boards are delivered to site wrapped with cardboard to protect the edges. Each pack is labelled with the product name, board dimensions, product code, production lot numbers and BBA logo, incorporating the number of this Certificate.

3.2 Packs should be stored inside. They should be off the ground on a clean, dry, level surface and protected against moisture, mechanical damage and sources of ignition.

3.3 Contact with solvent-based wood preservatives, paint thinners and solvents should be avoided.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Isorooft and Pavatherm-Plus Sheathing Boards.

Design Considerations

4 Use

4.1 The products are used to reduce the U value (thermal transmittance) of external walls of timber-frame, steel-frame or masonry buildings of up to 18 m in height. It is essential that such walls are designed and constructed to incorporate the normal precautions against moisture ingress.

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

- fire resistance for elements and junctions
- cavity barriers are provided
- continuity of insulation to minimise thermal bridging
- resistance to the ingress of precipitation and moisture from the ground.

4.3 Certain rainscreen systems, such as those with open joints, may require the addition of a breather membrane incorporated into their system. The requirement of a membrane is determined by the system designer and is outside the scope of this Certificate.

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

- BS 8000-3 : 2001
- BS EN 351-1 : 2007

- BS EN 1993-1-2 : 2005
- BS EN 1993-1-3 : 2006
- BS EN 1995-1-1 : 2004
- BS EN 1996-1-1 : 2005
- BS EN 1996-1-2 : 2005
- BS EN 1996-2 : 2006
- BS EN 1996-3 : 2006.

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

4.6 The products are restricted for use on timber-framed buildings of up to four storeys in height, unless a calculation by a suitably experienced and competent individual on the specific installation in question confirms that the timber frame is capable of withstanding the loads imposed on it by the insulation and cladding systems.

4.7 The air gap between the face of the insulation / sheathing and the back of the rainscreen panels should be of sufficient width to allow any water passing the joints to run down the back of the rainscreen panels and be discharged externally without wetting the insulation or the backing wall. The minimum width for air gaps required by NHBC is:

- 50 mm for panels with open joints
- 38 mm for panels with baffled or labyrinth (rebated) joints.

4.8 Installation should not be carried out until the moisture content of the timber frame (where applicable) is less than 20%.

4.9 The construction should be made weathertight as soon as possible to ensure maximum protection of the product. Where this is not possible, weather protection to the board joints should be provided (eg breather paper or sealed joints).

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) should be carried out in accordance with BS EN ISO 6946 : 2007 and BRE Report BR 443 : 2006, using the thermal conductivity* (λ_D) of the products shown in Table 2.

Table 2 Declared thermal conductivity value

Product	Thermal conductivity* ($W \cdot m^{-1} \cdot K^{-1}$)
Pavatherm-Plus	0.043
Isorooft	0.047

6.2 The U value of a completed wall construction will depend on the insulation thickness, number and type of fixings, the insulating value of the substrate and its internal finish. Additional insulation may be required, eg between the studs, to meet thermal requirements for the whole construction of the wall. Calculated U values for example constructions are given in Tables 3 and 4.

Table 3 Isorooft Insulation

U value requirement (W·m ⁻² ·K ⁻¹)	Insulation thickness mm		
	215 mm solid masonry wall ⁽¹⁾	Timber-clad 140 mm Timber-frame wall ⁽⁴⁾	150 mm steel-frame system ⁽⁵⁾
0.18	– ⁽²⁾	– ⁽³⁾	– ⁽³⁾
0.19	– ⁽²⁾	– ⁽³⁾	– ⁽³⁾
0.25	– ⁽³⁾	35 mm	– ⁽³⁾
0.26	– ⁽³⁾	20 mm	– ⁽³⁾
0.27	– ⁽³⁾	20 mm	– ⁽³⁾
0.28	– ⁽³⁾	20 mm	60 mm
0.30	– ⁽³⁾	20 mm	52 mm
0.35	– ⁽³⁾	20 mm	35 mm

- (1) 15 mm cladding board, ventilated cavity, Isorooft fixed with steel fixings, 5 per m² with a 6 mm diameter into a 215 mm solid brick wall with a 13 mm internal plaster finish.
- (2) Additional internal insulation required to achieve these U values.
- (3) Pavatherm Plus could be used to meet this requirement (see Table 4).
- (4) 15 mm cladding board, ventilated cavity, Isorooft fixed with steel fixings, 5 per m² with a 4.8 mm diameter into a 140 mm timber-frame filled with additional insulation ($\lambda = 0.038 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$), 12 mm OSB, 25 mm service cavity created by 25 mm timber battens with a 12.5 mm plasterboard finish.
- (5) 15 mm cladding board, ventilated cavity, Isorooft fixed with steel fixings, 5 per m² with a 4.8 mm diameter into a 150 mm light-steel-frame system (0.3% bridge) filled with additional insulation ($\lambda = 0.038 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$), 12 mm OSB, 25 mm service cavity created by 25 mm timber battens with a 12.5 mm plasterboard finish.

Table 4 Pavatherm-Plus Insulation

U value requirement (W·m ⁻² ·K ⁻¹)	Insulation thickness mm		
	215 mm solid masonry wall ⁽¹⁾	Timber-clad 140 mm timber-frame wall ⁽³⁾	150 mm steel-frame system ⁽⁵⁾
0.18	– ⁽²⁾	100 mm	140 mm
0.19	– ⁽²⁾	80 mm	140 mm
0.25	160 mm	– ⁽⁴⁾	80 mm
0.26	160 mm	– ⁽⁴⁾	80 mm
0.27	160 mm	– ⁽⁴⁾	80 mm
0.28	140 mm	– ⁽⁴⁾	– ⁽⁴⁾
0.30	140 mm	– ⁽⁴⁾	– ⁽⁴⁾
0.35	120 mm	– ⁽⁴⁾	– ⁽⁴⁾

- (1) 15 mm cladding board, ventilated cavity, Pavatherm-Plus fixed with steel fixings, 5 per m² with a 6 mm diameter into a 215 mm solid brick wall with a 13 mm internal plaster finish.
- (2) Additional insulation required to achieve these U values.
- (3) 15 mm cladding board, ventilated cavity, Pavatherm-Plus fixed with steel fixings, 5 per m² with a 4.8 mm diameter into a 140 mm timber frame (15% bridge) filled with additional insulation ($\lambda = 0.038 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$), 12 mm OSB, 25 mm service cavity created by 25 mm timber battens with a 12.5 mm plasterboard finish.
- (4) For this application, 60 mm of Pavatherm Plus can meet this requirement; the Certificate holder recommends the use of Isorooft — see Table 3.
- (5) 15 mm cladding board, ventilated cavity, Pavatherm-Plus fixed with steel fixings, 5 per m² with a 4.8 mm diameter into a 150 mm light-steel-frame system (0.3% bridge) filled with additional insulation ($\lambda = 0.038 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$), 12 mm OSB, 25 mm service cavity created by 25 mm timber battens with a 12.5 mm plasterboard finish.

Junctions



6.3 The products can contribute to maintaining continuity of thermal insulation at junctions with other elements and minimise thermal bridges and air infiltration. Detailed guidance can be found in the documents supporting the national Building Regulations. Advice can also be sought from the Certificate holder.

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 products' water vapour resistivity may be taken as $25 \text{ MN}\cdot\text{s}\cdot\text{g}^{-1}\cdot\text{m}^{-1}$.

7.3 If the products are to be used in the external walls of rooms expected to have high humidity, care must be taken to provide adequate permanent ventilation to avoid possible problems from the formation of interstitial condensation in the internal wall leaf.

7.4 A well-sealed vapour control layer (VCL) should be placed on the warm side of the construction, should the condensation risk analysis show this is necessary. NHBC standards require the use of a VCL on the warm side of the construction for timber frames.

Surface condensation



7.5 Walls will adequately limit the risk of surface condensation when the thermal transmittance (U value) does not exceed $0.7 \text{ W}\cdot\text{m}^{-2}\cdot\text{K}^{-1}$ at any point, and the junctions with other elements are designed in accordance with the guidance referred to in section 6.3 of this Certificate.



7.6 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 products are classified as Class E* in accordance with BS 13501-1 : 2007. Cavity barriers should be provided at the locations and intervals specified in the documents supporting the national Building Regulations.

8.2 The products' use is limited to 18 metres in height.

8.3 Walls incorporating the products must meet the relevant Requirements of the National Building Regulations, with regard to fire resistance and continuity of fire resistance at junctions with fire-resisting elements.

9 Strength and stability

9.1 Although the product will not be exposed to wind, it will experience substrate movement and therefore 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 of this Certificate. 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 and its UK National Annex. The higher pressure coefficients applicable to corners of buildings should be used.

9.4 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 experienced and qualified individual. Particular care is required around window and door openings to ensure that the structure is capable of sustaining the additional weight of reveal/frame details.

9.5 The cladding must be fixed to the wall or masonry substrate and designed in accordance with the 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 the relevant Standards given in section 4.3 of this Certificate.

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 products should be kept dry before the cladding is applied.

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

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 Maintenance

As the products are confined between the wall and the cladding and have suitable durability (see section 13), and provided the integrity of the cladding is maintained throughout the life of the system, maintenance is not required.

13 Durability



The products are unaffected by the normal conditions in a wall and are durable and sufficiently stable to remain effective as insulation for the life of the building.

14 Reuse and recyclability

The products are declared in accordance with BS EN ISO 14025 : 2006. The products comprise wood-fibre that can be incinerated for the use of energy, or recycled for making compost.

Installation

15 General

15.1 Installation of Isorooft and Pavatherm-Plus Sheathing Boards must be strictly in accordance with the Certificate holder's instructions.

15.2 A typical application of the boards onto a timber frame is shown in Figure 2.

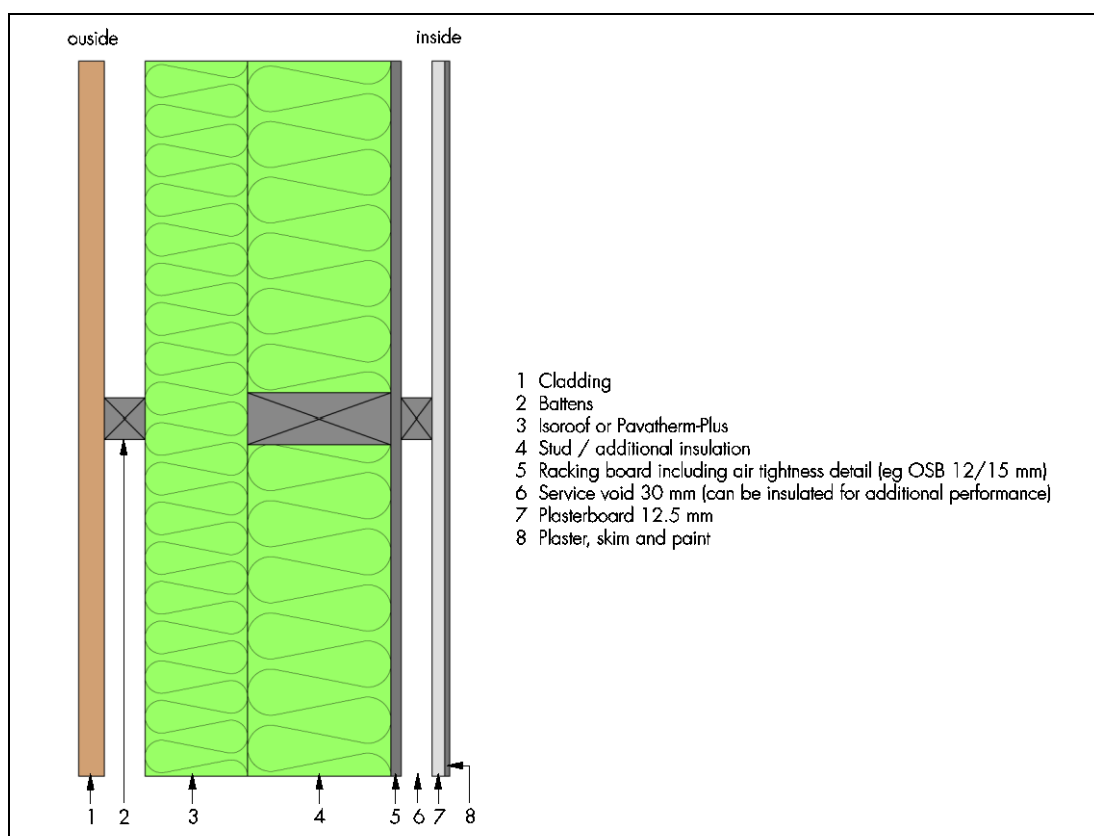
15.3 The boards can be cut using a circular saw with effective extraction and reciprocating or jigsaw blades. Care must be taken to prevent damage, particularly to edges. Damaged boards should not be used unless the damage is minor and repairable by filling with wood-fibre offcuts and sealed with tape.

15.4 Board are arranged using the tongue-and-groove connection, to ensure a tight fit at all times.

15.5 Gaps and joints in the insulation envelope should be filled with wood-fibre offcuts, and taped over tape primer to ensure integrity.

15.6 Fixings should only be used in accordance with the Certificate holder's recommendations and the fixing manufacturer's instructions.

Figure 2 Plan view of a typical installation showing Isoroof or Pavatherm-Plus insulation boards on a timber frame



16 Procedure

Fitting boards

16.1 The first row of boards is installed with the tongue uppermost, using one or two fixings per board. Subsequent rows are fixed, ensuring that the tongue is fully engaged and fixed as in the first row. Boards should be installed with a minimum 200 mm staggered bond.

16.2 All openings, corners and penetrations should be primed and taped to ensure the integrity of the layer.

16.3 Vertical expansion joints must be provided for wall elevations more than 18 m long. The expansion joint may be created by fitting the insulation to the frame and cutting a 5 mm wide groove through the board on the centre line of a stud. The groove may then be sealed to form a sealed air gap.

16.4 Final fixing of the boards must be through the battens. Movement joints should also be included to match any movement joints in the underlying structure.

17 Repair

Damaged boards must be replaced or repaired before the installation of cladding.

Technical Investigations

18 Tests

Tests were carried out on Isorooft and Pavatherm-Plus Sheathing Boards to determine:

- behaviour under a thermal gradient
- compressive stress at 10% deformation
- bond strength between Isorooft and Pavatherm-Plus layers.

19 Investigations

19.1 The manufacturing process was evaluated, including the methods adopted for quality control, and details were obtained of the quality and composition of materials used.

19.2 An examination was made of test data relating to:

- dimensional stability under specified temperature and humidity
- shear strength
- cohesive strength
- water vapour resistance
- thermal conductivity
- compressive strength
- flexural strength
- water absorption
- water penetration
- density
- dimensional accuracy and flatness
- reaction to fire
- dimensional stability
- condensation risk
- durability.

Bibliography

BS 5250 : 2011 + A1 : 2016 *Code of practice for control of condensation in buildings inner and outer leaves*

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

BS EN 351-1 : 2007 *Durability of wood and wood-based products — Preservative-treated solid wood — Classification of preservative penetration and retention*

BS EN 1991-1-4 : 2005 + A1 : 2010 *Eurocode 1: Actions on structures — General actions — Wind actions*

NA to BS EN 1991-1-4 : 2005 + A1 : 2010 *UK National Annex to Eurocode 1: Actions on structures — General actions — Wind actions*

BS EN 1993-1-2 : 2005 *Eurocode 3: Design of steel structures — General rules — Structural fire design*

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 + A1 : 2012 *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*

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*

BS EN 13501-1 : 2007 + A1 : 2009 *Fire classification of construction products and building elements — Classification using test data from reaction to fire tests*

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

BS EN ISO 14025 : 2006 *Environmental labels and declarations — Type III environmental declarations — Principles and procedures*

EN 13171 : 2012 + A1 : 2015 *Thermal insulation products for buildings — Factory made wood fibre (WF) products — Specification*

ISO 9001 : 2008 *Quality management systems — Requirements*

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*

20 Conditions

20.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is issued only to the company, firm, organisation or person named on the front page – no other company, firm, organisation or person may hold claim that this Certificate has been issued to them
- is valid only within the UK
- has to be read, considered and used as a whole document – it may be misleading and will be incomplete to be selective
- is copyright of the BBA
- is subject to English Law.

20.2 Publications, documents, specifications, legislation, regulations, standards and the like referenced in this Certificate are those that were current and/or deemed relevant by the BBA at the date of issue or reissue of this Certificate.

20.3 This Certificate will remain valid for an unlimited period provided that the product/system and its manufacture and/or fabrication, including all related and relevant parts and processes thereof:

- are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA
- continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine
- are reviewed by the BBA as and when it considers appropriate.

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

20.5 In issuing this Certificate the BBA is not responsible and is excluded from any liability to any company, firm, organisation or person, for any matters arising directly or indirectly from:

- the presence or absence of any patent, intellectual property or similar rights subsisting in the product/system or any other product/system
- the right of the Certificate holder to manufacture, supply, install, maintain or market the product/system
- actual installations of the product/system, including their nature, design, methods, performance, workmanship and maintenance
- any works and constructions in which the product/system is installed, including their nature, design, methods, performance, workmanship and maintenance
- any loss or damage, including personal injury, howsoever caused by the product/system, including its manufacture, supply, installation, use, maintenance and removal
- any claims by the manufacturer relating to CE marking.

20.6 Any information relating to the manufacture, supply, installation, use, maintenance and removal of this product/system which is contained or referred to in this Certificate is the minimum required to be met when the product/system is manufactured, supplied, installed, used, maintained and removed. It does not purport in any way to restate the requirements of the Health and Safety at Work etc. Act 1974, or of any other statutory, common law or other duty which may exist at the date of issue or reissue of this Certificate; nor is conformity with such information to be taken as satisfying the requirements of the 1974 Act or of any statutory, common law or other duty of care.