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**Agrément Certificate**

**24/7263**

Product Sheet 1 Issue 1

## HYBRIS INSULATION FOR WALLS AND ROOFS

### HYBRIS FOR TIMBER FRAME WALLS

This Agrément Certificate Product Sheet<sup>(1)</sup> relates to HYBRIS for Timber Frame Walls, a reflective insulation panel based on a honeycomb structure of shaped polyethylene foams with inner and outer aluminium-coated foils, for use in-between studs of conventional timber frame walls with external cladding or a masonry outer leaf in new and existing domestic and non-domestic buildings, with height restrictions in some cases.

(1) Hereinafter referred to as 'Certificate'.

#### The assessment includes

##### Product factors:

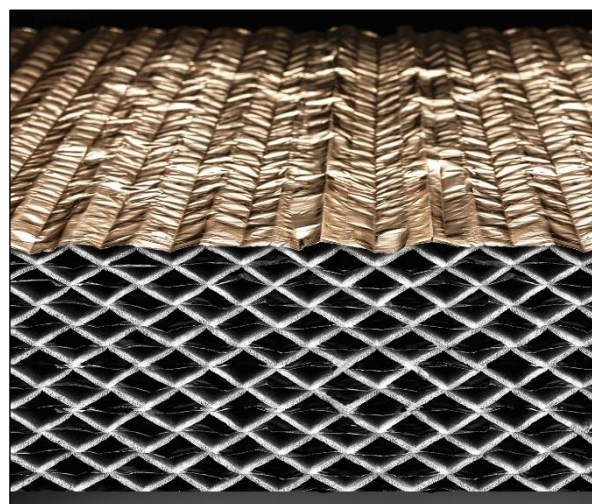
- compliance with Building Regulations
- compliance with additional regulatory or non-regulatory information where applicable
- evaluation against technical specifications
- assessment criteria and technical investigations
- uses and design considerations

##### Process factors:

- compliance with Scheme requirements
- installation, delivery, handling and storage
- production and quality controls
- maintenance and repair

##### Ongoing contractual Scheme elements†:

- regular assessment of production
- formal 3-yearly review



#### KEY FACTORS ASSESSED

- Section 1. Mechanical resistance and stability
- Section 2. Safety in case of fire
- Section 3. Hygiene, health and the environment
- Section 4. Safety and accessibility in use
- Section 5. Protection against noise
- Section 6. Energy economy and heat retention
- Section 7. Sustainable use of natural resources
- Section 8. Durability

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 issue: 31 October 2024

Hardy Giesler  
Chief Executive Officer

*This BBA Agrément Certificate is issued under the BBA's Inspection Body accreditation to ISO/IEC 17020. Sections marked with † are not issued under accreditation.*

*The BBA is a UKAS accredited Inspection Body (No. 4345), Certification Body (No. 0113) and Testing Laboratory (No. 0357).*

*Readers MUST check that this is the latest issue of this Agrément Certificate by either referring to the BBA website or contacting the BBA directly.*

*The Certificate should be read in full as it may be misleading to read clauses in isolation.*

*Any photographs are for illustrative purposes only, do not constitute advice and should not be relied upon.*

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## SUMMARY OF ASSESSMENT AND COMPLIANCE

This section provides a summary of the assessment conclusions; readers should refer to the later sections of this Certificate for information about the assessments carried out.

### Compliance with Regulations

Having assessed the key factors, the opinion of the BBA is that HYBRIS for Timber Frame Walls, 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 Building Regulations 2010 (England and Wales) (as amended)

<b>Requirement:</b>	<b>B3(4)</b>	<b>Internal fire spread (structure)</b>
Comment:		The product can contribute to satisfying this Requirement. See section 2 of this Certificate.
<b>Requirement:</b>	<b>B4(1)</b>	<b>External fire spread</b>
Comment:		The product is restricted by this Requirement in some cases. See section 2 of this Certificate.
<b>Requirement:</b>	<b>C2(c)</b>	<b>Resistance to moisture</b>
Comment:		The product can contribute to satisfying this Requirement. See section 3 of this Certificate.
<b>Requirement:</b>	<b>L1(a)(i)</b>	<b>Conservation of fuel and power</b>
Comment:		The product can contribute to satisfying this Requirement; however, compensating fabric measures may be required. See section 6 of this Certificate.
<b>Requirement:</b>	<b>7(1)</b>	<b>Materials and workmanship</b>
Comment:		The product is acceptable. See sections 8 and 9 of this Certificate.
<b>Requirement:</b>	<b>7(2)</b>	<b>Materials and workmanship</b>
Comment:		The product is restricted by this Regulation. See section 2 of this Certificate.
<b>Regulation:</b>	<b>25B</b>	<b>Nearly zero-energy requirements for new buildings</b>
<b>Regulation:</b>	<b>26</b>	<b>CO<sub>2</sub> emission rates for new buildings</b>
<b>Regulation:</b>	<b>26A</b>	<b>Fabric energy efficiency rates for new dwellings (applicable to England only)</b>
<b>Regulation:</b>	<b>26A</b>	<b>Primary energy rates for new buildings (applicable to Wales only)</b>
<b>Regulation:</b>	<b>26B</b>	<b>Fabric performance values for new dwellings (applicable to Wales only)</b>
<b>Regulation:</b>	<b>26C</b>	<b>Target primary energy rates for new buildings (applicable to England only)</b>
<b>Regulation:</b>	<b>26C</b>	<b>Energy efficiency rating (applicable to Wales only)</b>
Comment:		The product can contribute to satisfying these Regulations; however, compensating fabric/service measures may be required. See section 6 of this Certificate.



#### The Building (Scotland) Regulations 2004 (as amended)

<b>Regulation:</b>	<b>8(1)</b>	<b>Fitness and durability of materials and workmanship</b>
Comment:		The product is acceptable. See sections 8 and 9 of this Certificate.
<b>Regulation:</b>	<b>8(3)</b>	<b>Fitness and durability of materials and workmanship</b>
Comment:		The product is restricted by this Regulation. See section 2 of this Certificate.
<b>Regulation:</b>	<b>9</b>	<b>Building standards – construction</b>
Standard:	<b>2.4</b>	Cavities
Comment:		The product is restricted by this Standard, with reference to clauses 2.4.2 <sup>(1)(2)</sup> , 2.4.4 <sup>(1)</sup> and 2.4.6 <sup>(2)</sup> . See section 2 of this Certificate.

Standard:	2.6	Spread to neighbouring buildings
Comment:		The product is restricted by this Standard in some cases, with reference to clauses 2.6.5 <sup>(1)</sup> and 2.6.6 <sup>(2)</sup> . See section 2 of this Certificate.
Standard:	3.15	Condensation
Comment:		The product can contribute to satisfying this Standard, with reference to clauses 3.15.1 <sup>(1)(2)</sup> , 3.15.4 <sup>(1)(2)</sup> and 3.15.5 <sup>(1)(2)</sup> . See section 3 of this Certificate.
Standard:	6.1(b)(c)	Energy demand
Comment:		The product can contribute to satisfying this Standard, with reference to clause 6.1.1 <sup>(1)</sup> ; however, compensating fabric/service measures will be required. See section 6 of this Certificate.
Standard:	6.2	Building insulation envelope
Comment:		The product can contribute to satisfying this Standard, with reference to clauses 6.2.1 <sup>(1)(2)</sup> , 6.2.3 <sup>(1)</sup> , 6.2.4 <sup>(2)</sup> , 6.2.6 <sup>(1)</sup> , 6.2.7 <sup>(1)(2)</sup> , 6.2.8 <sup>(1)(2)</sup> , 6.2.9 <sup>(1)(2)</sup> , 6.2.10 <sup>(1)(2)</sup> , 6.2.11 <sup>(1)(2)</sup> and 6.2.12 <sup>(1)</sup> ; however, compensating fabric measures may be required. 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 7.1.2 <sup>(1)</sup> , 7.1.3 <sup>(2)</sup> , 7.1.4 <sup>(1)</sup> , 7.1.6 <sup>(1)(2)</sup> , 7.1.7 <sup>(1)</sup> , 7.1.9 <sup>(2)</sup> and 7.1.10 <sup>(2)</sup> . See section 6 of this Certificate.
<b>Regulation:</b>	<b>12</b>	<b>Building standards – conversion</b>
Comment:		Comments in relation to the product under Regulation 9, Standards 1 to 6 also apply to this Regulation, with reference to clause 0.12.1 <sup>(1)(2)</sup> and Schedule 6 <sup>(1)(2)</sup> .
		(1) Technical Handbook (Domestic). (2) Technical Handbook (Non-Domestic).



## The Building Regulations (Northern Ireland) 2012 (as amended)

<b>Regulation:</b>	<b>23(1)(a)(i)</b>	<b>Fitness of materials and workmanship</b>
Comment:	<b>(iii)(b)(i)(ii)</b>	The product is acceptable. See sections 8 and 9 of this Certificate.
<b>Regulation:</b>	<b>23(2)</b>	<b>Fitness of materials and workmanship</b>
Comment:		The product is restricted by this Regulation. See section 2 of this Certificate.
<b>Regulation:</b>	<b>29</b>	<b>Condensation</b>
Comment:		The product can contribute to satisfying this Regulation. See section 3 of this Certificate.
<b>Regulation:</b>	<b>35(4)</b>	<b>Internal fire spread – structure</b>
Comment:		The product can contribute to satisfying this Regulation. See section 2 of this Certificate.
<b>Regulation:</b>	<b>36(a)</b>	<b>External fire spread</b>
Comment:		The product is restricted by this Regulation. See section 2 of this Certificate.
<b>Regulation:</b>	<b>39(a)(i)</b>	<b>Conservation measures</b>
Comment:		The product can contribute to satisfying this Regulation; however, compensating fabric measures may be required. See section 6 of this Certificate.
<b>Regulation:</b>	<b>40(2)</b>	<b>Target carbon dioxide emission rate</b>
<b>Regulation:</b>	<b>43(1)(2)</b>	<b>Renovation of thermal elements</b>
<b>Regulation:</b>	<b>43B</b>	<b>Nearly zero-energy requirements for new buildings</b>
Comment:		The product can contribute to satisfying these Regulations; however, compensating fabric/service measures may be required. See section 6 of this Certificate.

## Additional Information

### NHBC Standards 2024

In the opinion of the BBA, HYBRIS for Timber Frame Walls, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards*, Chapters 6.1 *External masonry walls* and 6.2 *External timber framed walls*.

## Fulfilment of Requirements

The BBA has judged HYBRIS for Timber Frame Walls to be satisfactory for use as described in this Certificate. The product has been assessed as a reflective insulation panel for use in conventional timber frame walls of new and existing domestic and non-domestic buildings, with height restrictions in some cases. The product is installed between the inner leaf studs of the timber frame walls with external cladding or a masonry outer leaf, and a clear cavity.

## ASSESSMENT

### Product description and intended use

The Certificate holder provided the following description for the product under assessment. HYBRIS for Timber Frame Walls is a reflective insulation panel based on a honeycomb structure of shaped polyethylene foams interspersed with aluminium-coated foils, and outer surfaces of aluminium-coated reflective polyethylene foils. The product comprises:

- copper coloured aluminium coated polyethylene foil
- polyethylene foam — forming the honeycomb structure of the material
- aluminium-coated foils — internal foils fitted within the honeycomb structure.

The product has the nominal characteristics given in Table 1.

*Table 1 Nominal characteristics*

Product	Width (mm)	Thickness (mm)	Panel length per pack (m)	Area per pack (m <sup>2</sup> )	Weight per pack (kg)	Panels per pack
HYBRIS 50	1200	50	4.58	5.49	1.98	4
HYBRIS 60	1200	60	4.58	5.49	2.37	4
HYBRIS 75	1200	75	4.58	5.49	2.97	4
HYBRIS 90	1200	90	4.58	5.49	3.56	4
HYBRIS 105	1200	105	4.58	5.49	4.15	4
HYBRIS 125	1200	125	2.28	2.74	2.47	2
HYBRIS 140	1200	140	2.28	2.74	2.77	2
HYBRIS 155	1200	155	2.28	2.74	3.07	2
HYBRIS 170	1200	170	2.28	2.74	3.36	2
HYBRIS 185	1200	185	2.28	2.74	3.66	2
HYBRIS 195	1200	195	2.28	2.74	3.86	2
HYBRIS 205	1200	205	2.28	2.74	4.06	2
HYBRIS 220	1200	220	2.28	2.74	4.35	2
HYBRIS 235	1200	235	2.28	2.74	4.65	2
HYBRIS 250	1200	250	2.28	2.74	4.95	2

## Ancillary items

ACTIS HYBRIS Tape is essential to use with the product for taping joints and has been assessed with the product. The Certificate holder recommends the following ancillary items for use with the product, but these materials have not been assessed by the BBA and are outside the scope of this Certificate:

- stainless steel or galvanized steel staples
- additional insulation materials, if required
- air and vapour control layer (AVCL)
- fire-resistant lining board.

## Product assessment – key factors

The product was assessed for the following key factors, and the outcomes of the assessments is shown below. Conclusions relating to the Building Regulations apply to the whole of the UK unless otherwise stated.

### 1 Mechanical resistance and stability

Data were assessed for the following characteristics.

#### 1.1 Mechanical properties

1.1.1 The product was tested for tensile strength, tearing and tape adhesion and the results are given in Table 2.

*Table 2 Tensile, tearing and adhesion properties*

Product assessed	Assessment method	Requirement	Result
HYBRIS for Timber Frame Walls	Tensile strength parallel to faces to BS EN 1608 : 2013	Declared value Longitudinal > 45kPa Transverse > 30kPa	Pass
HYBRIS for Timber Frame Walls	Resistance to tearing (nail shank) to BS EN 12310-1 : 2000	Declared value Longitudinal > 150 N Transverse > 150 N	Pass
ACTIS HYBRIS Tape adhered to HYBRIS for Timber Frame Walls Front foil facer – Copper coloured	Peel strength to BS EN ISO 11339 : 2010	Value achieved	28 N·(100 mm) <sup>-1</sup>

1.1.2 On the basis of data assessed, the product has adequate mechanical resistance properties.

### 2 Safety in case of fire

Data were assessed for the following characteristic.

#### 2.1 Reaction to fire

2.1.1 The product was tested for reaction to fire and the classification is given in Table 3.

*Table 3 Reaction to fire classification*

Product assessed	Assessment method	Requirement	Result
HYBRIS for Timber Frame Walls	BS EN 13501-1 : 2018 <sup>(1)</sup>	Declared value	F

(1) Laboratoire de Trappes. Report ref. P223011, 10 August 2022. Copies available from the Certificate holder on request.

2.1.2 The product must be protected from naked flames and other ignition sources during and after installation.

2.1.3 On the basis of data assessed, the product will be restricted in use under the documents supporting the national Building Regulations in some cases.

2.1.4 In England, Wales and Northern Ireland, the product must not be used on buildings with a storey 18 m or more in height. Additionally, in England, it must not be used on residential buildings with a storey 11 m or more in height.

2.1.5 In Scotland, the product must not be used on buildings that have a storey 11 m or more above ground level or within 1 m of a relevant boundary.

2.1.6 In England, Wales and Northern Ireland, the product is unrestricted in terms of proximity to a relevant boundary.

2.1.7 Designers must refer to the relevant national Building Regulations and guidance for detailed conditions of use, particularly in respect of requirements for substrate fire resistance, cavity closers and barriers, fire stopping of service penetrations and combustibility limitations for other materials and components used in the overall wall construction.

## 2.2 Resistance to fire

2.2.1 The product must be contained by a fire-resistant lining board manufactured in accordance with BS EN 520 : 2004, with joints fully sealed and supported by timber studs or battens.

2.2.2 Where the product is incorporated in a wall construction where fire resistance is required by the documents supporting the national Building Regulations, the fire resistance should be confirmed by a suitably experienced and competent individual.

## 3 Hygiene, health and the environment

Data were assessed for the following characteristics.

### 3.1 Water vapour permeability

3.1.1 The product was tested for water vapour permeability to establish a water vapour diffusion equivalent air layer thickness ( $S_d$ ). The results are given in Table 4.

*Table 4 Water vapour diffusion – equivalent air layer thickness ( $S_d$ )*

Product assessed	Assessment method	Requirement	Result
HYBRIS for Timber Frame Walls (Total product)	BS EN 1931 : 2000	Declared value > 90 m	Pass
HYBRIS for Timber Frame Walls (Outer foil, inner film, core foam)	BS EN 1931 : 2000	Value achieved	55 m
HYBRIS for Timber Frame Walls (Inner foil)	BS EN 1931 : 2000	Value achieved	42 m

3.1.2 On the basis of the data assessed, the properties in Table 4 must be used in calculations of interstitial condensation risk.

3.1.3 The product must be used in conjunction with an AVCL.

### 3.2 Odour

The product was tested for the release of volatile organic compounds (VOCs) into indoor air with the results given in Table 5.

*Table 5 Indoor air concentrations*

Product assessed	Assessment method	Requirement	Result
HYBRIS for Timber Frame Walls	Total VOCs to	< 5 $\mu\text{g}\cdot\text{m}^{-3}$	Pass
	BS EN 16516 : 2017		
	BS ISO 16000-3 : 2011	< 2 $\mu\text{g}\cdot\text{m}^{-3}$	Pass
	BS ISO 16000-6 : 2011		
	BS EN ISO 16000-9 : 2006		
BS EN ISO 16000-11 : 2006			

## 4 Safety and accessibility in use

Not applicable.

## 5 Protection against noise

Not applicable.

## 6 Energy economy and heat retention

Data were assessed for the following characteristics.

### 6.1 Thermal performance

The product was tested for thermal resistance and the results are given in Table 6.

*Table 6 Thermal performance*

Product assessed	Assessment method	Requirement	Result
HYBRIS for Timber Frame Walls	Thermal resistance to BS EN ISO 22097 : 2023 and declared to 90/90 Fractal and rounding to BS EN 16863 : 2023	Declared value - R <sub>D</sub>	50 mm = 1.50 m <sup>2</sup> ·K·W <sup>-1</sup>
			60 mm = 1.80 m <sup>2</sup> ·K·W <sup>-1</sup>
			75 mm = 2.25 m <sup>2</sup> ·K·W <sup>-1</sup>
			90 mm = 2.75 m <sup>2</sup> ·K·W <sup>-1</sup>
			105 mm = 3.20 m <sup>2</sup> ·K·W <sup>-1</sup>
			125 mm = 3.80 m <sup>2</sup> ·K·W <sup>-1</sup>
			140 mm = 4.25 m <sup>2</sup> ·K·W <sup>-1</sup>
			155 mm = 4.70 m <sup>2</sup> ·K·W <sup>-1</sup>
			170 mm = 5.15 m <sup>2</sup> ·K·W <sup>-1</sup>
			185 mm = 5.65 m <sup>2</sup> ·K·W <sup>-1</sup>
			195 mm = 5.95 m <sup>2</sup> ·K·W <sup>-1</sup>
			205 mm = 6.25 m <sup>2</sup> ·K·W <sup>-1</sup>
			220 mm = 6.70 m <sup>2</sup> ·K·W <sup>-1</sup>
			235 mm = 7.15 m <sup>2</sup> ·K·W <sup>-1</sup>
250 mm = 7.60 m <sup>2</sup> ·K·W <sup>-1</sup>			

### 6.2 Conservation of fuel and power

The U value of a completed timber frame wall will depend on the selected insulation thickness, together with the insulating value of the external cladding or masonry outer leaf and its internal finish. Example U values are given in Table 7.

*Table 7 Example U-values<sup>(1)</sup>*

U value (W·m <sup>-2</sup> ·K <sup>-1</sup> )	Hybris for Timber Frame Walls Thickness (mm)
0.13	— <sup>(3)</sup>
0.15	— <sup>(3)</sup>
0.17	— <sup>(3)</sup>
0.18	— <sup>(3)</sup>
0.21	170 <sup>(2)</sup>
0.26	125 <sup>(2)</sup>
0.28	125
0.30	105
0.35	75

(1) Construction, external to internal: 102.5 mm brick ( $\lambda = 0.77 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ ), 50 mm clear, cavity, breather membrane, 9mm OSB (oriented strand board) sheathing board ( $\lambda = 0.13 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ ), HYBRIS for Timber Frame Walls Insulation installed between the 140 mm deep timber frame, bridged at 15% ( $\lambda = 0.13 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ ), AVCL and 15 mm plasterboard ( $\lambda = 0.25 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ ).

(2) Construction as above, but with 200 mm deep timber frame.

(3) See section 6.2.3.

6.2.1 On the basis of data assessed, the product can contribute to satisfying the national Building Regulations with respect to energy economy and heat retention.

6.2.2 For improved energy or carbon savings, designers must consider appropriate fabric / service measures.

6.2.3 The product has a nominal heat capacity value of 2065 J·kg<sup>-1</sup>·K<sup>-1</sup>.

## 7 Sustainable use of natural resources

Not applicable.

## 8 Durability

8.1 The potential mechanisms for degradation and the known performance characteristics of the materials in the product were assessed.

8.2 Data were assessed for durability characteristics, as shown in Table 8.

*Table 8 Durability*

Product assessed	Assessment method	Requirement	Result
ACTIS HYBRIS Tape adhered to HYBRIS for Timber Frame Walls Front foil facer – Copper coloured	Peel strength to BS EN ISO 11339 : 2010 (70°C and 90% RH for 28 days)	Value achieved	42 N per 100 mm
HYBRIS for Timber Frame Walls Front foil facer – Copper coloured	Aged emissivity to BS EN ISO 22097 : 2023 Annex D and declared to 90/90 fractal	Declared value - $\epsilon_D$	0.06
HYBRIS for Timber Frame Walls Back foil facer – Silver side	Aged emissivity to EN 16012 : 2012 (70°C and 90% RH for 28 days) and declared to 90/90 fractal and rounding to BS EN 16863 : 2023	Declared value - $\epsilon_D$	0.10

### 8.3 Service life

Under normal service conditions, the product will have a life equivalent to the building in which it is incorporated, provided it is designed, installed and maintained in accordance with this Certificate and the Certificate holder's instructions.

## PROCESS ASSESSMENT

Information provided by the Certificate holder was assessed for the following factors:

## 9 Design, installation, workmanship and maintenance

### 9.1 Design

9.1.1 The design process was assessed by the BBA and the following requirements apply in order to satisfy the performance assessed in this Certificate.

9.1.2 Timber frame wall constructions must be designed and constructed in accordance with the relevant recommendations of:

- BS 5250 : 2021
- BS 8000-3 : 2020
- BS EN 351-1 : 2023
- BS EN 845-1 : 2013



- BS EN 1995-1-1 : 2004 and its UK National Annex
- BS EN 1996-1-1 : 2022 and its UK National Annex
- BS EN 1996-1-2 : 2005 and its UK National Annex
- BS EN 1996-2 : 2006 and its UK National Annex.

9.1.3 This application requires an air and vapour control layer (AVCL) behind the internal fire-resistant lining board, which must be a minimum thickness of 0.125 mm (500 gauge) polyethylene.

9.1.4 Care must be taken in the overall design and construction of walls incorporating the product to ensure the provision of appropriate:

- cavity trays and damp-proof courses (DPC)
- cavity barriers and fire dampers
- resistance to the ingress of precipitation, moisture and dangerous gases from the ground
- resistance to sound transmission when flanking separating walls and floors.

9.1.5 It is essential that external masonry cavity walls are designed and constructed to incorporate the precautions in this Certificate to prevent moisture penetration.

9.1.6 Window and door opening reveals must be constructed incorporating a cavity barrier/closer/DPC, as required.

9.1.7 It is recommended that services which penetrate the dry lining (eg light switches, power outlets) are kept to a minimum to limit damage to the AVCL. In addition, to preserve the fire resistance of the wall, any penetrations must be enclosed in appropriate fire rated sealant, plasterboard, stone mineral wool or a suitably tested proprietary fire-rated system.

9.1.8 As with other insulation products, it may be necessary in some cases to de-rate electrical cables buried in insulation. BS 7671 : 2018 recommends that where wiring is completely surrounded by insulation it may need to be derated to as low as half its free air-current-carrying capacity. Guidance must be sought from an experienced and competent electrician.

9.1.9 The guidance given in the documents supporting the national Building Regulations must be followed when the system is installed in close proximity to certain flue pipes and/or heat-producing appliances.

9.1.10 Calculations of the thermal transmittance (U value) of a wall must be carried out in accordance with BS EN ISO 6946 : 2017 and BRE Report BR 443 : 2019.

9.1.11 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.

#### *Interstitial condensation*

9.1.12 Walls will adequately limit the risk of interstitial condensation when they are designed and constructed in accordance with BS 5250 : 2021.

9.1.13 If the product is to be used in the external wall 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.

#### *Surface condensation*

9.1.14 In England and Wales, walls will limit the risk of surface condensation adequately where 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 section 9.1.9 of this Certificate.

9.1.15 For buildings in Scotland, constructions will be acceptable where the thermal transmittance (U value) of the wall does not exceed  $1.2 \text{ W}\cdot\text{m}^{-2}\cdot\text{K}^{-1}$  at any point, and walls are designed and constructed in accordance with the relevant parts of BS 5250 : 2021. Further guidance may be obtained from BRE Report BR 262 : 2002.

## 9.2 Installation

9.2.1 Installation instructions provided by the Certificate holder were assessed and judged to be appropriate and adequate.

9.2.2 Installation must be carried out in accordance with this Certificate and the Certificate holder's instructions. A summary of instructions and guidance are provided in Annex A of this Certificate.

9.2.3 Existing constructions must be in a good state of repair, with no evidence of rain penetration or damp. Defects must be made good prior to installation.

9.2.4 Any mould or fungal growth found to be present must be treated.

9.2.5 Installation must not be carried out until the moisture content of any timber is less than 20% by mass.

9.2.6 Adjacent panels must be taped to the panel next to each other with ACTIS HYBRIS Tape, over the copper-coloured front foil facer.

9.2.7 Packaging must be removed before installation and the product installed with the copper-coloured film facing the inside of the building.

## 9.3 Workmanship

Practicability of installation was assessed by the BBA, on the basis of Certificate holder's information. To achieve the performance described in this Certificate, installation of the product must be carried out by a competent general builder, or contractor, experienced with this type of product.

## 9.4 Maintenance and repair

As the product is confined within the wall cavity and has suitable durability, maintenance is not required.

## 10 **Manufacture**

10.1 The production processes for the product have been assessed, and provide assurance that the quality controls are satisfactory according to the following factors:

10.1.1 The manufacturer has provided documented information on the materials, processes, testing and control factors.

10.1.2 The quality control operated over batches of incoming materials has been assessed and deemed appropriate and adequate.

10.1.3 The quality control procedures and product testing to be undertaken have been assessed and deemed appropriate and adequate.

10.1.4 The process for management of non-conformities has been assessed and deemed appropriate and adequate.

10.1.5 An audit of the production location was undertaken, and it was confirmed that the production process was in accordance with the documented process, and that equipment had been properly tested and calibrated.

† 10.2 The BBA has undertaken to review 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.

## 11 **Delivery and site handling**

11.1 The Certificate holder stated that the product is delivered to site wrapped in polythene film, incorporating a label with the Certificate holder's name, product description and characteristics, and the BBA logo incorporating the number of this Certificate.

11.2 Delivery and site handling must be performed in accordance with the Certificate holder's instructions and this Certificate, including:

11.2.1 The product must be stored in clean, dry conditions, preferably under cover and out of direct sunlight. Care must be taken to store the product away from solvents. Where possible, packs should be stored inside.

11.2.2 The product must not come into contact with naked flames or other ignition sources.

11.2.3 On site, to ensure maximum performance of the product when installed, precautions must be taken to protect it from mud and dirt.

## **ANNEX A – SUPPLEMENTARY INFORMATION †**

Supporting information in this Annex is relevant to the product but has not formed part of the material assessed for the 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.

### UKCA marking

The Certificate holder has taken the responsibility of UKCA marking the product in accordance with EAD 040007-00-1201.

### Management Systems Certification for production

The management system of the manufacturer has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2015 by AFNOR Certification (Certificate 2023/104848.1).

### Additional information on installation

A.1.1 In order to cut the product to the correct width, it is tapped on the ground whilst still in its outer packaging. The width between the timber studs is measured and the product cut to size, adding approximately 5 to 10 mm. The product can be easily cut with an insulation saw, standard hand saw, or electric alligator saw.

A.1.2 Once cut, the outer packaging is removed, and the product expanded by holding each end of the cut section and pulling it open. This process is then repeated for the reverse side.

A.1.3 The product is inserted into the space between the timber studs with the copper-coloured film facing the inside (warm side) of the building, taking care that the insulation thickness is maintained.

A.1.4 For extra support, there is the option of stapling the product through the copper-coloured film and one foam layer into the timber studs.

A.1.5 When installed, adjacent panels must be taped to the panel next to each other with ACTIS HYBRIS Tape, over the copper-coloured front foil facer (see Figures 1 and 2).

Figure 1 Typical wall design – brick outer face

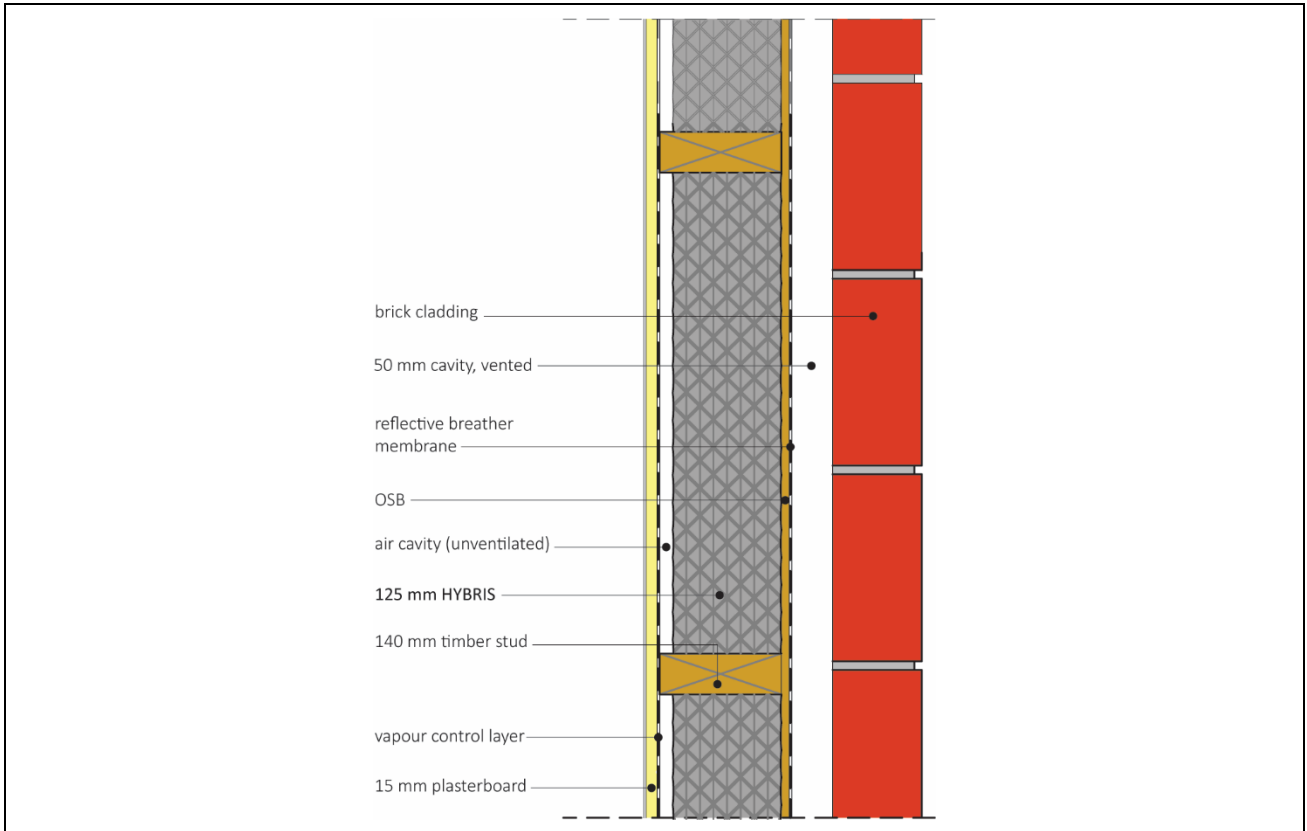
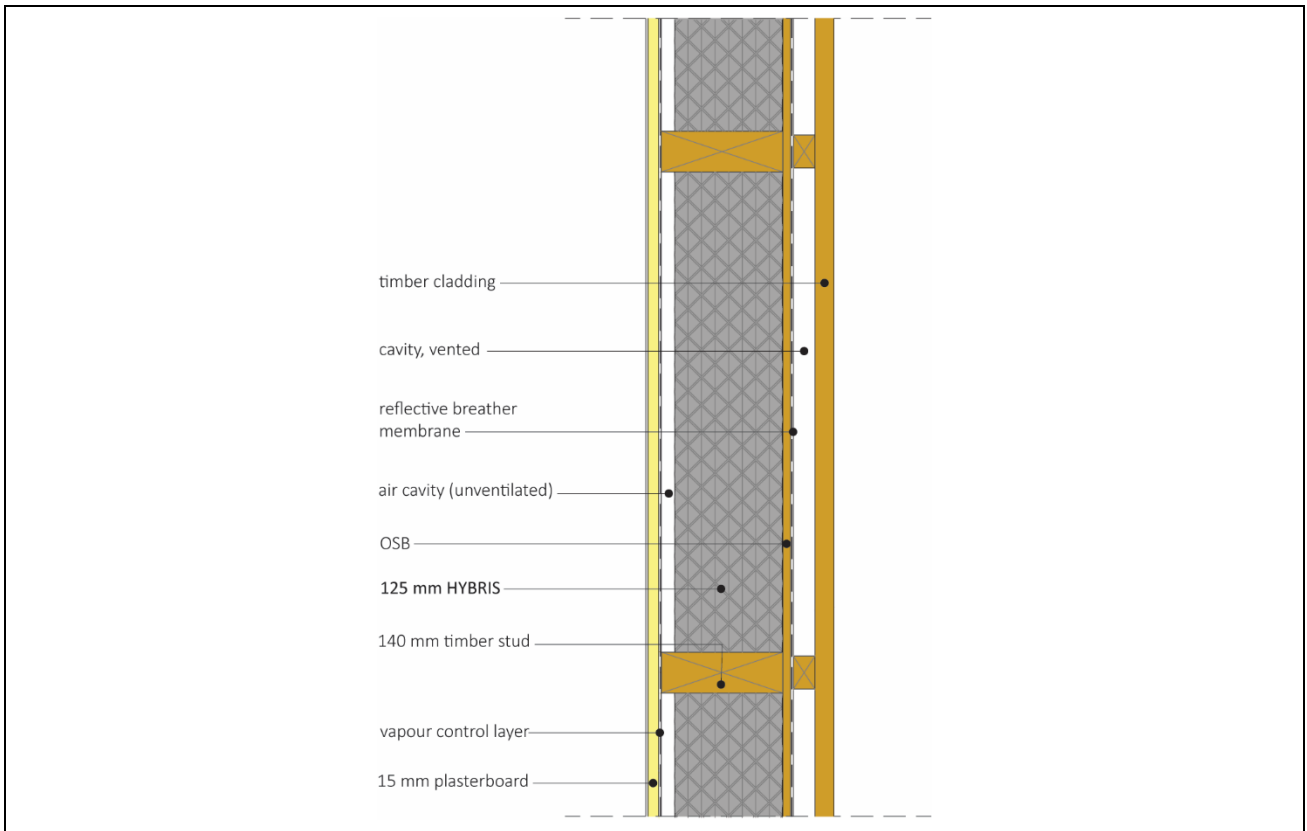


Figure 2 Typical wall design – Timber cladding



## Bibliography

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BS 5250 : 2021 *Condensation and pitched roof design*

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BS EN 1608 : 2013 *Thermal insulation products for Building Applications — Determination of Tensile Strength parallel to faces*

BS EN 1931 : 2000 *Flexibles sheets for waterproofing — Determination of water vapour transmission properties*

BS EN 1995-1-1 : 2004 *Eurocode 5 — Design of timber structures — General — Common rules and rules for buildings*  
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BS EN ISO 9001 : 2015 *Quality management systems — Requirements*

BS EN ISO 11339 : 2010 *Adhesives — T-peel test for flexible-to-flexible bonded assemblies*

BS ISO 16000-3 : 2011 *Indoor air — Part 3 : Determination of formaldehyde and other carbonyl compounds in indoor air and test chamber air — Active sampling method*

BS ISO 16000-6 : 2011 *Indoor air — Part 6 : Determination of organic compounds (VVOC, VOC, SVOC) in indoor and test chamber air by active sampling on sorbent tubes, thermal desorption and gas chromatography using MS or MS-FID*

BS EN ISO 16000-9 : 2006 *Indoor air — Part 9 — Determination of the emission of volatile organic compounds from building products and furnishing — Emission test chamber method*

BS EN ISO 16000-11 : 2006 *Indoor Air — Part 11: Determination of the emission of volatile organic compounds from building products and furnishing — Sampling, storage of samples and preparation of test specimens*

BS EN ISO 22097 : 2023 *Thermal insulation for buildings – Reflective insulation products – Determination of thermal performance*

EAD 040007-00-1201 *Thermal Insulation Products For Buildings With Radiant Heat Reflective Component*

### Conditions

1 This Certificate:

- relates only to the product that is named and described on the front page
- is issued only to the company, firm, organisation or person named on the front page – no other company, firm, organisation or person may hold or claim that this Certificate has been issued to them
- 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
- and any matter arising out of or in connection with it or its subject matter (including non-contractual disputes or claims) is governed by and construed in accordance with the law of England and Wales.
- the courts of England and Wales shall have exclusive jurisdiction to settle any matter arising out of or in connection with this Certificate or its subject matter (including non-contractual disputes or claims).

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.

3 This Certificate will be displayed on the BBA website, and the Certificate Holder is entitled to use the Certificate and Certificate logo, provided that the product 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.

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

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

6 Any information relating to the manufacture, supply, installation, use, maintenance and removal of this product which is contained or referred to in this Certificate is the minimum required to be met when the product 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.