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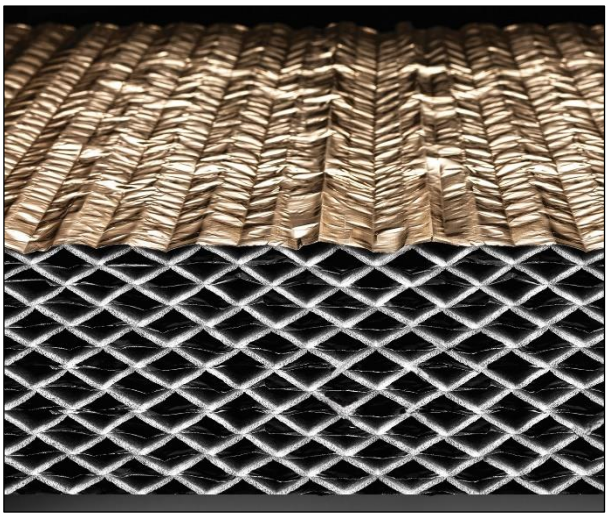
Agrément Certificate
24/7263
Product Sheet 2 Issue 1

HYBRIS INSULATION FOR WALLS AND ROOFS

HYBRIS FOR PITCHED ROOFS

This Agrément Certificate Product Sheet(1) relates to HYBRIS for Pitched Roofs, a reflective insulation panel based on a honeycomb structure of shaped polyethylene foams with inner and outer aluminium-coated foils, for use as insulation in pitched roofs with a pitch up to 70°, installed between the timber rafters in new or existing domestic and non-domestic buildings.

(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.

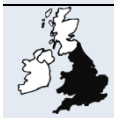
Any photographs are for illustrative purposes only, do not constitute advice and should not be relied upon.

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 Pitched Roofs, 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)

Requirement:	**B3(4)**	**Internal fire spread (structure)**
Comment:		The product can contribute to satisfying this Requirement. See section 2 of this Certificate.
Requirement:	**B4(1)**	**External fire spread**
Comment:		The product is restricted by this Requirement in some cases. See section 2 of this Certificate.
Requirement:	**C2I**	**Resistance to moisture**
Comment:		The product can contribute to satisfying this Requirement. See section 3 of this Certificate.
Requirement:	**L1(a)(i)**	**Conservation of fuel and power**
Comment:		The product can contribute to satisfying this Requirement; however, compensating fabric measures may be required. See section 6 of this Certificate.
Regulation:	**7(1)**	**Materials and workmanship**
Comment:		The product is acceptable. See sections 8 and 9 of this Certificate.
Regulation	**7(2)**	**Materials and workmanship**
Comment:		The product is restricted by this Regulation. See section 2 of this Certificate.
Regulation:	**25B**	**Nearly zero-energy requirements for new buildings**
Regulation:	**26**	**CO_2 emission rates for new buildings**
Regulation:	**26A**	**Fabric energy efficiency rates for new dwellings (applicable to England only)**
Regulation:	**26A**	**Primary energy rates for new buildings (applicable to Wales only)**
Regulation:	**26B**	**Fabric performance values for new dwellings (applicable to Wales only)**
Regulation:	**26C**	**Target primary energy rates for new buildings (applicable to England only)**
Regulation:	**26C**	**Energy efficiency rating (applicable to Wales only)**
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)

Regulation:	**8(1)**	**Fitness and durability of materials and workmanship**
Comment:		The product is acceptable. See sections 8 and 9 of this Certificate.
Regulation:	**8(3)**	**Fitness and durability of materials and workmanship**
Comment:		The product is restricted by this Regulation in some cases. See section 2 of this Certificate.
Regulation:	**9**	**Building Standards – construction**
Standard:	2.4	Cavities
Comment:		The product is restricted by this Standard, with reference to clauses 2.4.4[(1)] and 2.4.6[(2)]. 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(1)(2), 3.15.3(1)(2), 3.15.4(1), 3.15.5(1)(2) and 3.15.7(1)(2). 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 clauses 6.1.1(1) and 6.1.2(2); 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(1)(2), 6.2.3(1), 6.2.4(2), 6.2.6(1), 6.2.7(1)(2), 6.2.8(1)(2), 6.2.9(1)(2), 6.2.10(1)(2), 6.2.11(1)(2) and 6.2.12(1); however, compensating fabric measures will 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 7.1.4(1), 7.1.6(1)(2), 7.1.7(1), 7.1.9(2) and 7.1.10(2). See section 6 of this Certificate.
Regulation:	**12**	**Building standards – conversion**
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(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(1)(a)(i)**	**Fitness of materials and workmanship**
Comment:	**(iii)(b)(i)(ii)**	The product is acceptable. See sections 8 and 9 of this Certificate.
Regulation:	**23(2)**	**Fitness of materials and workmanship**
Comment:		The product is restricted by this Regulation in some cases. See section 2 of this Certificate.
Regulation:	**29**	**Condensation**
Comment:		The product can contribute to satisfying this Regulation. See section 3 of this Certificate.
Regulation:	**35(4)**	**Internal fire spread – structure**
Comment:		The product can contribute to satisfying this Regulation. See section 2 of this Certificate.
Regulation:	**36(a)**	**External fire spread**
Comment:		The product is restricted by this Regulation in some cases. See section 2 of this Certificate.
Regulation	**39(a)(i)**	**Conservation measures**
Comment:		The product can contribute to satisfying this Regulation; however, compensating fabric measures will be required. See section 6 of this Certificate.
Regulation:	**40(2)**	**Target carbon dioxide emission rate**
Regulation:	**43(1)(2)**	**Renovation of thermal elements**
Regulation:	**43B**	**Nearly zero-energy requirements for new buildings**
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 Pitched Roofs, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards*, Chapter 7.2 *Pitched roofs*.

Fulfilment of Requirements

The BBA has judged HYBRIS for Pitched Roofs to be satisfactory for use as described in this Certificate. The product has been assessed as a reflective insulation panel for use installed between timber rafters within tiled or slated pitched roofs, with a pitch up to 70°, in conjunction with additional insulation, internal lining board, roof tile underlay, timber counter battens and tilling battens, in new and existing domestic or non-domestic buildings.

ASSESSMENT

Product description and intended use

The Certificate holder provided the following description for the product under assessment. HYBRIS for Pitched Roofs is a reflective insulation panel based on a honeycomb structure of shaped polyethylene foams interspersed with aluminium-coated foils, with 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^2)	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:

- tile or slated roof finish
- timber rafters/battens
- roof tile underlay
- additional insulation – if required
- stainless steel or galvanized steel staples
- 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 outcome 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 Pitched Roofs	Tensile strength parallel to faces to BS EN 1608 : 2013	Declared value Longitudinal > 45kPa Transverse > 30kPa	 Pass Pass
HYBRIS for Pitched Roofs	Resistance to tearing (nail shank) to BS EN 12310-1 : 2000	Declared value Longitudinal > 150 N Transverse > 150 N	 Pass Pass
ACTIS HYBRIS Tape adhered to HYBRIS for Pitched Roofs *Front foil facer – copper coloured*	Peel strength to BS EN ISO 11339 : 2010	Value achieved	28 N·(100 mm)$^{-1}$

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 Pitched Roofs	BS EN 13501-1 : 2018(1)	Declared value	F

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

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

2.1.3 In England, the product, when used in roof pitches greater than 70°, must not be used on residential buildings with a storey 11 m or more in height, or on any building with a storey 18 m or more in height.

2.1.4 In Wales and Northern Ireland, the product, when used in roof pitches greater than 70°, must not be used on buildings with a storey 18 m or more in height.

2.1.5 In Scotland, the use of the product is unrestricted with respect to building height and proximity to a relevant boundary. However, restrictions on the overall construction may apply, depending on the reaction to fire classification achieved by the built-up system, which must be established on a case by case basis.

2.1.6 Designers must refer to the relevant national Building Regulations and guidance for detailed conditions of use, particularly in respect of requirements for substrate fire performance, 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

The product must be contained by a fire-resistant lining board manufactured in accordance with BS EN 520 : 2004, with joints fully sealed.

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 Pitched Roofs *Total product*	BS EN 1931 : 2000	Declared value >90 m	Pass
HYBRIS for Pitched Roofs *Outer foil, inner film and core foam*	BS EN 1931 : 2000	Value achieved	55 m
HYBRIS for Pitched Roofs *Inner foil*	BS EN 1931 : 2000	Value achieved	42 m

3.1.2 On the basis of data assessed, for the purposes of assessing the risk of interstitial condensation, the equivalent air thickness may be taken as stated in Table 4.

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 and the results are given in Table 5.

Table 5 Indoor air concentrations

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

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 Pitched Roofs	Thermal resistance to BS EN ISO 22097 : 2023 and declared to90/90 Fractal and rounding to BS EN 16863 : 2023	Declared value - R_D	50 mm = 1.50 $m^2 \cdot K \cdot W^{-1}$ 60 mm = 1.80 $m^2 \cdot K \cdot W^{-1}$ 75 mm = 2.25 $m^2 \cdot K \cdot W^{-1}$ 90 mm = 2.75 $m^2 \cdot K \cdot W^{-1}$ 105 mm = 3.20 $m^2 \cdot K \cdot W^{-1}$ 125 mm = 3.80 $m^2 \cdot K \cdot W^{-1}$ 140 mm = 4.25 $m^2 \cdot K \cdot W^{-1}$ 155 mm = 4.70 $m^2 \cdot K \cdot W^{-1}$ 170 mm = 5.15 $m^2 \cdot K \cdot W^{-1}$ 185 mm = 5.65 $m^2 \cdot K \cdot W^{-1}$ 195 mm = 5.95 $m^2 \cdot K \cdot W^{-1}$ 205 mm = 6.25 $m^2 \cdot K \cdot W^{-1}$ 220 mm = 6.70 $m^2 \cdot K \cdot W^{-1}$ 235 mm = 7.15 $m^2 \cdot K \cdot W^{-1}$ 250 mm = 7.60 $m^2 \cdot K \cdot W^{-1}$

6.2 Conservation of fuel and power

6.2.1 The U value of a completed roof will depend on the thickness of insulation used, and the insulating value of other roof components/layers. Example U values are given in Table 7.

Table 7 Example U values — pitched roof (1)

Target U value ($W \cdot m^{-2} \cdot K^{-1}$)	Insulation thickness (mm)
0.09	140 mm HYBRIS for Pitched Roofs and 150 mm additional insulation(2)
0.11	140 mm HYBRIS for Pitched Roofs and 110 mm additional insulation(2)
0.12	140 mm HYBRIS for Pitched Roofs and 90 mm additional insulation(2)
0.13	140 mm HYBRIS for Pitched Roofs and 80 mm additional insulation(2)
0.15	140 mm HYBRIS for Pitched Roofs and 60 mm additional insulation(2)
0.16	140 mm HYBRIS for Pitched Roofs and 50 mm additional insulation(2)
0.18	140 mm HYBRIS for Pitched Roofs and 35 mm additional insulation(2)
0.20	140 mm HYBRIS for Pitched Roofs and 25 mm additional insulation(2)

(1) Pitched roof construction (external to internal) — concrete tiles on 25 mm timber tile battens forming a ventilated air space, low-resistance (LR) breather membrane, 140 mm thick HYBRIS for Pitched Roofs between 47 mm by 150 mm timber rafters (12.8%; $\lambda = 0.13\ W \cdot m^{-1} \cdot K^{-1}$), 10 mm low-e air cavity, additional insulation, AVCL and 12.5 mm plasterboard ($\lambda = 0.25\ W \cdot m^{-1} \cdot K^{-1}$).

(2) Additional insulation - foil faced ($\varepsilon_D = 0.05$) with a thermal conductivity of $\lambda_D = 0.022\ W \cdot m^{-1} \cdot K^{-1}$.

6.2.2 The product can contribute towards a construction satisfying the national Building Regulations in respect of energy economy and heat retention.

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

6.2.4 The product has a nominal heat capacity value of 2065 $J \cdot kg^{-1} \cdot K^{-1}$.

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 Pitched Roofs *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 Pitched Roofs *Front foil facer – Copper coloured*	Aged emissivity to BS EN ISO 22097 : 2023 Annex D and declared to 90/90 fractal	Declared value - ε_D	0.06
HYBRIS for Pitched Roofs *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 - ε_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 Roofs must be designed and constructed in accordance with the relevant clauses of BS 5250 : 2021, BS 5534 : 2014, BS 8212 : 1995, and BS EN 1995-1-1 : 2004 and its UK National Annex.

9.1.3 Design wind loading will depend largely on the building geometry and its geographical location and must be calculated by a suitably experienced and competent individual in accordance with BS EN 1991-1-4 : 2005 and its UK National Annex. Snow loadings must be calculated in accordance with BS EN 1991-1-3 : 2003 and its UK National Annex.

9.1.4 The Certificate holder and fixing manufacturer must advise on the use of the correct proprietary fixings and fixing capacity, but such advice and fixings are outside the scope of this Certificate. 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.

9.1.5 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.

9.1.6 It is essential that detailing and jointing of the boards achieves a convection-free envelope of high vapour resistance. Any gaps must be filled and/or taped. Ridges, abutments and penetrations must also be sealed. Flue pipes passing through the insulation must be suitably sleeved.

9.1.7 A ventilated air space of minimum depth 25 mm may be required between the underside of the roof tile underlay (at the lowest point of the maximum allowable 15 mm drape) and the upper face of the insulation board, dependent on the specification of the roof tile underlay used (see section 9.1.10).

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 a suitably experienced and competent electrician.

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

9.1.10 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

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

9.1.12 When installed with tightly butted joints and filled/sealed gaps and joints, the product will provide a continuous convection-free envelope of high vapour resistance. Therefore, a suitable vapour-permeable (low resistance - LR) roof tile underlay may be laid over the insulation boards without ventilated air space, unless the tiles/slates are tight fitting as defined in BS 5250 : 2021. When using a high resistance (HR) underlay, the space below it must be ventilated in accordance with BS 5250 : 2021, with a minimum 25 mm air gap between the top of the insulation board and the lowest point of the maximum allowable 15 mm roof underlay drape.

9.1.13 Where the product is installed in a roof with either a horizontal or sloping ceiling (ie room-in-the-roof), a 'warm roof' space is created, and ventilation must be designed in accordance with BS 5250 : 2021. However, any insulation in a horizontal ceiling must be removed.

9.1.14 Where high humidity may be expected, an AVCL with sealed and lapped joints, must also be installed unless a site-specific condensation risk analysis in accordance with BS 5250 : 2021 indicates otherwise.

Surface condensation

9.1.15 In England and Wales, roofs will adequately limit the risk of surface condensation when the thermal transmittance (U value) does not exceed 0.35 $W \cdot m^{-2} \cdot K^{-1}$ at any point, and the junctions with walls are designed in accordance with section 9.1.10 of this Certificate.

9.1.16 In Scotland, roofs will adequately limit the risk of surface condensation when the thermal transmittance (U value) does not exceed 1.2 $W \cdot m^{-2} \cdot K^{-1}$ at any point. Guidance may be obtained from BS 5250 : 2021. Further guidance may be obtained from BRE Report BR 262 : 2002 and section 9.1.10 of this Certificate.

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 is provided in Annex A of this Certificate.

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

9.3 Workmanship

Practicability of installation was assessed by the BBA, on the basis of the 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 a contractor, experienced with this type of product.

9.4 Maintenance and repair

Once installed, provided that the roof tiles/slates are maintained in a weathertight condition, 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 has 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 rafter, 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 rafter.

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.

A.1.6 The additional insulation should then be installed, directly to the underside of the timber rafters and secured by the appropriate number and type of fixings.

A.1.7 Timber battens can also be used to secure the additional insulation if required.

A.1.8 An AVCL must then be installed following the manufacturer's instructions.

A.1.9 A fire resistant lining board should then be installed following the manufacturer's instructions (see Figures 1 and 2).

Figure 1 Typical pitched roof

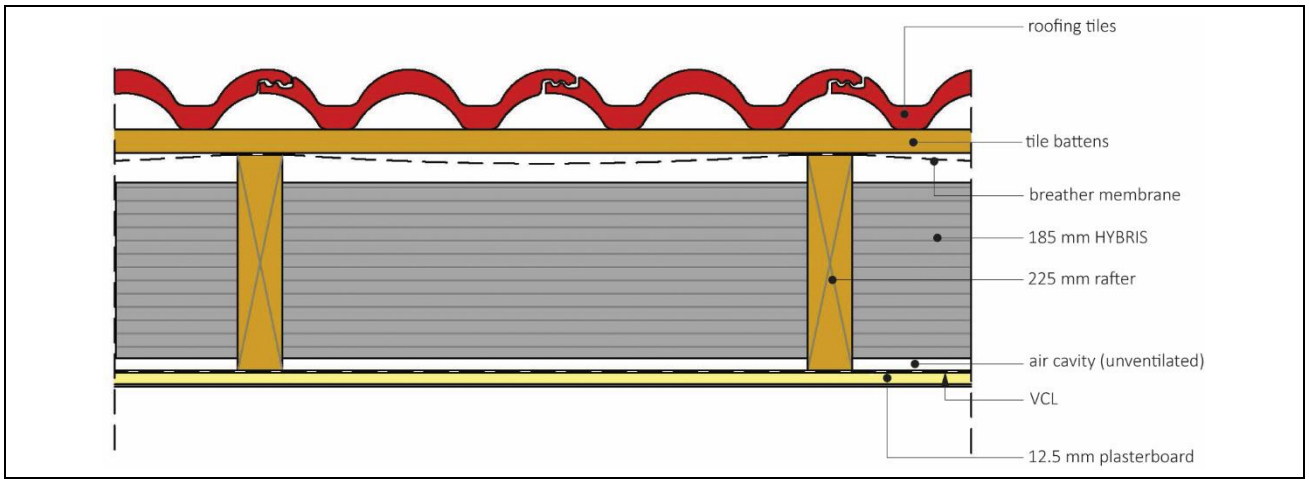
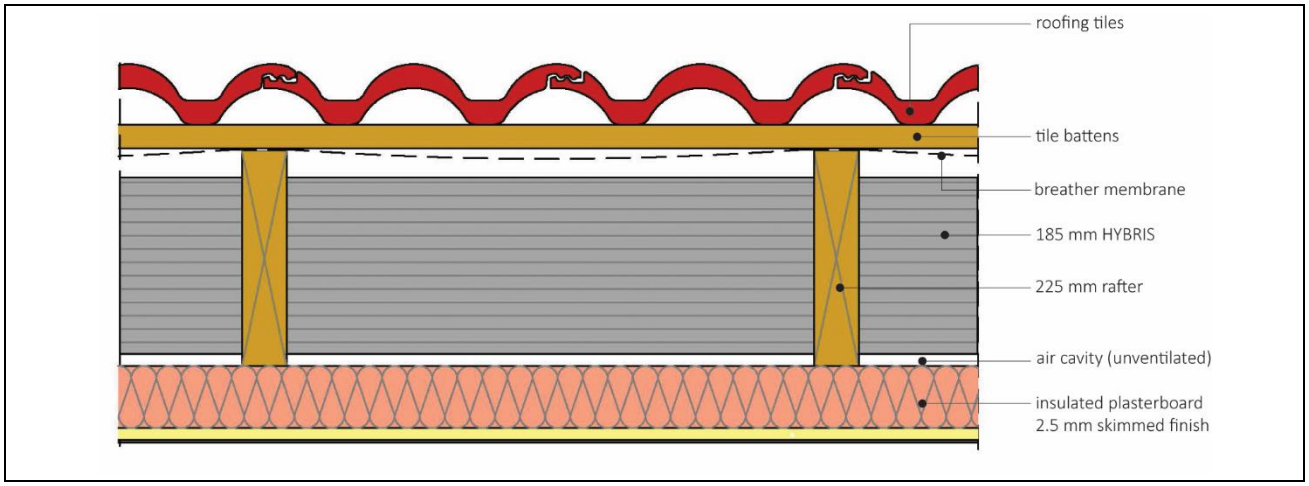


Figure 2 Typical pitched roof with additional insulation to the underside of the rafter



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