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Agrément Certificate 25/7433
Product Sheet 1 Issue 1

SAINT GOBAIN CONSTRUCTION PRODUCTS UK LIMITED

I-ROOF CASSETTES SYSTEMS

This Agrément Certificate Product Sheet(1) relates to I-Roof Cassettes Systems, comprising factory fabricated insulated timber roof, gable and party wall panels, for use in new dwellings up to 2½ storeys, with roof pitches from 37.5 to 50°.

(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 systems described herein. These systems 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 issue: 1 July 2025

Hardy Giesler
Chief Executive Officer

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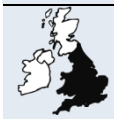
SUMMARY OF ASSESSMENT AND COMPLIANCE

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 I-Roof Cassettes Systems 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:	**A1**	**Loading**
Comment:		The systems can contribute to satisfying this Requirement. See section 1 of this Certificate.
Requirement:	**A3**	**Disproportionate collapse**
Comment:		The systems can contribute to satisfying this Requirement. See section 1 of this Certificate.
Requirement:	**B3(1)**	**Internal fire spread (structure)**
Comment:		The systems, with appropriate lining, can achieve adequate fire resistance. See section 2 of this Certificate.
Requirement:	**B3(4)**	**Internal fire spread (structure)**
Comment:		The systems can contribute to satisfying this Requirement. See section 2 of this Certificate.
Requirement:	**C2(c)**	**Resistance to moisture**
Comment:		The systems can adequately limit the risk of condensation. See section 3 of this Certificate.
Requirement:	**E1**	**Protection against sound from other parts of the building and adjoining buildings**
Comment:		The systems can contribute to satisfying this Requirement. See section 5 of this Certificate.
Requirement:	**L1(a)(i)**	**Conservation of fuel and power**
Comment:		The systems 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 systems are acceptable. See sections 8 and 9 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 systems can contribute to satisfying these Regulations; however, compensating fabric/service measures will be required. See section 6 of this Certificate.

The Building (Scotland) Regulations 2004 (as amended)

Regulation:	**8(1)(2)**	**Fitness and durability of materials and workmanship**
Comment:		The systems are acceptable. See sections 8 and 9 of this Certificate.
Regulation:	**9**	**Building standards – construction**
Standard:	1.1(a)	Structure
Comment:		The systems can contribute to satisfying this Standard, with reference to clauses 1.1.1(1), 1.1.2(1) and 1.1.3(1). See section 1 of this Certificate.
Standard:	1.2	Disproportionate collapse
Comment:		The systems can contribute to satisfying this Standard, with reference to clause 1.2.1(1). See section 1 of this Certificate.
Standard:	2.2	Separation
Comment:		The systems, with appropriate linings, can achieve adequate fire resistance, with reference to clauses 2.2.1(1), 2.2.6(1) and 2.2.10(1) of this Standard. See section 2 of this Certificate.
Standard:	2.3	Structural protection
Comment:		The systems, with appropriate linings, can achieve adequate fire resistance, with reference to clause 2.3.1(1) of this Standard. See section 2 of this Certificate.
Standard:	2.4	Cavities
Comment:		The systems can contribute to satisfying this Standard, with reference to clause 2.4.2(1). See section 2 of this Certificate.
Standard:	2.6	Spread to neighbouring buildings
Comment:		The systems can contribute to satisfying this Standard, with reference to clauses 2.6.1(1) and 2.6.5(1). See section 2 of this Certificate.
Standard:	3.15	Condensation
Comment:		The systems can adequately limit the risk of condensation, with reference to clauses 3.15.1(1), 3.15.4(1), 3.15.5(1) and 3.15.7(1) of this Standard. See section 3 of this Certificate.
Standard:	5.1	Noise separation
Comment:		The systems can contribute to satisfying this Standard, with reference to clause 5.1.2(1). See section 5 of this Certificate.
Standard:	6.1(b)(c)	Energy demand
Comment:		The systems can contribute to satisfying this Standard, with reference to clause 6.1.1(1); however, compensating fabric and/or service measures will be required. See section 6 of this Certificate.
Standard:	6.2	Building insulation envelope
Comment:		The systems can contribute to satisfying this Standard, with reference to clauses 6.2.1(1), 6.2.3(1) and 6.2.8(1); however, compensating fabric measures will be required. See section 6 of this Certificate.
Standard:	7.1(a)(b)	Statement of sustainability
Comment:		The systems can contribute to satisfying the relevant requirements of Regulation 9, Standards 1 to 6, and therefore will contribute to a construction meeting at least a bronze level of sustainability as defined in this Standard. In addition, the systems 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) and 7.1.7(1). See section 6 of this Certificate.

(1) Technical Handbook (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 systems are acceptable. See sections 8 and 9 of this Certificate.
Regulation:	**29**	**Condensation**
Comment:		The systems can adequately limit the risk of interstitial condensation. See section 3 of this Certificate.
Regulation:	**30**	**Stability**
Comment:		The systems can contribute to satisfying this Standard. See section 1 of this Certificate.
Regulation:	**31**	**Disproportionate collapse**
Comment:		The systems can contribute to satisfying this Standard. See section 1 of this Certificate.
Regulation:	**35(1)(2)**	**Internal fire spread – structure**
Comment:		Roofs constructed from the systems, with appropriate lining, can achieve adequate fire resistance. See section 2 of this Certificate.
Regulation:	**35(4)**	**Internal fire spread – structure**
Comment:		The systems can contribute to satisfying this Regulation. See section 2 of this Certificate.
Regulation:	**39(a)(i)**	**Conservation measures**
Comment:		The systems 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:	**43B**	**Nearly zero-energy requirements for new buildings**
Comment:		The systems can contribute to satisfying these Regulations. See section 6 of this Certificate.
Regulation:	**49**	**Protection against sound from other parts of the building and from adjoining buildings**
Comment:		The systems can contribute to satisfying this Regulation. See section 5 of this Certificate.

Additional Information

NHBC Standards 2025

In the opinion of the BBA, I-Roof Cassettes Systems, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards*, Part 2, Chapter 2.1 *The Standards and Technical Requirements, R3 Materials requirement, Proprietary Building Systems* R3a iv.

The opinion of the BBA does not amount to any endorsement or approval by NHBC and does not in any way guarantee that NHBC will approve such product / system as compliant with the NHBC Technical Requirements and Standards.

Fulfilment of Requirements

The BBA has judged I-Roof Cassettes Systems to be satisfactory for use as described in this Certificate. The systems have been assessed as a factory fabricated insulated timber roof, gable and party wall panel system, for use in new dwellings up to 2½ storeys , with roof pitches from 37.5 to 50°.

ASSESSMENT

Product description and intended use

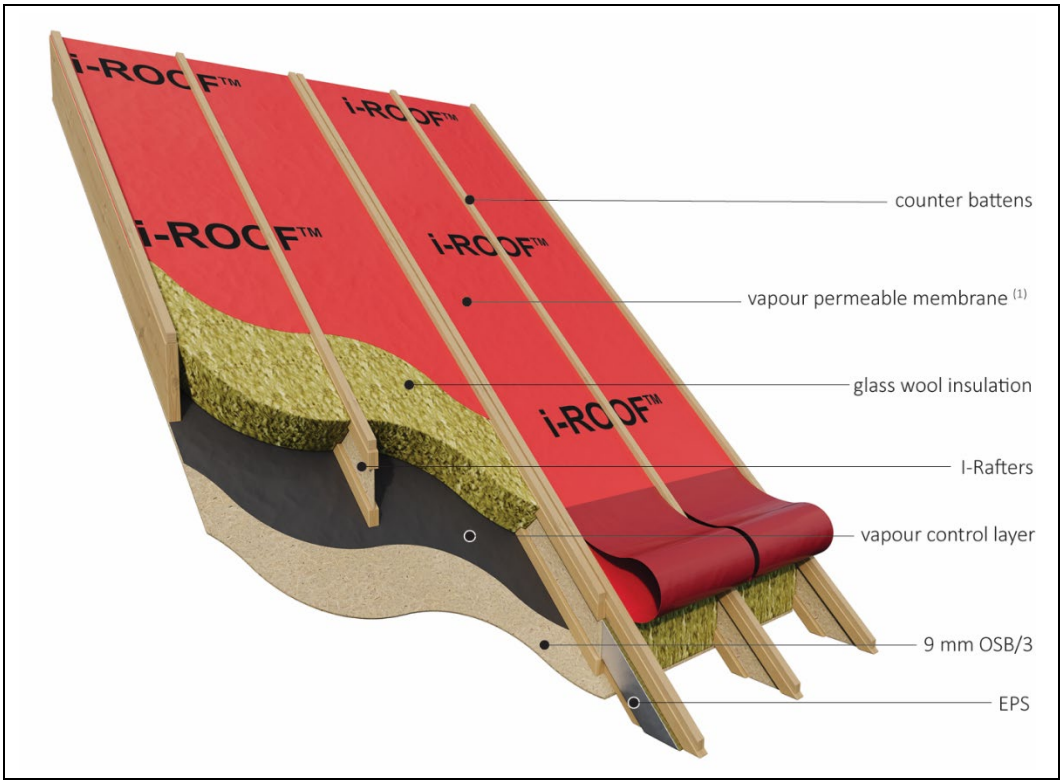
The Certificate holder provided the following description for the systems under assessment. I-Roof Cassettes Systems consist of the components detailed in Tables 1 to 3 and as shown in Figures 1 to 3.

Table 1 Roof cassettes(1) composition

Component	Description/specification
Counter battens	Treated Type A 25 by 3 8mm or 45 x 38 mm at 600 mm centres
Vapour permeable membrane(2)(3)	To BS EN 13859-2 : 2014
I-Rafters	195 or 245 mm deep at 600 mm centres (9 mm OSB/3 webs and 47 mm wide by 45 mm deep, C24 timber flanges)
Insulation	Glass wool to BS EN 13162 : 2012 to rafter cavity: Isover Frame Roll 35, or Isover Cladding Roll 37, or Isover Cladding Roll 40 EPS 100 to BS EN 13163 : 2012 to side rafter webs, flush with flanges
Vapour control layer (VCL)	125 µm polyethylene (500 gauge)
Lining	9 mm OSB/3 board to BS EN 300 : 2006
Fixings	2.8 x 50 mm galvanized annular ring shank nails 25/64 mm Flt A /Wire G/Ring 3.1 x 90 mm FAWGSC Coil Nails 4.5 x 80 CSK YELLOW Screws 5 x 90 mm Klimas Countersunk Woodscrew TX Drive 8 mm stainless steel staples 680 crown
Cassette thickness	229 or 279 mm deep (without tiles/slates/tiling-laths or plasterboard)
Cassette width	Typically 2.4 m wide but available from 1.2 to 3 m wide
Cassette length	Any transportable length subject to design and manufacture criteria, lifting limitation, hoisting and transport restrictions

(1) The cassettes may incorporate openings for roof windows and dormers. Such cassettes are fully trimmed with appropriate integral lintels, where required.
(2) Outside the scope of this Certificate.
(3) The vapour permeable membrane maintains the insulation in place and protects against moisture during transport and installation and remains in place. Once the cassettes are installed, a roof tile underlay must be installed.

Figure 1 I-Roof Cassette Systems



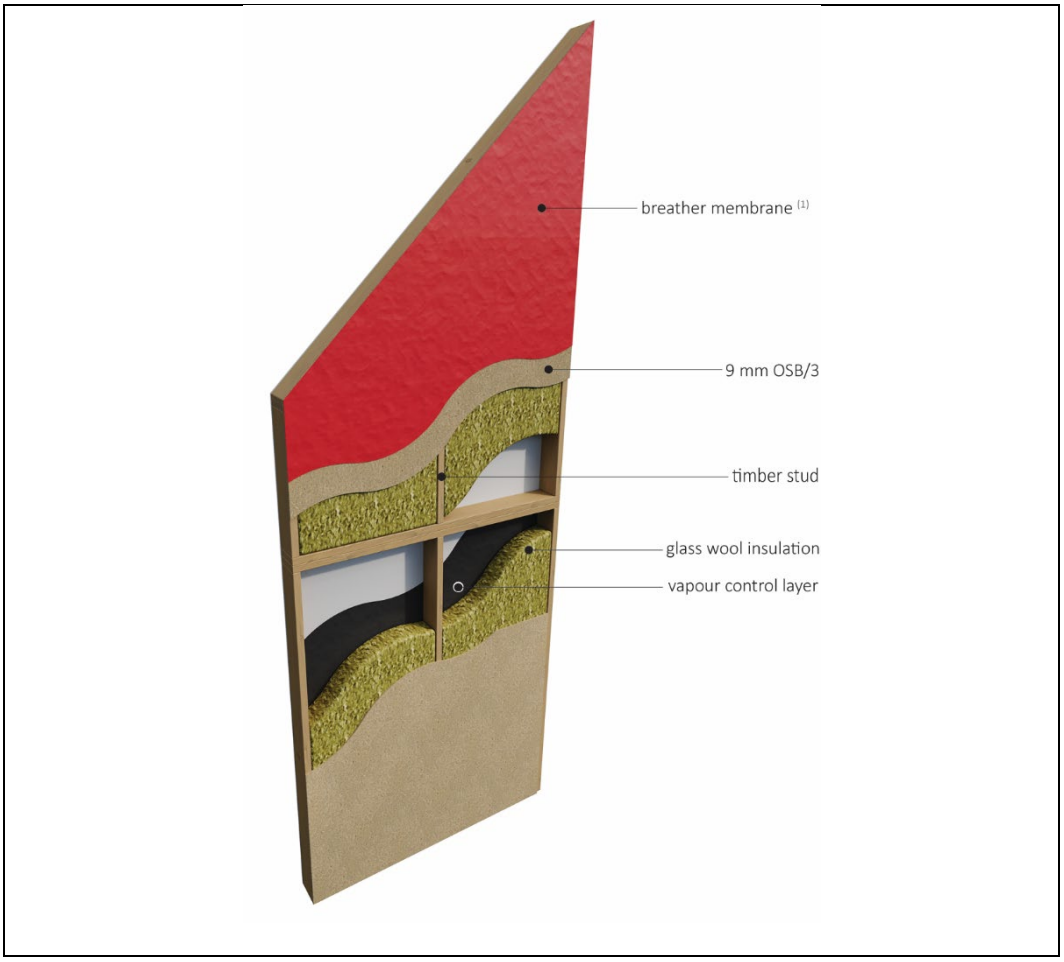
(1) Outside the scope of this Certificate.

Table 2 Spandrel panel compositions

Component	Description/specification	
	Gable wall(1)	Compartment wall leaf(1)
Breather membrane(2)	BS EN 13859-2 : 2014	BS EN 13859-2 : 2014
Sheathing	9 mm OSB/3 board to BS EN 300 : 2006	
Studs (solid)	C16 timber 38 mm x 140 mm	C16 timber 38 mm x 89 mm
Insulation (lower spandrel panel)	140 mm glass wool Isover Frame Roll 35, or Isover Cladding Roll 37, or Isover Cladding Roll 40 to BS EN 13162 : 2012	90 mm Isover Frame Roll 35 glass wool between studs
Insulation (upper spandrel panel)	n/a(3), or 140 mm glass wool Isover Frame Roll 35, or Isover Cladding Roll 37, or Isover Cladding Roll 40 to BS EN 13162 : 2012	90 mm Isover Frame Roll 35 glass wool between studs
Vapour control layer	125 µm polyethylene (500 gauge)	
Panel dimensions	Delivered as assembled lower panel (below loft floor level) and an upper panel (above loft floor level)	

(1) The lower spandrel panels include a minimum of 3 x studs to support purlins. For party walls, one leaf incorporates a 75 mm mineral wool quilt (Isover Frame Roll 35) retained in place with a breather membrane, which is released once both panels are installed.
(2) Outside the scope of this Certificate.
(3) In some cases, where the horizontal ceiling is not insulated, the upper gable wall panels include the same insulation as for the lower panels. The upper spandrel panel (top hat) is always insulated a minimum of 600 mm up, but in most cases fully insulated to ridge.

Figure 2 The spandrel panel for the I-Roof Systems



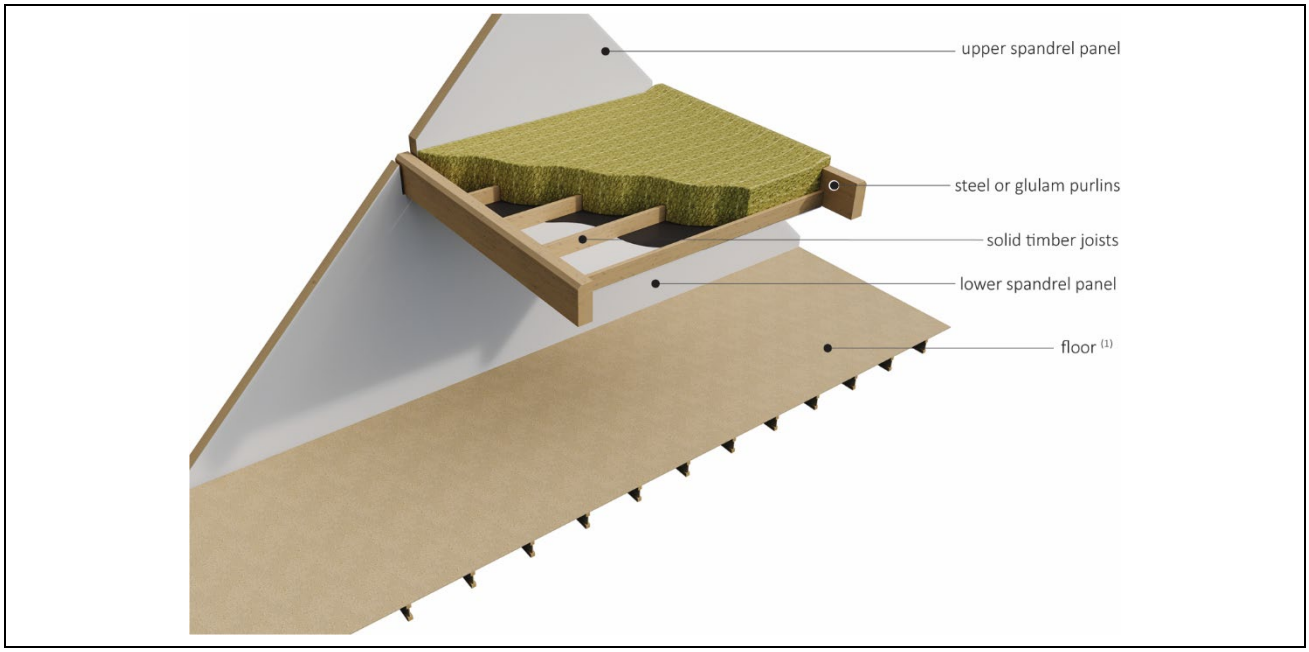
(1) Outside the scope of this Certificate

Table 3 Horizontal ceiling composition(1)

Component	Description/specification
Joists (solid)	C16 timber 47 mm by 97, 122, 147, 172, 197 or 222 mm typically at 600 mm centres

(1) VCL, plasterboard and loft insulation are applied by others; also see footnote 3 in Table 2 of this Certificate. The loft is not accessible.

Figure 3 The attic floor of I-Roof Systems



(1) Outside the scope of this Certificate.

Ancillary Items

The following ancillary items are essential to use with the systems and have been assessed with the systems:

- glulam beams — manufactured in accordance with EN 14080 : 2013 and mechanically graded in accordance with EN 14081-3 : 2022
- steel beams — to EN 10025-2 : 2019
- ridge beam — steel beam (to single ridge design) to EN 10025-2 : 2019 or glulam beam manufactured in accordance with EN 14080 : 2018 and mechanically graded in accordance with EN 14081-3 : 2022 or C16 timber in accordance with BS EN 338 : 2016
- Klimas screws ETA-18/0817
- annular ring shank nails
- ceiling joists or tie-bars where required by calculation.

The Certificate holder recommends the following ancillary items for use with the systems, but these materials have not been assessed by the BBA and are outside the scope of this Certificate:

- plasterboard — Type A or F to BS EN 520 : 2004
- vapour permeable roof tile underlay membrane (for roof panels) — to BS 5250 : 2021 minimum W2 class and vapour resistance $\leq$ 0.25 MN·s·g^{-1}
- breather membrane (for wall panels) — minimum W2 class and vapour resistance $\leq$ 0.6 MN·s·g^{-1}
- eaves insulator — Class A1 to EN 13501-1 : 2018
- fascia vents — Class A1 to EN 13501-1 : 2018
- cavity stop sock — complies with BS 476-20 : 1987 and BS EN 1366-4 : 2006
- soffit slab — Class A1 to EN 13501-1 : 2018 in accordance with BS EN 13162 : 2012
- spandrel barrier — complies with BS 476-20 : 1987 and BS EN 1366-4 : 2006
- T Barrier masonry — complies with BS 476-20 : 1987 and BS EN 1366-4 : 2006
- T Barrier pitched roof — complies with BS 476-20 : 1987 and BS EN 1366-4 : 2006
- tile batten barrier — Class A1 to EN 13501-1 : 2018 in accordance with BS EN 13162 : 2012
- VCL to underside of flat ceiling
- ventilated tiles — Class A1 to EN 13501-1 : 2018.

Applications

The systems are intended for use in new dwellings up to 2½ storeys:

- as a structural roof system and a non-loadbearing wall system
- where the roof cassette and wall panel systems are designed and fitted as a complementary unitary solution
- supported on steel or glulam beams
- for use with a conventional timber laths and tile or slate roof finish
- for use with masonry outer leaves to the gable wall panel.

Product assessment – key factors

The systems were 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 Structural performance

The cassettes and panels are designed in accordance with BS EN 1995-1-1 : 2004 and BS EN 1995-1-2 : 2004, and their UK National Annexes, taking into account the known performance of the timber studs and I-Rafter and composite action of the timber stud or I-Rafter and OSB sheathing. The Certificate holder, or their appointed engineer, maintains design responsibility for the systems including roof cassettes and spandrel panels. Roof cassettes are designed to span from eaves-to-ridge, supported on steel or glulam purlins spanning between spandrel panels.

2 Safety in case of fire

Data were assessed for the following characteristics.

2.1 Resistance to fire

2.1.1 Results of resistance to fire testing and assessment are given in Table 4.

Table 4 Resistance to fire (REI)

System assessed	Assessment method/Report reference	Construction build	Result
Example system with steel ridge beam or steel purlins	BS EN 1995-1-2 : 2004/ Milner Associates 23123-MA-XX-RP-S-1001 first issue(1)	Variants A and B as described in the Assessment Report(1)(2)	REI 30 minutes (gable wall spandrel) REI 60 minutes (party wall spandrel)
Example system with Glulam purlins	BS EN 1995-1-2 : 2004/ Milner Associates 21110-TN01-290621-P01 dated 18 August 2021(1)	As described in the Assessment Report(1)(3)	REI 60 minutes (party wall spandrel)

(1) Designers must refer to the Assessment Report (copies available from the Certificate holder on request) for full details of the constructions assessed.
(2) Variant A – steel purlins (5 cripple studs), Variant B – steel ridge beam (6 cripple studs). The party wall spandrel has 2 x 12.5 mm Type F plasterboard and, for the upper panel, on both sides. Gable wall spandrel, tied to a masonry outer leaf, has 1 x 15 mm Type A plasterboard to lower panel and 1 x 12.5 mm Type F plasterboard to upper panel.
(3) Party wall spandrel (7 cripple studs), 2 x 12.5 mm Fireline and minimum 1 x 12.5 mm Type A or F plasterboard extending at least 80 mm from inside face of each wall at purlin location. Gable wall spandrel panel (8 cripple studs) 1 x 15 mm Type A plasterboard.

2.1.2 On the basis of the data assessed, the constructions in Table 4 can satisfy the requirements of the national building Regulations. For constructions other than those in Table 4, the resistance to fire must be confirmed by a suitably experienced and competent individual and with reference to the requirements of the documents supporting the national Building Regulations.

2.1.3 Designers must ensure that any services or penetrations do not reduce the required periods of resistance to fire.

2.2 Reaction to fire

2.2.1 Results of reaction to fire classifications are given in Table 5.

Table 5 Reaction to fire classifications

Component assessed	Assessment method	Requirement	Result
			Classification reference
OSB/3 sheathing board	BS EN 13986 : 2004	Value achieved	D-s2, d0
Isover mineral wool	BS EN 13501-1 : 2018	Value achieved	A1
EPS	BS EN 13501-1 : 2018	Value achieved	E

2.1.2 On the basis of data assessed, in Scotland, the gable wall system must not be used 1 m or less from a relevant boundary, unless the external wall cladding is constructed from products that achieve reaction to fire classification A1 or A2, and requirements for fire resistance and unprotected areas are met.

3 Hygiene, health and the environment

Data were assessed for the following characteristics.

3.1 Water vapour permeability

Results of water vapour permeability assessments are given in Table 6.

Table 6 Water vapour resistance and resistivity

Component assessed	Assessment method	Requirement	Result	
			Vapour resistance ($MN \cdot s \cdot g^{-1}$)	Vapour resistivity ($MN \cdot s \cdot g^{-1} \cdot m^{-1}$)
EPS	BS EN 13162 : 2012	Declared value	—	150 to 350
Isover Cladding Roll 40	BS EN 13162 : 2012	Declared value	—	5.0
Isover Cladding Roll 37	BS EN 13162 : 2012	Declared value	—	5.0
Isover Timber Frame Roll 35	BS EN 13162 : 2012	Declared value	—	5.0
125 µm polyethylene	BS 5250 : 2021	Design value	250	—
OSB/3 sheathing and I-joist webs	BS EN ISO 10456 : 2007	Design value		
	(dry cup)		2.25	250
	(wet cup)		1.35	150

3.2 Condensation

3.2.2 The risk of surface condensation has been assessed in accordance with BS EN ISO 10211 : 2017 and BR 497 : 2016 and will be minimal within the main element areas and at junctions between roof and gable wall elements.

3.2.3 The example constructions shown in Figure 4 and Table 7 of this Certificate were analysed numerically to BS EN ISO 10211 : 2017 and BRE Report BR 497 : 2016 to determine the minimum surface temperature factor (fRsi), and the results are given in Table 7 of this Certificate.

Table 7 Minimum surface temperature factor (f_{Rsi}) – Example steel beam junctions

Junction assessed	Assessment method	Requirement	Result (f_{Rsi})
Variant A - roof cassette(1) to suspended ceiling(2) and intermediate steel purlin(3)	BS EN ISO 10211 : 2017 and BRE Report BR 497 : 2016	Value achieved	0.93
Variant A - roof cassette(1)(4) to suspended ceiling(2), with intermediate steel purlin(3) to purlin pocket(5) in gable spandrel panel(6)	BS EN ISO 10211 : 2017 and BRE Report BR 497 : 2016	Value achieved	0.82

(1) 245 mm I-Joists (λ = 0.13 W·m^{-1}·K^{-1}) at 600 mm centres, filled with 240 mm Isover Cladding Roll 37 (λ = 0.037 W·m^{-1}·K^{-1}). Roof cassettes laid in line with the 50 ° roof slope and finished internally with dense plasterboard (λ = 0.25 W·m^{-1}·K^{-1}) below plasterboard ceiling level. Insulation within cassette extends 600 mm above plasterboard ceiling level. Perpendicular
245 mm I-Joist at steel purlin position. A continuous 66 x 38 mm timber purlin (λ = 0.13 W·m^{-1}·K^{-1}) is fixed to the perpendicular 245 mm I-joist in the roof cassette, with one end cut back to suit the 50° roof slope and the timber section on top of the steel purlins.

(2) Horizontal ceiling formed from 47 x 120 mm timber joists (λ = 0.13 W·m^{-1}·K^{-1}) at 600 mm centres, fixed to continuous 47 x 120 mm timber joists (λ = 0.13 W·m^{-1}·K^{-1}), fixed in turn to the webs of the intermediate steel I-beam. 500 mm mineral wool insulation (λ = 0.044 W·m^{-1}·K^{-1}) loose laid above AVCL and 12.5 mm dense plasterboard ceiling (λ = 0.25 W·m^{-1}·K^{-1}). Plasterboard fixed to continuous 38 x 38 mm timber fillets at ceiling edges (λ = 0.13 W·m^{-1}·K^{-1}) and 38 x 25 mm battens (λ = 0.13 W·m^{-1}·K^{-1}) fixed to the underside of the timber joists.

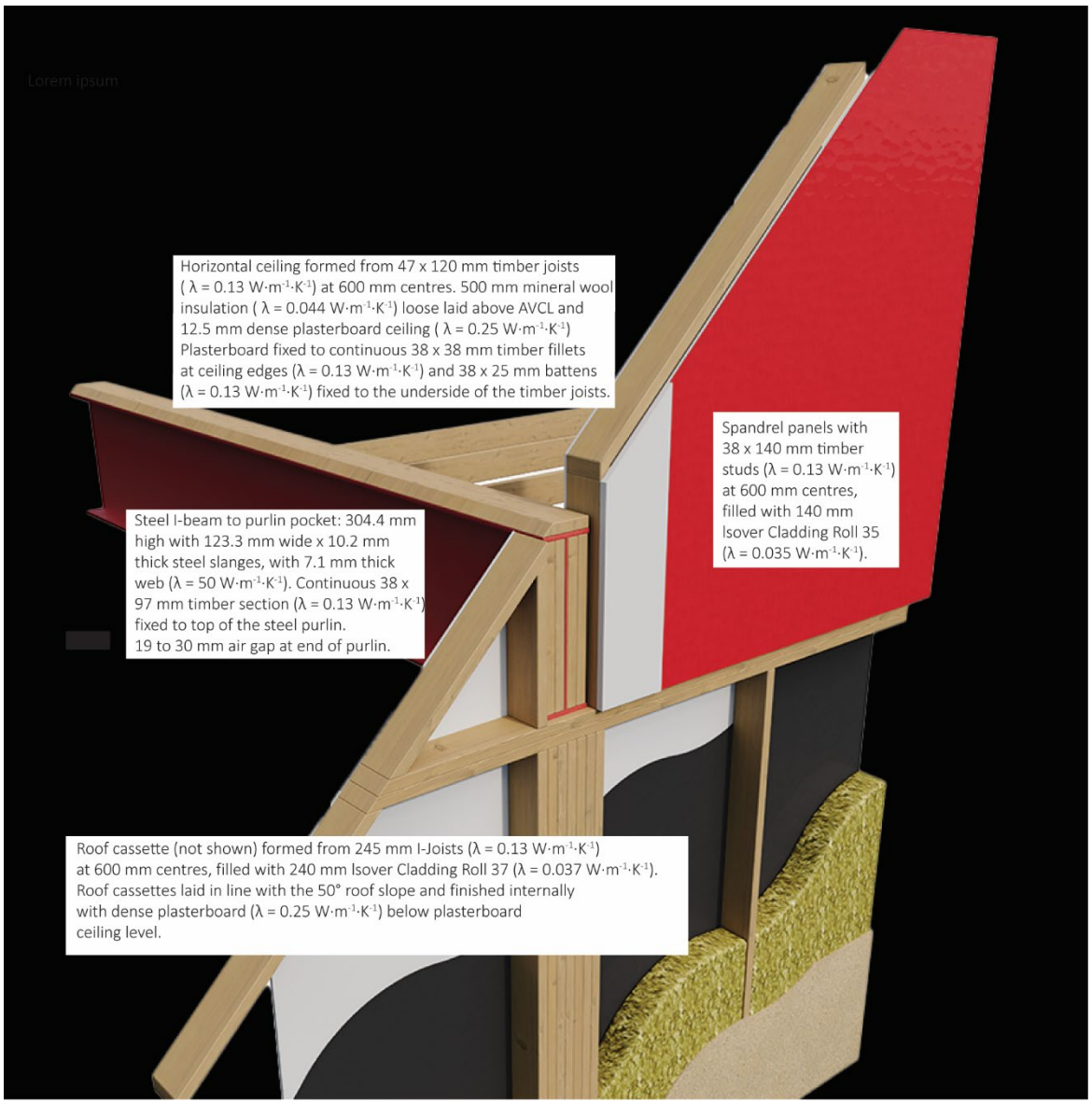
(3) Steel I-beam: 304.4 mm high with 123.3 mm wide x 10.2 mm thick steel flanges, with 7.1 mm thick web (λ = 50 W·m^{-1}·K^{-1}). Continuous 38 x 97 mm continuous timber section (λ = 0.13 W·m^{-1}·K^{-1}) with one side cut back to suit 50° roof slope, fixed to 66 x 38 mm timber purlin of roof cassette and to top of steel purlin.

(4) Gable end of roof cassette formed from 245 x 47 mm timber section, 600 mm from adjacent 245 mm I-Joist, connected with 97 x 47 mm timber sections at 600 mm centres, filled with 240 mm Isover Cladding Roll 37 (λ = 0.037 W·m^{-1}·K^{-1}).

(5) To upper spandrel. 151 mm wide with 38 x 140 mm timber studs (λ = 0.13 W·m^{-1}·K^{-1}) either side, and open at the top. Increasing in height from 304.4 to 431.4 mm high due to 50° roof slope. Steel purlin has timber sections fixed to I-Beam webs to allow a friction fit with the beam pocket, and the timber purlin above the I-beam continues to the end of the steel purlin. Gaps filled with intumescent foam. Two layers of plasterboard fixed to internal face of purlin pocket once steel purlin in position, with 19 to 30 mm uninsulated air gap between the end of the steel purlin and the external 9 mm OSB board of the spandrel.

(6) Upper and lower spandrel panels (see Table 11) with 38 x 140 mm timber studs (λ = 0.13 W·m^{-1}·K^{-1}) at 600 mm centres, filled with 140 mm Isover Cladding Roll 35 (λ = 0.035 W·m^{-1}·K^{-1}), running the full height of the gable wall (excluding the purlin pocket). Spandrels finished internally with an AVCL and 12.5 mm dense plasterboard (λ = 0.25 W·m^{-1}·K^{-1}), and externally finished with 9 mm OSB/3 with a low emissivity vapour permeable membrane (ε = 0.05) to external 102.5 mm brickwork (λ=0.77 W·m^{-1}·K^{-1}) with a 101 mm vented air cavity (R = 0.665 m²W·K).

Figure 4 Purlin/gable-wall junction (3D cutaway perspective)



3.2.4 On the basis of the data assessed, the systems can adequately limit the risk of surface condensation.

4 Safety and accessibility in use

Not applicable.

5 Protection against noise

Data were assessed for the following characteristics.

5.1 Resistance to airborne sound

5.1.1 Results of resistance to airborne sound transmission tests are given in Table 8.

Table 8 Resistance to airborne sound transmission

Product assessed	Assessment method	Requirement	Result
Party wall[1] and flanking roof cassettes[2]	BS EN ISO 140-4 : 1998 and BS EN ISO 717-1 : 1997	$D_{nT,w}$ ($C;C_{tr}$) $\geq$ 45 dB[2] $D_{nT,w}$ $\geq$ 56 dB[3]	Pass Pass

(1) Party wall composition as described in Table 2.
(2) England, Wales and Northern Ireland.
(3) Scotland.

5.1.2 On the basis of the data assessed, the systems can satisfy the relevant requirements of the national building Regulations but are subject to pre-completion testing or relevant Robust Details registration in accordance with the relevant national building Regulations.

5.1.3 The party wall systems may also be acceptable as flanking elements to certain party wall constructions below the room-in-roof, as described in the Robust Details Ltd Handbook.

6 Energy economy and heat retention

Data were assessed for the following characteristics.

6.1 Thermal conductivity

Results of thermal conductivity tests are given in Table 9.

Table 9 Thermal conductivity

Component assessed	Assessment method	Requirement	Result ($W \cdot m^{-1} \cdot K^{-1}$)
Isover Cladding Roll 40	BS EN 13162 : 2012	Declared value	0.040
Isover Cladding Roll 37	BS EN 13162 : 2012	Declared value	0.037
Isover Timber Frame Roll 35	BS EN 13162 : 2012	Declared value	0.035
EPS100 (I-Rafter web insulation)	BS EN 13163 : 2012	Declared value	0.030
Timber flanges	BS EN ISO 10456 : 2007	Design value	0.13
OSB/3 sheathing and I-rafter webs	BS EN ISO 10456 : 2007	Design value	0.13

6.2 Thermal performance

6.2.1 Results of example thermal transmittance (U-value) calculations are given in Tables 10 and 11.

Table 10 Example U-values for roof cassettes[1]

Component assessed	Assessment method	Requirement	Result ($W \cdot m^{-2} \cdot K^{-1}$)		
			Insulation conductivity ($W \cdot m^{-1} \cdot K^{-1}$)		
			0.035	0.037	0.040
Roof – 245 mm I-Rafters[2]	BS EN ISO 6946 : 2017 and BRE Report BR 443 : 2019	Value achieved	0.15	0.15	0.16
Roof – 195 mm I-Rafters		Value achieved	0.18	0.19	0.20

(1) Calculations include 2.4 m wide roof cassettes (see Table 1), with five I-Rafters, one layer of 12.5 mm plasterboard (λ = 0.25 $W \cdot m^{-1} \cdot K^{-1}$ and an external surface resistance (R_{se} = 0.10 $m^2 \cdot K \cdot W^{-1}$) above the cassette breather membrane.
(2) Insulation thickness 240 mm.

Table 11 Example U-values for gable wall panels(1)

Component assessed	Assessment method	Requirement	Result ($W \cdot m^{-2} \cdot K^{-1}$)		
			Insulation conductivity ($W \cdot m^{-1} \cdot K^{-1}$)		
			0.035	0.037	0.040
Wall – 140 mm studs	BS EN ISO 6946 : 2017 and BRE Report BR 443 : 2019	Value achieved	0.25	0.25	0.27

(1) Calculations include 102.5 mm brick work (λ=0.77 $W \cdot m^{-1} \cdot K^{-1}$), a 50 mm vented cavity, a low emissivity breather membrane (ε = 0.05), a gable wall panel (see Table 2) with a timber fraction of 6.5% and one layer of 15 mm plasterboard (λ = 0.25 $W \cdot m^{-1} \cdot K^{-1}$).

6.2.2 Where thermal insulation is applied horizontally(1) over the attic space floor(1), the roof cassette insulation stops at 600 mm above the attic ceiling and the attic is ventilated as a cold roof space.

(1) Outside the scope of this Certificate

6.2.3 The party wall bypass can be minimised and an effective U value of 0.0 $W \cdot m^{-2} \cdot K^{-1}$ may be taken, provided the 75 mm gap between the two independent party wall spandrel panels is fully filled with mineral wool insulation and the edges of the cavity are effectively sealed.

6.2.4 The linear thermal transmittance (psi value) of the junctions between the roof and gable wall, and any openings in them, and the point thermal transmittance of purlin/gable wall junctions, must be determined in accordance with BS EN ISO 10211 : 2017 and BRE Report BR 497 : 2019 and the requirements of the documents supporting the national building Regulations, or the conservative defaults in SAP Table K1 must be adopted. The designer must pay particular attention to the junctions for intermediate steel purlins.

6.2.5 The example construction shown in Figure 4 and Table 12 of this Certificate was analysed numerically to BS EN ISO 10211 : 2017 and BRE Report BR 497 : 2016 to determine the point thermal transmittance (X-value) and the result is given in Table 12.

Table 12 Point thermal transmittance (X-value) – example purlin junction with gable wall[1]

Junction assessed	Assessment method	Requirement	Result (W)
Variant A - roof cassette[1][4] to suspended ceiling[2], with intermediate steel purlin[3] to purlin pocket[5] in gable spandrel panel[6]	BS EN ISO 10211 : 2017 and BRE Report BR 497 : 2016	Value achieved	1.65

(1) 245 mm I-Joists (λ = 0.13 W·m^{-1}·K^{-1}) at 600 mm centres, filled with 240 mm Isover Cladding Roll 37 (λ = 0.037 W·m^{-1}·K^{-1}). Roof cassettes laid in line with the 50 ° roof slope and finished internally with dense plasterboard (λ = 0.25 W·m^{-1}·K^{-1}) below plasterboard ceiling level. Insulation within cassette extends 600 mm above plasterboard ceiling level. Perpendicular 245 mm I-Joist at steel purlin position. A continuous 66 x 38 mm timber purlin (λ = 0.13 W·m^{-1}·K^{-1}) is fixed to the perpendicular 245 mm I-joist in the roof cassette, with one end cut back to suit the 50° roof slope and the timber section on top of the steel purlins.
(2) Horizontal ceiling formed from 47 x 120 mm timber joists (λ = 0.13 W·m^{-1}·K^{-1}) at 600 mm centres, fixed to continuous 47 x 120 mm timber joists (λ = 0.13 W·m^{-1}·K^{-1}), fixed in turn to the webs of the intermediate steel I-beam. 500 mm mineral wool insulation (λ = 0.044 W·m^{-1}·K^{-1}) loose laid above AVCL and 12.5 mm dense plasterboard ceiling (λ = 0.25 W·m^{-1}·K^{-1}). Plasterboard fixed to continuous 38 x 38 mm timber fillets at ceiling edges (λ = 0.13 W·m^{-1}·K^{-1}) and 38 x 25 mm battens (λ = 0.13 W·m^{-1}·K^{-1}) fixed to the underside of the timber joists.
(3) Steel I-beam: 304.4 mm high with 123.3 mm wide x 10.2 mm thick steel flanges, with 7.1 mm thick web (λ = 50 W·m^{-1}·K^{-1}). Continuous 38 x 97 mm continuous timber section (λ = 0.13 W·m^{-1}·K^{-1}) with one side cut back to suit 50° roof slope, fixed to 66 x 38 mm timber purlin of roof cassette and to top of steel purlin.
(4) Gable end of roof cassette formed from 245 x 47 mm timber section, 600 mm from adjacent 245 mm I-Joist, connected with 97 x 47 mm timber sections at 600 mm centres, filled with 240 mm Isover Cladding Roll 37 (λ = 0.037 W·m^{-1}·K^{-1}).
(5) To upper spandrel. 151 mm wide with 38 x 140 mm timber studs (λ = 0.13 W·m^{-1}·K^{-1}) either side, and open at the top. Increasing in height from 304.4 to 431.4 mm high due to 50° roof slope. Steel purlin has timber sections fixed to I-Beam webs to allow a friction fit with the beam pocket, and the timber purlin above the I-beam continues to the end of the steel purlin. Gaps filled with intumescent foam insulation. Two layers of plasterboard fixed to internal face of purlin pocket once steel purlin in position, with 19 to 30 mm uninsulated air gap between the end of the steel purlin and the external 9 mm OSB board of the spandrel.
(6) Upper and lower spandrel panels (see Table 11) with 38 x 140 mm timber studs (λ = 0.13 W·m^{-1}·K^{-1}) at 600 mm centres, filled with 140 mm Isover Cladding Roll 35 (λ = 0.035 W·m^{-1}·K^{-1}), running the full height of the gable wall (excluding the purlin pocket). Spandrels finished internally with an AVCL and 12.5 mm dense plasterboard (λ = 0.25 W·m^{-1}·K^{-1}), and externally finished with 9 mm OSB/3 with a low emissivity vapour permeable membrane (ε = 0.05) to external 102.5 mm brickwork (λ=0.77 W·m^{-1}·K^{-1}) with a 101 mm vented air cavity (R = 0.665 m²W·K).

6.2.6 On the basis of the data assessed, the systems can contribute to meeting the relevant requirements of the national Building Regulations, when appropriate compensating fabric/service measures are taken.

7 Sustainable use of natural resources

7.1 Reuse and recyclability

The systems comprise timber, which can be recycled.

8 Durability

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

8.2 Service life

Under normal service conditions, the systems will have comparable durability to that of conventional timber-frame construction; therefore, provided the installation remains weathertight and is protected by internal and external finishes, the systems will have a life in excess of 60 years, provided they are 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 specified in this Certificate.

9.1.2 I-Roofs roof cassettes and wall panels must be designed to have adequate strength and stiffness to sustain the specified actions. Structural calculations for the design of the systems must be carried out in accordance with standard timber-frame industry good practice, BS EN 1995-1-1 : 2004 and its UK National Annex, and PD 6693-1 : 2025 and must be undertaken by the Certificate holder or their appointed engineer.

9.1.3 Load transfer is achieved through:

- bearing of the roof cassettes upon the ridge beam and/or purlins and wall plates
- bearing of the ridge beam and purlins onto the gable/spandrel wall
- bearing of the spandrel wall onto the wall plate
- resistance of the tie-bar to horizontal thrust, where required. To be designed to the relevant part of the Eurocodes.

9.1.4 The stability of the roof is dependent on adequate connections between roof and wall panels. The roof cassettes provide lateral stability to the wall elements through moment connections and diaphragm action and are considered a 'building element' as defined in Approved Document B, for the purpose of resistance to fire.

9.1.5 The strength of all connection details must be evaluated and proven to provide adequate stability for the overall building design. The specification and design for these items must be determined by the structural engineer responsible for the stability of the building. The BBA has assessed typical structural designs of single ridge beam designs and for ridge beam with intermediate glulam or steel purlins for the following junctions:

- roof cassette to wall plate
- roof cassette to intermediate purlin
- roof cassette to ridge beam
- roof cassette to adjacent roof panels
- roof cassette to spandrel wall
- roof cassette to gable ladder
- spandrel wall to wall plate.

9.1.6 The wind loads must be calculated in accordance with the recommendations of BS EN 1991-1-4 : 2005 and its UK National Annex, and the imposed snow loads must be checked in accordance with the recommendations of BS EN 1991-1-3 : 2003 and its UK National Annex.

9.1.7 The requirements for retaining straps and fixings to provide holding down or sliding resistance must be considered by the structural engineer at the design stage, on a site-specific basis. Retaining straps and fixings must be specified by the engineer for the building, not the Certificate holder or their appointed engineer, and meet the requirements of *NHBC Standards* 2025, Chapter 7.2 or BS 8103-3 : 2009.

9.1.8 Lintels and framing around openings form an integral part of the loadbearing wall and roof cassettes. The sizing of lintels and framing is the responsibility of the Certificate holder.

9.1.9 As part of the structural design, consideration must be given to the support of heavy and/or eccentric loads by provision of additional strengthening.

9.1.10 Design racking resistance is derived in accordance with BS EN BS EN 1995-1-1 : 2004 and its UK National Annex, using the appropriate modification factors, to suit the criteria of each building design. Spandrel panels are designed to provide racking resistance to prevent sliding of the roof and wall systems.

9.1.11 Disproportionate collapse in respect of consequence class 1 buildings (to the requirements of BS EN 1991-1-7 : 2006) must be taken account of by using plate brackets, fixings, horizontal and vertical ties nailed or screwed into the wall and roof cassettes, provided the buildings have been designed and constructed in accordance with BS EN 1990 : 2002, BS EN 1991-1-1 : 2002, BS EN 1991-1-2 : 2002, BS EN 1991-1-3 : 2003, BS EN 1991-1-7 : 2006 and BS EN 1995-1-1 : 2004, and their UK National Annexes, and PD 6693-1 : 2025. Roof and wall assemblies are designed to work independently of adjacent roofs at the separating wall location and reduce the risk of consequential failures.

9.1.12 Suitable wall ties to BS EN 845-1 : 2013 must be fixed directly into the face of the gable wall at timber stud positions for a masonry external leaf.

9.1.13 Where buildings need to comply with *NHBC Standards* 2025, specifiers must observe the relevant requirements as in Chapter 6.2 *External timber framed walls* and Chapter 7.2 *Pitched Roofs*.

9.1.14 Care must be taken in the design and during installation to avoid direct paths for airborne sound transmission and to minimise paths for flanking sound transmission.

Weathertightness

9.1.15 Roofing should be detailed in accordance with BS 5534 : 2018 to ensure moisture is prevented from coming into contact with the cassettes. A roof tile underlay must be installed over the roof panels in accordance with BS 5250 : 2021.

9.1.16 When the panels are used to construct the inner leaf of an external cavity wall, the outer masonry leaf must be built in accordance with BS EN 1991-1-3 : 2003, BS EN 1991-1-7 : 2006, BS EN 1996-1-1 : 2022, BS EN 1996-2 : 2006 and BS EN 1996-3 : 2006, and their UK National Annexes, and PD 6697 : 2019, and incorporate damp-proof courses and cavity trays as appropriate. Due consideration should be given to the provision of movement joints and detailing at interfaces with the timber-frame to take account of differential movement and drying shrinkage of the timber elements. The Certificate holder can be contacted for further guidance; such guidance is outside the scope of this Certificate.

9.1.17 When used with other outer leaf constructions, the final weather resistance of the building is dependent on good design detailing and site practice. The guidance given in BRE Report BR 262 : 2002, Section 3, must be followed with regard to rain penetration, in that the designer selects a construction appropriate to the local wind-driven rain index, paying due regard to the design detailing, workmanship and materials to be used. The wall panels must not be used in very severe exposure zones with a W2 class breather membrane.

Thermal performance

9.1.18 For example wall and roof constructions other than the one in section 6.2.2, the U value will depend on the internal and external finishes (which are outside the scope of this Certificate) and fixings. Detailed guidance and all requirements, for calculation competency, and on robustness of design/construction, and on limiting heat loss by air infiltration, can be found in the documents supporting the national Building Regulations.

9.1.19 Care must be taken to ensure that junctions with other elements are designed and constructed to minimize thermal bridges and air infiltration.

Risk of condensation

9.1.20 Designers must ensure that an appropriate condensation risk analysis is carried out for all constructions incorporating the wall and roof cassettes, including openings and penetrations at junctions to minimise the risk of condensation. The guidance in BS 5250 : 2021 must be followed.

9.1.21 For buildings in England and Wales, walls and roofs will adequately limit the risk of surface condensation when the thermal transmittance (U value) does not exceed 0.7 $W \cdot m^{-2} \cdot K^{-1}$ at any point and the junctions with walls and roofs are designed in accordance with the relevant requirements of *Limiting thermal bridging and air leakage: Robust construction details for dwellings and similar buildings* TSO 2002 or BRE Information Paper 1/06.

9.1.22 For buildings in Scotland, walls and 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 and when designed and constructed to BS 5250 : 2021. Additional guidance can be found in BRE Report BR 262 : 2002.

Airtightness

9.1.23 The systems can contribute to maintaining continuity of thermal insulation around openings and between panels. Care must be taken in the overall design and construction of junctions with other elements and openings to minimise thermal bridges and air infiltration at junctions to ensure that elements and openings comply with the relevant guidance for airtightness as given in the relevant documents supporting the national Building Regulations. See also section 9.1.16.

9.1.24 Buildings can achieve adequate resistance to heat loss by air infiltration provided there is effective sealing around junctions between units during site assembly. The panel-to-panel joining of the systems gives acceptable resistance to air infiltration through the OSB/3 inner sheathing, ensuring all joints are effectively sealed.

P*roximity of flues and appliances*

9.1.25 When installing the systems in close proximity to certain flue pipes and/or heat-producing appliances or service areas, the relevant provisions to the national Building Regulations must be satisfied. Detailed guidance can be found in the documents supporting the national Building Regulations.

9.1.26 Timber(1) used in areas that could be at risk of exposure to weather and wetness (eg wall plates, gable ladders) must conform to Use Class 2 in accordance with BS EN 335 : 2013 and should be preservative treated in accordance with the recommendations given in BS 8417 : 2011.

(1) All other wood-based components must conform to Use Class 1 in accordance with BS EN 335 : 2013.

9.1.27 Fasteners must satisfy the requirements of service class 2 in accordance with BS EN 1995-1-1 : 2004.

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.

9.2.3 The Certificate holder undertakes a survey of the installed wall plates for final dimensions prior to manufacturing the panels and cassettes. Lengths of all walls should be within ±10mm. Diagonals should be equal to ensure squareness of building. Acceptable differences up to 10 m ±5 mm.

9.2.4 A precise sequencing of installation must be followed to ensure structural stability during construction. Temporary propping to wall panels may be necessary. The Certificate holder provides a Method Statement for installation. Typical installations details are shown in Figures 2 and 3 of this Certificate.

9.2.5 Assembly of the top hat portion takes place at ground level and consists of the steel or glulam purlins, the attic floor supports, and the ridge beam enclosed on the ends by the top triangular portions of the gable/party walls. The spandrel panels are propped in the vertical position and secured in place with temporary props. The 'top hat' is then lifted into place followed by the roof cassettes, starting at one end of the roof and fixing along the perimeter of the individual roof cassettes. The fixing locations of each panel are checked before the next cassette is lifted into place in line with the lifting and location plans. Lifting straps are only removed once each panel is fully secure. The temporary props which support the spandrel panels are removed once the roof panels are securely fitted and checked. The roof tile underlay can then be fitted, followed by the tile battens, cavity closers and roof tiles. See Figure 5.

Figure 5 Top hat assembly being lifted into place

10 Manufacture

10.1 The production processes for the systems 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 each 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 systems are delivered to site in packaging bearing a unique reference number and cassette or panel number. Each package carries a job name, number and plot reference.

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

11.2.1 Adherence to the design specifications, in respect of designated lifting points and use of authorised lifting equipment to prevent damage or distortion of the panels.

11.2.2 If panels are to be temporarily stored or placed prior to lifting into position on the building, the Certificate holder's instructions in respect of flatness of the supporting ground and requirements for bearers are adhered to.

11.2.3 Panels must be stored off the ground and under cover, to prevent ingress of moisture or contaminants. Once installed, the roof panels should be covered with an appropriate roof tile underlay.

† ANNEX A – SUPPLEMENTARY INFORMATION

Supporting information in this Annex is relevant to the systems 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.

Management Systems Certification for production

The management system of the manufacturer has been assessed and registered as meeting the requirements of ISO 9001 : 2015 by BMTRADA (Certificate 13021).

Bibliography

BRE Report BR 443 : 2019 *Conventions for U-value calculations*

BRE Report BR 497 : 2016 *Conventions for calculating linear thermal transmittance and temperature factors*

BRE Report BR 262 : 2002 *Thermal insulation — avoiding risks*

BS EN 300 : 2006 *Oriented Strand Boards (OSC) — Definitions, classification and specifications*

BS EN 335 : 2013 *Durability of wood and wood-based products — Use classes: definitions, application to solid wood and wood-based products*

BS 476-20 : 1987 *Fire tests on building materials and structures — Part 20: Method for determination of the fire resistance of elements of construction (general principles)*

BS EN 520 : 2004 + A1 : 2009 *Gypsum plasterboards — Definitions, requirements and test methods*

BS 5250 : 2021 Management of moisture in buildings — *Code of practice*

BS 5534 : 2018 *Code of practice for slating and tiling (including shingles)*

BS 8103-3 : 2013 *Structural design of low-rise buildings — Part 3: Code of practice for timber floors and roofs for housing*

BS 8417 : 2011 + A1 : 2014 *Preservation of wood — Code of practice*

BS EN 845-1 : 2013 + A1 : 2016 *Specification for ancillary components for masonry — Wall ties, tension straps, hangers and brackets*

BS EN 1366-4 : 2006 *Fire resistance tests for service installations — Part 4 : Linear joint seals*

BS EN 1990 : 2002 *Eurocode — Basis of structural and geotechnical design*
NA to BS 1990 : 2002 + A1 : 2005 UK Annex for Eurocode — *Basis of structural design*

BS EN 1991-1-1 : 2002 *Eurocode 1 — Actions on structures — General actions — Densities, self-weight, imposed loads for buildings*
BS EN 1991-1-2 : 2002 *Eurocode 1 — Actions on structures — General actions — Actions on structures exposed to fire*
NA to BS EN 1991-1-2 : 2002 *UK National Annex to Eurocode 1 — Actions on structures — General actions — Actions on structures exposed to fire*
BS EN 1991-1-3 : 2003 + A1 : 2015 *Eurocode 1 — Actions on structures — General actions — Snow loads*
NA + A2 : 2018 to BS EN 1991-1-3 : 2003 + A1 : 2015 *UK National Annex to Eurocode 1 — Actions on structures — General actions — Snow loads*
BS EN 1991-1-4 : 2005 + A1 : 2010 *Eurocode 1 — Actions on structures — General actions. Wind actions*
NA + A1 : 2010 to BS EN 1991-1-4 : 2005 + A1 : 2010 *UK National Annex to Eurocode 1 – Actions on structures. General actions. Wind actions*
BS EN 1991-1-7 : 2006 + A1 : 2014 *Eurocode 1 —Actions on structures — General actions — Accidental actions*
NA + A1 : 2014 to BS EN 1991-1-7 : 2006 + A1 : 2014 *UK National Annex to Eurocode 1 — Actions on structures — General actions — Accidental actions*

BS EN 1995-1-1 : 2004 + A2 : 2014 *Eurocode 5 — Design of timber structures — General — Common rules and rules for buildings*
NA to BS EN 1995-1-1 : 2004 + A2 : 2014 *UK National Annex to Eurocode 5 — Design of timber structures — General — Common rules and rules for buildings*
BS EN 1995-1-2 : 2004 *Eurocode 5. Design of timber structures. General. Structural fire design*
NA to BS EN 1995-1-2 : 2004 + A2 : 2014 *Eurocode 5 — Design of timber structures — General — Structural fire design*

BS EN 13162 : 2012 *Thermal insulation products for buildings — Factory made mineral wool (MW)*

BS EN 13501-1 : 2018 *Fire classification of construction products and building elements — Classification using test data from reaction to fire tests*

BS EN 13986 : 2004 *Wood-based panels for use in construction — Characteristics, evaluation of conformity and marking*

BS EN 13859-2 : 2014 *Flexible sheets for waterproofing — Definitions and characteristics of underlays — Underlays for walls*

BS EN ISO 6946 : 2017 *Building components and building elements — Thermal resistance and thermal transmittance — Calculation method*

BS EN ISO 10211 : 2017 *Thermal bridges in building construction — Heat flows and surface temperatures — Detailed calculations*

BS EN ISO 13788 : 2012 *Hygrothermal performance of building components and building elements — Internal surface temperature to avoid critical surface humidity and interstitial condensation — Calculation methods (ISO 13788 : 2012)*

BS EN ISO 10456 : 2007 *Building materials and products — Hygrothermal properties — Tabulated design values and procedures for determining declared and design thermal values*

EN 10025-2 : 2019 *Hot rolled products of structural steels Part 2 — Technical delivery conditions for non-alloy structural steels*

EN 14080 : 2013 *Timber structures — Glued laminated timber and glued solid timber — Requirements*

EN 14081-3 : 2022 *Timber structures — Strength graded structural timber with rectangular cross section — Part 3: Machine grading; additional requirements for factory production control*

ISO 9001 : 2015 *Quality management systems — Requirements*

PD 6693-1 : 2025 *Recommendations for the design of timber structures to Eurocode 5 — Design of timber structures — General — Common rules and rules for buildings*

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.

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