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Agrément Certificate

06/4379

Product Sheet 3 Issue 4

MULTIFOIL INSULATION

TLX SILVER FOR TIMBER FRAME AND MASONRY WALL APPLICATIONS

This Agrément Certificate Product Sheet⁽¹⁾ relates to TLX Silver for Timber Frame and Masonry Wall Applications, a multi-layer reflective foil, for use as an insulation and a reflective air and vapour control layer (AVCL), for use on the inner side of a timber frame or masonry substrate with height restrictions in some cases. The product can also be used on dormer cheeks and dwarf wall applications in pitched roofs. The product is for use in new and 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

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 Fourth issue: 10 October 2024

Originally certificated on 23 December 2008



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

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 TLX Silver for Timber Frame and Masonry Wall Applications, 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 (linings)
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:	C2(c)	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 will 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 Requirement. See section 2 of this Certificate.
Regulation:	25B	Nearly zero-energy requirements for new buildings
Regulation:	26	CO₂ emission rates for new buildings
Regulation:	26A	Fabric energy efficiency rates for new dwellings (applicable to England only)
Regulation:	26A	Primary energy consumption rates for new buildings (applicable to Wales only)
Regulation:	26B	Fabric energy efficiency rates 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 will 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. See section 2 of this Certificate.

Regulation:	9	Building standards - construction
Standard:	2.4	Cavities
Comment:		The product can contribute to satisfying this Standard with reference to clauses 2.4.2 ⁽¹⁾⁽²⁾ , 2.4.4 ⁽¹⁾ and 2.4.6 ⁽²⁾ . 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 ⁽¹⁾ and 2.6.6 ⁽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⁾ , 3.15.4 ⁽¹⁾⁽²⁾ and 3.15.5 ⁽¹⁾⁽²⁾ . See sections 3 and 9 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 ⁽¹⁾ ; 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⁾ , 6.2.7 ⁽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 the 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 ⁽¹⁾ , 7.1.3 ⁽²⁾ , 7.1.4 ⁽¹⁾ , 7.1.6 ⁽¹⁾⁽²⁾ , 7.1.7 ⁽¹⁾ , 7.1.8 ⁽²⁾ , 7.1.9 ⁽²⁾ and 7.1.10 ⁽²⁾ . See section 6 of this Certificate.
Regulation:	12	Building standards - conversion
Comment:		All comments given for 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. 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 will be required. See section 6 of this Certificate.

Additional Information

NHBC Standards 2024

In the opinion of the BBA, TLX Silver for Timber Frame and Masonry Wall Applications, 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 TLX Silver for Timber Frame and Masonry Wall Applications to be satisfactory for use as described in this Certificate. The product has been assessed for use as an insulation and a reflective AVCL, for use on the inner side of a timber frame or masonry substrate with height restrictions in some cases. The product can also be used on dormer cheeks and dwarf wall applications in pitched roofs. The product is for use in new and existing, domestic and non-domestic buildings.

ASSESSMENT

Product description and intended use

The Certificate holder provided the following description for the product under assessment. TLX Silver for Timber Frame and Masonry Wall Applications consists of:

- coated metallised film
- non-woven polypropylene fabric
- polyester fibre wadding
- metallised film layers.

The product has the nominal characteristics given in Table 1.

Table 1 Nominal characteristics of TLX Silver for Timber Frame and Masonry Wall Applications

Characteristic (unit)	Value
Width (m)	1.2
Length (m)	10
Thickness (mm)	30

Ancillary Items

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:

- $\geq 14\text{mm}$ staples or nails
- timber battens
- screws/nails
- additional insulation
- adhesive foil tape, minimum width 50 mm
- internal wall lining.

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 Results of mechanical properties tests are given in Table 2.

Table 2 Mechanical Properties

Product assessed	Assessment method	Requirement	Result
TLX Silver for Timber Frame and Masonry Wall Applications	Tensile strength to BS EN 12311-2 : 2000	Confirm declared values Longitudinal direction = $290 \text{ N} \cdot (50\text{mm})^{-1}$ Transverse direction = $365 \text{ N} \cdot (50\text{mm})^{-1}$	Pass
TLX Silver for Timber Frame and Masonry Wall Applications	Tear resistance to BS EN 12310-1 : 2000	Confirm declared values Longitudinal direction = 31 N Transverse direction = 48 N	Pass

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

2 Safety in case of fire

Data were assessed for the following characteristics.

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 ⁽¹⁾
TLX Silver for Timber Frame and Masonry Wall Applications	BS EN 13501-1 : 2007	Value achieved	F

(1) BTTG test report – 10/24155E – 24 November 2021, 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, 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 more than 11 m in height.

2.1.4 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.

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

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 resistance, cavity closures and barriers, fire stopping of service penetrations and combustibility limitations for other materials and components used in the overall wall construction.

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

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 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 and the result is given in Table 4.

Table 4 Water vapour transmission

Product assessed	Assessment method	Requirement	Result
TLX Silver for Timber Frame and Masonry Wall Applications	BS EN 1931 : 2000	Value achieved	$S_d = 370 \text{ m}$

3.1.2 On the basis of data assessed, the product has satisfactory resistance to water vapour.

3.1.3 When used as an AVCL and an air barrier, the product's effectiveness is reliant on the careful sealing of the laps, joints, perimeters and penetrations, in accordance with the Certificate holder's instructions.

3.2 Weathertightness

3.2.1 The product was tested for water tightness and the result is given in Table 5.

Table 5 Water tightness

Product assessed	Assessment method	Requirement	Result
TLX Silver for Timber Frame and Masonry Wall Applications	BS EN 1928 : 2000 Method A at 2 kPa	Watertight	Pass

3.2.2 On the basis of data assessed, the product has satisfactory resistance to water.

3.3 Condensation

3.3.1 The BBA has assessed the product data and the risk of interstitial condensation; the following factors must be implemented.

3.3.2 The product has a high, water-vapour resistance and can act as an air and vapour control layer. In all cases the recommendations of BS 5250 : 2021 must be followed. When installed in conjunction with other insulation materials, the water vapour resistance and installation instructions for the additional insulation must also be considered.

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

6.1.1 The product was tested for thermal resistance and the result is given in Table 7.

Table 7 Thermal resistance

Product assessed	Assessment method	Requirement	Result
TLX Silver for Timber Frame and Masonry Wall Applications	BS EN 12667 : 2001	Thermal resistance	0.91 m ² ·K·W ⁻¹
		Compressed (to 2 mm) at 20 kPa force	0.06 m ² ·K·W ⁻¹

6.1.2 The product was tested for aged emissivity and the result is given in Table 8.

Table 8 Aged emissivity

Product assessed	Assessment method	Requirement	Result
TLX Silver for Timber Frame and Masonry Wall Applications	BS EN 15976 : 2011	Value achieved	0.05

6.1.3 The U value of a completed element will depend on the thickness and conductivity of the additional insulation used and the extent and arrangement of timber bridging. Example wall constructions are shown in Figures 1 and 2 and the resulting U values for these constructions are given in Table 9.

Table 9 U values for specific constructions

Construction	Additional insulation thickness ⁽¹⁾	U value (W·m ⁻² ·K ⁻¹)	
	TLX Silver		
Brick wall ⁽²⁾ (Figure 1)	45 mm mineral wool (MW)	0.28	
	35 mm expanded polystyrene (EPS)	0.28	
	25 mm polyisocyanurate (PIR)	0.28	
	105 mm MW	0.19	
	85 mm EPS	0.19	
	60 mm PIR	0.19	
	Stud depth (mm)		
Timber frame (Figure 2)	89	50 mm MW	0.28
	89	40 mm EPS	0.28
	89	25 mm PIR	0.28
	140	100 mm EPS	0.19
	140	75 mm PIR	0.19

(1) MW additional insulation ($\lambda_D = 0.04 \text{ W} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$), PIR additional Insulation ($\lambda_D = 0.022 \text{ W} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$) with an emissivity of 0.2 and EPS additional Insulation ($\lambda_D = 0.032 \text{ W} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$), all thicknesses rounded to nearest 5 mm and plaster board ($\lambda = 0.021 \text{ W} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$).

(2) Brickwork bridged with mortar, studs and fixings correction (through the additional insulation) as per BRE Report BR 443 : 2019 and plaster board ($\lambda = 0.021 \text{ W} \cdot \text{m}^{-1} \cdot \text{K}^{-1}$).

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

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

Figure 1 Brick Wall Construction

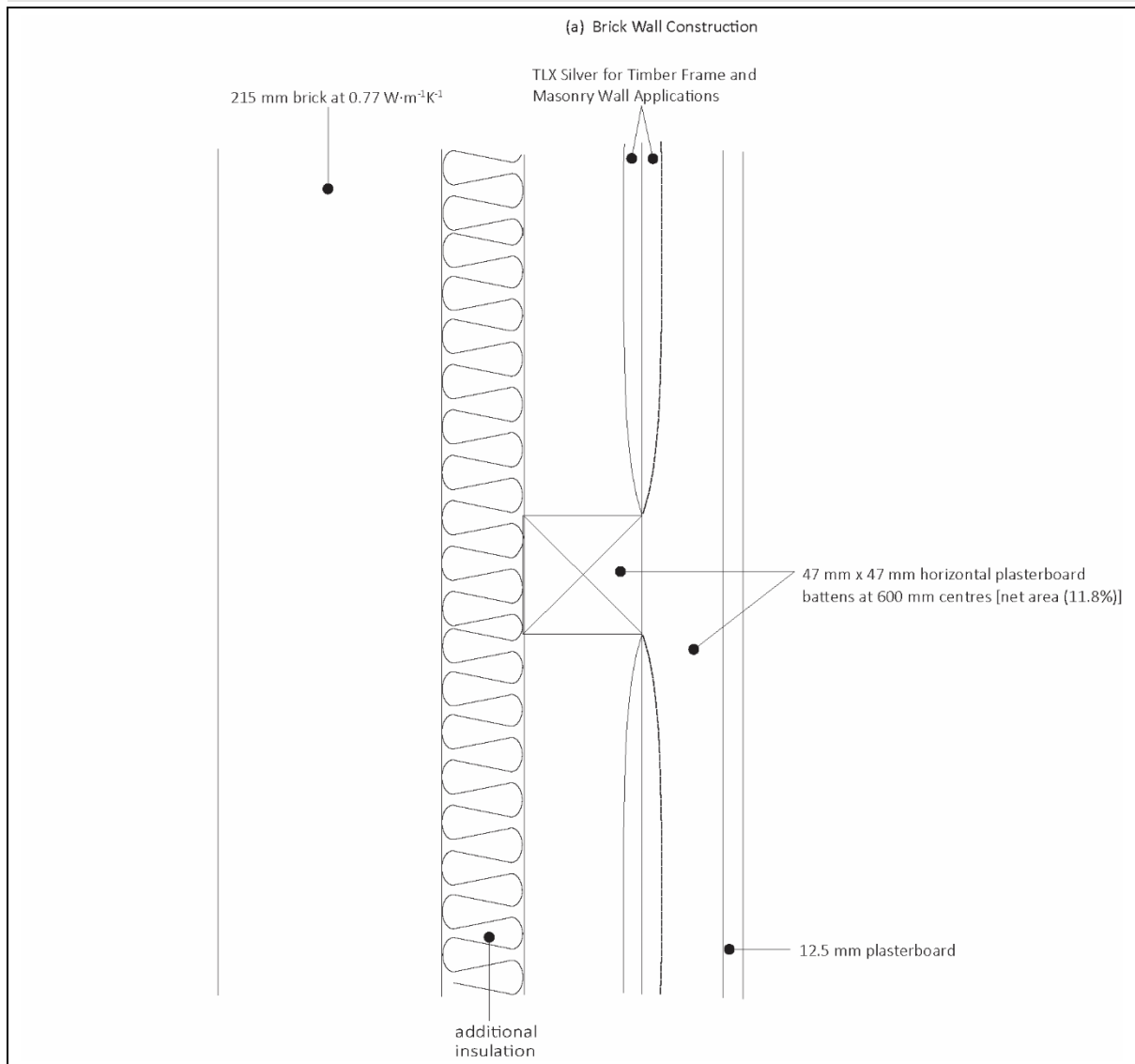
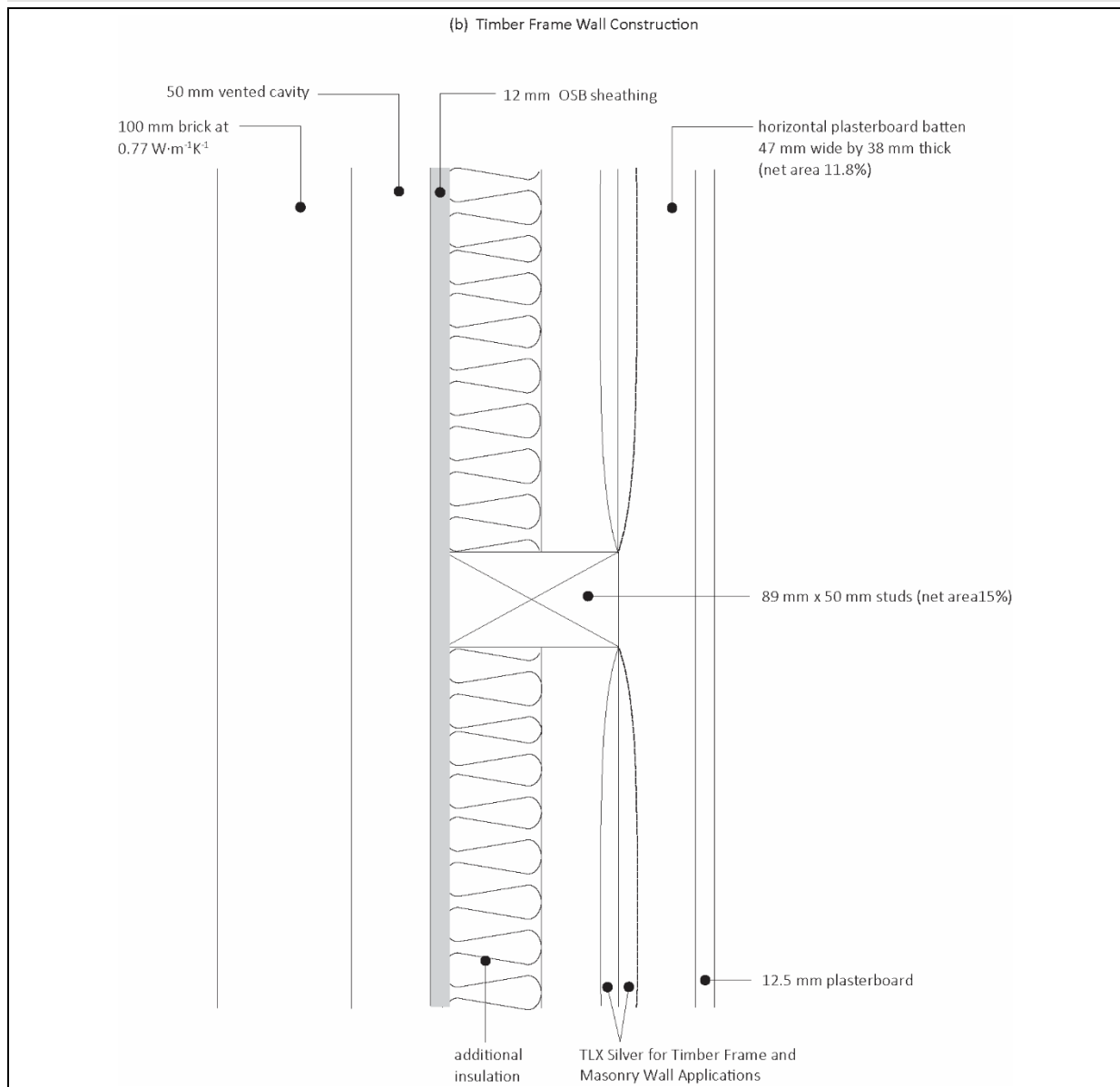


Figure 2 Timber Frame Wall Construction



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 The product was tested for water vapour transmission properties after artificial ageing and the result is given in Table 10.

Table 10 Water vapour transmission properties after artificial ageing

Product assessed	Assessment method	Requirement	Result
TLX Silver for Timber Frame and Masonry Wall Applications	Water vapour transmission properties to BS EN 1931 : 2000 Artificially aged at 70°C, for 84 days to BS EN 1296 : 2001	Value achieved	$S_d = 211 \text{ m}$

8.3 Service life

Under normal service conditions, the product will have a life of at least equivalent to the structure 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 When the product is installed in close proximity to certain flue pipes and/or heat-producing appliances, for buildings subject to national Building Regulations the relevant provisions and guidance should be met.

9.1.3 The wall or sub-frame must be designed and constructed in accordance with the relevant recommendations of:

Timber

- BS 5250 : 2021
- BS EN 351-1 : 2023
- BS EN 1995-1-1 : 2004 and its UK National Annex

Masonry

- BS 8000-3 : 2020
- BS EN 1996-1-1 : 2005 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

9.1.4 Construction elements must be designed and constructed to incorporate the normal precautions against moisture ingress before application of the product.

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

9.1.6 Services which penetrate the internal plasterboard lining (such as light switches or power outlets) must be kept to a minimum to limit damage to AVCLs. In addition, any penetrations should be enclosed in plasterboard, stone MW or a suitably tested proprietary fire-rated system in order to preserve the fire resistance of the wall.

9.1.7 Insulated dry lining systems require careful detailing during installation around doors and windows to achieve a satisfactory surface for finishing. In addition, every attempt must be made to minimise the risk of thermal bridging at reveals and where heavy separating walls are attached to the external wall. New work must be designed to accommodate the thickness of the dry lining, particularly at reveals, heads, and sills, and in relation to ceiling height. Where the dimensions of fixtures are critical (eg, bathrooms), these must be checked before installation.

9.1.8 De-rating of electric cables should be considered in areas where the product restricts the flow of air. The use of suitable conduit or trunking is recommended.

9.1.9 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

9.1.10 The BBA has assessed the product for the risk of interstitial condensation and the following factors must be implemented.

9.1.10.1 An assessment of the risk of interstitial condensation for the specific construction must be carried out in accordance with BS EN ISO 13788 : 2012.

9.1.10.2 To limit the risk of interstitial condensation, walls must be designed and constructed in accordance with the relevant parts of BS 5250 : 2021.

9.1.10.3 Adequate ventilation must be provided, particularly in rooms expected to experience high humidity, and to ensure the integrity of the product against vapour ingress.

9.1.10.4 Wall design, construction and maintenance limit opportunities for vapour migration by diffusion and by convection through gaps, cracks and laps in the product and through penetrations.

Surface condensation

9.1.11 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.

9.1.12 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.

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 Installation may be either vertical or horizontal runs. If horizontal, installation should start at the floor and go up to the ceiling.

9.2.7 For timber frame, the product is unrolled across the inside of the timber studs and permanently fixed in place using wooden battens of size at least 38 by 50 mm, parallel or perpendicular to the wall studs, and held in place with appropriate screws or nails.

9.2.8 For masonry walls, timber battens at least 38 mm wide by 50 mm deep are screwed to the wall at no greater than 600 mm vertical centres, at wall perimeters and horizontally as required.

9.2.9 The product can be cut using sharp scissors or a knife. When the top layer has been battened, any excess material may be removed by running a sharp knife along the edge of the batten.

9.2.10 Any exposed cut edges of the product must be sealed with a suitable adhesive tape. The Certificate holder can advise on suitable materials for this purpose, but such advice and products are outside the scope of this Certificate.

9.2.11 When the product is cut to fit around openings, care must be taken to minimise gaps, any excess material may be cut by running a sharp knife.

9.2.12 Plasterboard is then fixed to the battens in accordance with BS 8212 : 1995. The batten size must be at least 38 by 50 mm, with the fixings at a maximum 150 mm spacing for nails or 300 mm for screws. This batten size must be sufficient to ensure a 20 mm air gap between the product and the plasterboard.

9.2.13 Care must be taken that all air gaps are maintained in accordance with the Certificate holder's instructions for their products. MW can be placed inside the cavity formed when the product is installed across studs. Rigid insulation products can be placed inside the cavity. Suitable fixings such as wooden battens nailed to the sides of the studs can be used to generate an air layer between the rigid insulation and the other components of the wall.

9.3 Workmanship

Practicability of installation was assessed 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

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

9.4.2 Care must be taken to ensure the product is not damaged during installation. Should damage occur by tearing, the product must be repaired by covering the holes with foil tape or replaced. The Certificate holder can advise on suitable materials for this purpose, but such advice and products are outside the scope of this Certificate.

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 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 product is delivered to site in packaging bearing the Certificate holder and product names, the BBA logo incorporating the number of this Certificate and installation instructions.

11.2 Delivery and site handing 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 and not exposed to sunlight open flame or other ignition sources and must be stored away from flammable material such as paint and solvents.

11.2.2 The product must be protected from being dropped or crushed by objects.

11.2.3 When installing in bright sunlight, appropriate sunglasses should be worn.

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 Designated Standard EN 13984 : 2013.

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 BSI (Certificate FM 68919).

Bibliography

- BRE Report BR 262 : 2002 *Thermal insulation: avoiding risks*
- BRE Report BR 443 : 2019 *Conventions for U-value calculations*
- BS 5250 : 2021 *Code of practice for control of condensation in buildings*
- BS 8000-3 : 2020 *Workmanship on construction sites — Part 3: Masonry — Code of practice*
- BS 8212 : 1995 *Code of practice for dry lining and partitioning using gypsum plasterboard*
- BS EN 351-1 : 2023 *Durability of wood and wood-based products — Preservative-treated solid wood — Part 1: Classification of preservative penetration and retention*
- BS EN 520 : 2004 *Gypsum plasterboards — Definitions, requirements and test methods*
- BS EN 1296 : 2001 *Flexible sheets for waterproofing — Bitumen, plastic and rubber sheets for roofing — Method of artificial ageing by long term exposure to elevated temperature*
- BS EN 1928 : 2000 *Flexible sheets for waterproofing — Bitumen, plastic and rubber sheets for roof waterproofing — Determination of watertightness*
- BS EN 1931 : 2000 *Flexible sheets for waterproofing — Bitumen, plastic and rubber sheets for roof waterproofing — Determination of water vapour transmission properties*
- BS EN 1995-1-1 : 2004 *Eurocode 5: Design of timber structures. Part 1-1: General — Common rules and rules for buildings*
- NA to BS EN 1995-1-1 : 2004 *UK National Annex to Eurocode 5: Design of timber structures — Part 1-1: General — Common rules and rules for buildings*
- BS EN 1996-1-1 : 2005 *Eurocode 6: Design of masonry structures — Part 1-1: General rules for reinforced and unreinforced masonry structures*
- NA to BS EN 1996-1-1 : 2005 *UK National Annex to Eurocode 6: Design of masonry structures — Part 1-1: General rules for reinforced and unreinforced and masonry structures*
- BS EN 1996-1-2 : 2005 *Eurocode 6: Design of masonry structures — Part 1-2: General rules — Structural fire design*
- NA to BS EN 1996-1-2 : 2005 *UK National Annex to Eurocode 6: Design of masonry structures. Part 1-2: General rules — Structural fire design*
- BS EN 1996-2 : 2006 *Eurocode 6: Design of masonry structures — Part 2: Design considerations, selection of materials and execution of masonry*
- NA to BS EN 1996-2 : 2006 *UK National Annex to Eurocode 6: Design of masonry structures — Part 2: Design considerations, selection of materials and execution of masonry*
- BS EN 12310-1 : 2000 *Flexible sheets for waterproofing — Determination of resistance to tearing (nail shank) — Part 1: Bitumen sheets for roof waterproofing*
- BS EN 12311-2 : 2000 *Flexible sheets for waterproofing — Determination of tensile properties — Part 2: Plastic and rubber sheets for roof waterproofing*
- BS EN 12667 : 2001 *Thermal performance of building materials and products — Determination of thermal resistance by means of guarded hot plate and heat flow meter methods — Products of high and medium thermal resistance*
- BS EN 13501-1 : 2007 *Fire classification of construction products and building elements — Classification using test data from reaction to fire tests*
- 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*

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

BS EN ISO 9001 : 2015 *Quality management systems — Requirements*

EN 13984 : 2013 *Flexible sheets for waterproofing — Plastic and rubber vapour control layers – Definitions and characteristics*

Conditions of Certificate

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
- is valid only within the UK
- has to be read, considered and used as a whole document – it may be misleading and will be incomplete to be selective
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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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