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Agrément Certificate

17/5466

Product Sheet 1 Issue 4

LEADAX FLASHINGS

LEADAX

This Agrément Certificate Product Sheet⁽¹⁾ relates to Leadax, a polyvinyl butyral (PVB) reinforced material for use as waterproofing in flashing applications on flat and pitched roofs, as an alternative to lead flashing.

(1) Hereinafter referred to as 'Certificate'.

The assessment includes

Product factors:

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

Process factors:

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

Ongoing contractual Scheme elements†:

- regular assessment of production
- formal 3-yearly review



KEY FACTORS ASSESSED

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

The BBA has awarded this Certificate to the company named above for the product described herein. This product has been assessed by the BBA as being fit for its intended use provided it is installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of Fourth issue: 7 May 2024

Originally certified on 24 October 2017

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 Leadax, 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:	B4(1)	External fire spread
Comment:		The product is restricted by this Requirement in some circumstances. See section 2 of this Certificate.
Requirement:	B4(2)	External fire spread
Comment:		The product may be restricted by this Requirement. See section 2 of this Certificate.
Requirement:	C2(b)	Resistance to moisture
Comment:		The product will contribute to a roof satisfy this Requirement. See section 3 of this Certificate.
Regulation:	7(1)	Materials and workmanship
Comment:		The product is acceptable. See sections 8 and 9 of this Certificate.
Regulation:	7(2)	Materials and workmanship
Comment:		The product is restricted by this Regulation. See section 2 of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)(2)	Fitness and durability of materials and workmanship
Comment:		The product can contribute to a roof satisfying the requirements of this Regulation. 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:	2.6	Spread to neighbouring buildings
Comment:		The product is restricted by this Standard, under clauses 2.6.4 ⁽¹⁾⁽²⁾ , 2.6.5 ⁽¹⁾ and 2.6.6 ⁽²⁾ . See section 2 of this Certificate.
Standard:	2.7	Spread on external walls
Comment:		The product is restricted by this Standard under clause 2.7.1 ⁽¹⁾⁽²⁾ in some circumstances. See section 2 of this Certificate.
Standard:	2.8	Spread from neighbouring buildings
Comment:		The product may be restricted by this Standard, with reference to clause 2.8.1 ⁽¹⁾⁽²⁾ . See section 2 of this Certificate.
Standard:	3.10	Precipitation
Comment:		The product will contribute to a roof satisfying clauses 3.10.1 ⁽¹⁾⁽²⁾ , 3.10.7 ⁽¹⁾⁽²⁾ and 3.10.8 ⁽¹⁾⁽²⁾ of this Standard. See section 3 of this Certificate.

Standard:	7.1(a)	Statement of sustainability
Comment:		The product can contribute to satisfying the relevant requirements of Regulation 9, Standards 1 to 6, and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard.
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)	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:	28(b)	Resistance to moisture and weather
Comment:		The product will contribute to satisfying this Regulation. See section 3 of this Certificate.
Regulation:	36(a)	External fire spread
Comment:		The product is restricted by this Regulation, in some circumstances. See section 2 of this Certificate.
Regulation:	36(b)	External fire spread
Comment:		The product may be restricted by this Regulation. See section 2 of this Certificate.

Additional Information

NHBC Standards 2024

In the opinion of the BBA, Leadax, 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 6.8 *Fireplaces, chimneys and flues*, 7.1 *Flat roofs, terraces and balconies* and 7.2 *Pitched roofs*.

Fulfilment of Requirements

The BBA has judged Leadax Flashing to be satisfactory for use as described in this Certificate. The product has been assessed for use in flashing applications such as abutments, stepped flashings, chimneys, dormers and in valleys to provide a weatherproof junction.

ASSESSMENT

Product description and intended use

The Certificate holder provided the following description for the product under assessment. Leadax is a PVB based flashing material with an aluminium mesh reinforcement.

The product has product characteristics given in Table 1.

Table 1 Nominal characteristics of Leadax

Characteristic (unit)	Value
Roll length (m)	6.0
Roll width (mm)	150, 200, 250, 300, 330, 400, 450, 500, 600, 1000
Thickness (mm)	3.0
Weight of roll (kg)	3.5,4.6, 5.8, 7.0, 7.7, 9.2, 10.4,11.5, 13.9 and 23.1
Colour	Lead grey, Black and Terracotta

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:

- Leadax Sealant — for use in joints and sealing to the substrate
- Leadax Fixing Clips — for use in fixing into chased pointing joints
- Leadax Roller — for moulding the product and pressing down the seams
- Leadax Scissors — for cutting the product.

Applications

The product is intended for use in flashing applications such as:

- side abutments
- stepped flashings
- dormers and chimneys
- valleys.

Definitions for products and applications inspected

The following terms is defined for the purpose of this Certificate as:

- pitched roof — a roof having a fall in excess of 1:6.
- flat roof — a roof having a minimum finished fall of 1:80.

Product assessment – key factors

The product was assessed for the following key factors, and the outcome of the assessment 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 Strength and stability

1.1.1 Results of strength and stability tests are given in Table 2.

Table 2 Strength and stability results

Product assessed	Assessment method	Requirement	Result
Leadax	Nail tear strength to BS EN 12310-1 : 2000	Value achieved	400 N
			400 N
	Tensile strength to BS EN 12311-1 : 2000	Value achieved	500 N·(50 mm) ⁻¹
			1200 N·(50 mm) ⁻¹
	Elongation at break to BS EN 12311-1 : 2000	Value achieved	80%
			15%

1.1.2 On the basis of data assessed, the product has suitable mechanical properties for its intended use.

2 Safety in case of fire

2.1 External fire spread

2.1.1 The Certificate holder has not declared a resistance to external fire exposure for the product to BS EN 13501-5 : 2016.

2.1.2 On the basis of data assessed, the performance of the product must be assessed in the context of the overall roof construction. These specifications must therefore be evaluated by reference to the requirements of the documents supporting the relevant national Building Regulations and any consequent restrictions imposed by those documents, on a case-by-case basis.

2.2 Reaction to fire

2.2.1 The Certificate holder has declared a reaction to fire classification E for the product to BS EN 13501-1 : 2007.

Table 3 Reaction to fire testing

Product assessed	Assessment method	Requirement	Result
Leadax	EN ISO 11925-2 : 2020	Value achieved	Class E ⁽¹⁾

(1) Kiwa Netherland B.V. 0301-K-16/2, copies are available from the Certificate holder.

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

2.2.3 In England, the product, when used on walls or roofs with pitches of greater than 70°, excluding upstands, must not be used less than 1 m from a relevant boundary, on residential buildings more than 11 m in height or on other buildings more than 18 m in height. Restrictions apply on assembly and recreation buildings. These constructions must also be included in calculations of unprotected area.

2.2.4 In Wales, the product, when used on walls or roofs with pitches greater than 70°, excluding upstands, must not be used less than 1 m from a relevant boundary, or on other buildings more than 18 m in height. Restrictions apply on assembly and recreation buildings. These constructions must also be included in calculations of unprotected area.

2.2.5 In Scotland and Northern Ireland, for systems incorporating the product used on walls or roofs with pitches greater than 70°, excluding upstands, that do not achieve the minimum Class E reaction to fire classification to BS EN 13501-1 : 2018, designers must seek guidance on the proposed use of the product/system from the relevant Building Control Body.

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

3 Hygiene, health and the environment

Data were assessed for the following characteristics.

3.1.1 Results of weathertightness test are given in Table 3.

Table 3 Results of weathertightness tests

Product assessed	Assessment method	Requirement	Result
Leadax	Water vapour transmission to EN 1931 : 2001	Value achieved	$\mu=2360$
	Water vapor resistance	Value achieved	39.41 MN.sg ⁻¹
	Watertightness to BS EN 1928 : 2000 (Method B) 500kPa	No evidence of water leakage	Pass
	Water absorption to MOAT 66 : 2001	Value achieved	1.06 % change in weight
	Peel strength from a concrete substrate to MOAT 66 : 2001	Value achieved	162 N.50mm ⁻¹
	Low temperature flexibility to BS EN 495-5 : 2001 (at -70°C)	No cracks or fractures	Pass

3.1.2 On the basis of data assessed, the product, when incorporated into a roofing system designed and installed in accordance with conventional good practice and this Certificate, will adequately resist the passage of moisture to the interior of the building and so contribute to the roof satisfying the requirements of the national Building Regulations.

4 Safety and accessibility in use

Not applicable.

5 Protection against noise

Not applicable.

6 Energy economy and heat retention

Not applicable.

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 Specific test data were assessed as given in Table 4.

Table 4 Results of durability test

Product assessed	Assessment method	Requirement	Result
Leadax	Water vapour transmission to EN 1296 : 2001 and EN 1931 : 2001 after heat ageing at 80°C for 84 days	Value achieved	$\mu=2370$
	Watertightness of joints to BS EN 1928 : 2000 after 2400 hours UVB ageing	No evidence of water leakage	500 kPa
	Density moisture flow rate to EN 1296 : 2001 and EN 1931 : 2001 after thermal ageing at 80°C for 12 weeks	Value achieved	$g = 5.20 \times 10^{-8} \text{ kg} \cdot \text{m}^{-2} \cdot \text{s}^{-1}$
	Peel strength from concrete substrate to MOAT 66 : 2001 after heat ageing at 80°C for 28 days	No significant deterioration	Pass
	Low temperature flexibility to BS EN 495-5 : 2001 After heat ageing at 80°C for 84 days	No cracks or fractures	Pass

8.3 Service life

Under normal service conditions, the product will have a life of at least 20 years, 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 Installation

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

9.1.2 Installation of Leadax must be strictly in accordance with the Certificate holder’s instructions, the relevant recommendations of BS 5534 : 2014, BS 8000-0 : 2014 and BS 8000-6 : 2023, and this Certificate.

9.1.3 The product must be fitted into the pointing gap by at least 30 mm and held in place with fixing clips. The Certificate holder can advise on suitable materials for this purpose, but such advice and products are outside the scope of this Certificate. Lime mortar must be applied into the pointing gap to ensure the joint remains waterproof.

9.1.4 When using the product in valleys, it must be fully supported on 19 mm boarding set between the rafters with a 4 mm overlay of plywood in the same manner as recommended when using lead flashing.

9.1.5 The product must cover upstands by at least 75 mm and be sealed to the substrate with a continuous bead of sealant. The Certificate holder can advise on suitable materials for this purpose, but such advice and products are outside the scope of this Certificate. The height of the upstand should be at least 150 mm.

9.1.6 Overlap joints between the product (minimum 60 mm) can be hot-air welded or sealed using a suitable sealant. The Certificate holder can advise on suitable materials for this purpose, but such advice and products are outside the scope of this Certificate. The Certificate holder recommends a welding temperature of 350 to 400°C.

9.1.7 The Leadax Roller is used to press down the welded seams and mould the product to the area where it has been applied.

9.2 Workmanship

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

9.3 Maintenance and repair

9.3.1 There are no maintenance requirements, other than a regular visual check for damage. Damaged areas can be repaired by following the Certificate holder's instructions prior to completing the roof covering.

9.3.2 Damage to the product can be repaired prior to the installation of slates or tiles by patching and sealing the damaged areas. Care must be taken to ensure that the watertightness of the roof is maintained.

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.

†10.1.6 The BBA has undertaken to carry out the above measures on a regular basis through a surveillance process, to verify that the specifications and quality control operated by the manufacturer are being maintained.

11 Delivery and site handling

11.1 The Certificate holder stated that the product is distributed sealed in plastic film on pallets marked with the size, a wrapper with installation instructions and the BBA logo incorporating the number of this Certificate.

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

11.2.1 The product must be stored upright, on a smooth, clean, dry surface, under cover and protected from sunlight.

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.

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 KIWA (Certificate KSC-K98771/02).

Bibliography

- BS 5534 : 2014 + A2 : 2018 *Slating and tiling for pitched roofs and vertical cladding — Code of practice*
- BS 8000-0 : 2014 *Workmanship on building sites — Introduction and general principles*
- BS 8000-6 : 2023 *Workmanship on building sites — Code of practice for slating and tiling of roofs and claddings*
- BS EN 495-5 : 2001 *Flexible sheets for waterproofing — Determination of foldability at low temperature — Plastic and rubber sheets for roof waterproofing*
- BS EN 1928 : 2000 *Flexible sheets for waterproofing — Bitumen, plastic and rubber sheets for roof waterproofing — Determination of watertightness*
- BS EN 12310-1 : 2000 *Flexible sheets for waterproofing*
- BS EN 12311-1 : 2000 *Flexible sheets for waterproofing — Determination of tensile properties — Bitumen sheets for roof waterproofing*
- EN 1296 : 2001 *Flexible sheets for waterproofing* $\text{\textcircled{D}}$ *Bitumen, plastic and rubber sheets for roofing* $\text{\textcircled{D}}$ *Method of artificial ageing by long term exposure to elevated temperature*
- EN 1931 : 2001 *Flexible sheets for waterproofing — Bitumen, plastic and rubber sheets for roof waterproofing — Determination of water vapour transmission properties*
- EN ISO 11925-2 : 2020 *Reaction to fire tests Ignitability of products subjected to direct impingement of flame Part 2: Single-flame source test*
- EN 13501-1 : 2007 + A1 : 2009 *Fire classification of construction products and building elements — Classification using data from reaction to fire tests*
- BS EN 13501-1 : 2018 *Fire classification of construction products and building elements — Classification using data from reaction to fire tests*
- BS EN 13501-5 : 2016 *Fire classification of construction products and building elements — Classification using data from external fire exposure to roofs tests*
- BS EN ISO 9001 : 2015 *Quality management systems — Requirements*
- MOAT 66 : 2001 *UEAtc Technical Guide for the Assessment of Non-Reinforced, Reinforced and/or Backed Roof Waterproofing Systems made of EPDM*

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
- is copyright of the BBA
- is subject to English Law.

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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