

## BWK Dachzubehör GmbH

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Agrément Certificate  
**11/4854**  
Product Sheet 1

### LEAD-FREE FLASHINGS

### ALTO-LEAD FLASHING

#### PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate relates to Alto-Lead Flashing, a polyurethane coated aluminium sheet with a butyl adhesive backing for use at abutments, valleys, box gutters, stepped flashings, dormers and chimneys on pitched roofs as an alternative to lead flashing.

#### AGRÉMENT CERTIFICATION INCLUDES:

- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.



#### KEY FACTORS ASSESSED

**Weathertightness** — as part of a completed roof, the product will contribute to resisting the passage of moisture into the interior of the building (see section 5).

**Properties in relation to fire** — test results indicate that the product, when used as part of a complete roof, will be unrestricted under the Building Regulations (see section 6).

**Strength** — the product has adequate strength to resist the loads associated with the installation of the roof (see section 7).

**Durability** — under normal service conditions, the product will have an expected service life in excess of 20 years (see section 9).

The BBA has awarded this Agrément 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

Simon Wroe  
Head of Approvals — Materials

Greg Cooper  
Chief Executive

Date of First issue: 12 September 2011

*The BBA is a UKAS accredited certification body — Number 113. The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at [www.bbacerts.co.uk](http://www.bbacerts.co.uk)*

*Readers are advised to check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA direct.*

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# Regulations

In the opinion of the BBA, Alto-Lead Flashing, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements of the following Building Regulations:



## The Building Regulations 2010 (England and Wales)

<b>Requirement:</b> B4(2)	<b>External fire spread</b>
<b>Comment:</b>	Tests to BS 476-3 : 2004 indicate that the product, when used as part of a complete roof, will not effect the fire rating of the roof construction. See section 6 of this Certificate.
<b>Requirement:</b> C2(b)	<b>Resistance to moisture</b>
<b>Comment:</b>	The product will contribute to a roof meeting this Requirement. See section 5 of this Certificate.
<b>Requirement:</b> Regulation 7	<b>Materials and Workmanship</b>
<b>Comment:</b>	The product is acceptable. See section 9 and the <i>Installation</i> part of this Certificate.



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

<b>Regulation:</b> 8(1)(2)	<b>Fitness and durability of materials and workmanship</b>
<b>Comment:</b>	The use of the product satisfies the requirements of this Regulation. See sections 8 and 9 and the <i>Installation</i> part of this Certificate.
<b>Regulation:</b> 9	<b>Building standards – construction</b>
<b>Standard:</b> 2.8	<b>Spread from neighbouring buildings</b>
<b>Comment:</b>	Tests to BS 476-3 : 2004 indicate that the product can be regarded as having a low vulnerability, with reference to clause 2.8.1 <sup>(1)(2)</sup> , and will not affect the fire rating of the roof construction. See section 6 of this Certificate.
<b>Standard:</b> 3.10	<b>Precipitation</b>
<b>Comment:</b>	The product will contribute to a roof satisfying clauses 3.10.1 <sup>(1)(2)</sup> and 3.10.8 <sup>(1)(2)</sup> of this Standard. See section 5 of this Certificate.
<b>Standard:</b> 7.1(a)	<b>Statement of sustainability</b>
<b>Comment:</b>	The product can contribute to meeting 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.
<b>Regulation:</b> 12	<b>Building Standards – conversions</b>
<b>Comment:</b>	Comments made in relation to the product under Regulation 9, Standards 1 to 6, also apply to this Regulation, with reference to clause 0.12.1 <sup>(1)(2)</sup> and Schedule 6 <sup>(1)(2)</sup> . (1) Technical Handbook (Domestic). (2) Technical Handbook (Non-Domestic).



## The Building Regulations (Northern Ireland) 2000 (as amended)

<b>Regulation:</b> B2	<b>Fitness of materials and workmanship</b>
<b>Comment:</b>	The product is acceptable. See section 9 and the <i>Installation</i> part of this Certificate.
<b>Regulation:</b> B3(2)	<b>Suitability of certain materials</b>
<b>Comment:</b>	The product is acceptable. See section 8 of this Certificate.
<b>Regulation:</b> C4(b)	<b>Resistance to ground moisture and weather</b>
<b>Comment:</b>	The product will contribute to a roof satisfying this Regulation. See section 5 of this Certificate.
<b>Regulation:</b> E5(b)	<b>External fire spread</b>
<b>Comment:</b>	Tests to BS 476-3 : 2004 indicate that the product, when used as part of a complete roof construction, will not affect the fire rating of the roof construction. See section 6 of this Certificate.

## Construction (Design and Management) Regulations 2007

## Construction (Design and Management) Regulations (Northern Ireland) 2007

Information in this Certificate may assist the client, CDM co-ordinator, designer and contractors to address their obligations under these Regulations.

See section: 1 *Description* (1.2) of this Certificate.

# Non-regulatory Information

## NHBC Standards 2011

NHBC accepts the use of Alto-Lead Flashing, when installed and used in accordance with this Certificate, in relation to *NHBC Standards, Part 6 Superstructure (excluding roofs), Chapter 6.8 Fireplaces, chimneys and flues*, and *Part 7 Roofs, Chapter 7.2 Pitched roofs*.

## General

The product is manufactured by BWK Dachzubehör GmbH and distributed in the UK by Mercury Building Products, 114 Eckington Road, Coal Aston, Dronfield, Sheffield S18 3AY, tel: 01246 292816, fax: 01246 292867, e-mail: danny@vaprfree.co.uk and website: www.mercurybuildingproducts.com

## Technical Specification

### 1 Description

1.1 Alto-Lead Flashing is manufactured from sheet aluminium, coated with polyurethane on both sides and either a black (winter grade) or grey (summer grade) butyl adhesive on the lower surface protected by a release paper.

1.2 The rolls are available with nominal characteristics of:

Roll length <sup>(1)</sup> (m)	5.0
Roll width <sup>(1)</sup> (mm)	150, 300, 450, 600
Thickness (mm)	0.15
Weight of roll (kg)	1.5, 3.0, 4.5 and 6.0
Colours	Red, Black, Brown, Light grey and Lead grey
Finish	Structured, Corrugated or Smooth

(1) Other widths and lengths are available to order.

1.3 Quality control checks are carried out on incoming raw materials, during production and on the finished product.

### 2 Delivery and site handling

2.1 The product is distributed in boxed rolls. The boxes are marked with the size, colour, product name, number of rolls per box and the BBA identification mark including the number of this Certificate.

2.2 The rolls should be stored upright on a smooth, clean, dry surface, under cover, and protected from sunlight.

## Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Alto-Lead Flashing.

## Design Considerations

### 3 General

3.1 Alto-Lead Flashing, when designed and installed in accordance with the relevant parts of BS 5534 : 2003 and BS 8000-6 : 1990, is suitable for use in flashing applications such as chimneys, side abutments, valleys, box gutters, stepped flashings, dormers and chimneys to provide a weatherproof junction.

3.2 Where the product is likely to come into contact with aggressive chemicals, (such as acid, alkali, oil and solvent) a test on the product should be conducted before proceeding. If any doubt arises, the Certificate holder's advice should be sought.

### 4 Practicability of installation

The product is designed to be installed by competent roofing slaters and tilers.

### 5 Weathertightness



Results of tests confirm that the product, when incorporated into a roofing system designed and installed in accordance with conventional good practice, will adequately resist the passage of moisture to the interior of the building and so contribute to the roof meeting the requirements of the national Building Regulations:

**England and Wales** — Approved Document C, Requirement C2(b), Section 6

**Scotland** — Mandatory Standard 3.10, clauses 3.10.1 and 3.10.8.

**Northern Ireland** — Regulation C4(b).

### 6 Properties in relation to fire



Samples of Alto-Lead Flashing, when tested in accordance with BS 476-3 : 2004, achieved an A rating for surface spread of flame.

### 7 Strength

The product will resist the normal impacts associated with installation and use.

## 8 Maintenance



Damaged areas can be repaired by following the Certificate holder's instructions.

## 9 Durability



Accelerated weathering tests confirm that satisfactory retention of physical properties is achieved. Therefore the product has an expected service life in excess of 20 years.

## Installation

### 10 General

10.1 Installation of Alto-Lead Flashing must be strictly in accordance with the Certificate holder's instructions and the relevant recommendations of BS 5534 : 2003 and BS 8000-6 : 1990.

10.2 The product is worked in the same way as traditional lead flashing. It can be installed and worked in any direction using a mallet, roller or by hand. Cutting is achieved with scissors or a sharp knife without the need for protective measures.

10.3 Cutting, folding and working with a lead dresser can be carried out to a minimum temperature of 5°C.

10.4 When installing the product in valleys foot traffic should be avoided or a protection board should be used.

10.5 The backing paper on the product should be left in place until the final shape and position has been determined prior to its removal.

10.6 Surfaces should be clean and dry and any loose material removed to ensure proper adhesion.

10.7 The product should be dressed into the brickwork and sealed. Any jointing detail should have a minimum overlap of 100 mm.

10.8 Where top edges are exposed, a silicone sealant should be applied to prevent ingress of rainwater behind the flashing. Alternatively, a cover flashing turned into the joints of the brickwork can be used.

## Technical Investigations

### 11 Tests

Tests were carried out on Alto-Lead Flashing and the results assessed to determine:

- width and thickness to EN 1848-1 : 1999
- weight per unit area to EN 1849-2 : 2009
- tensile strength and elongation to EN 12311-1 : 2000 on control samples and on samples after UVB ageing and on samples after heat ageing for 12 weeks at 80°C
- tear resistance to EN 12310-1 : 2000
- low temperature foldability to EN 495-5 : 2000 on control samples and after heat ageing for 12 weeks at 80°C
- dimensional stability to EN 1107-1 : 2000
- water vapour transmission to BS 3177 : 1959
- water absorption to MOAT No 66 : 2001
- ash content to MOAT No 64 : 2001
- peel strength from brick and concrete substrates to MOAT No 64 : 2001
- effect of accelerated weathering and colour stability to BS EN ISO 4892-3 : 2000.

### 12 Investigations

12.1 An evaluation was made of existing data on fire performance to BS 476-3 : 2004.

12.2 An assessment was made on the following independent test data:

- bond strength
- bond strength at elevated temperature
- bond strength at low temperature
- resistance to artificial ageing
- effect of thermal ageing after artificial ageing.

12.3 The manufacturing process was evaluated, including the methods adopted for quality control, and details were obtained of the quality and composition of materials.

12.4 A survey of known users was carried out to assess the performance in use.

## Bibliography

- BS 476-3 : 2004 *Fire tests on building materials and structures — Classification and method of test for external fire exposure to roofs*
- BS 3177 : 1959 *Method for determining the permeability to water vapour of flexible sheet materials used for packaging*
- BS 5534 : 2003 *Code of practice for slating and tiling (including shingles)*
- BS 8000-6 : 1990 *Workmanship on building sites — Code of practice for slating and tiling of roofs and claddings*
- BS EN ISO 4892-3 : 2000 *Plastics — Methods of exposure to laboratory light sources — Fluorescent UV lamps*
- EN 495-5 : 2000 *Flexible sheets for waterproofing — Determination of foldability at low temperature — Plastic and rubber sheet for roof waterproofing*
- EN 1107-1 : 2000 *Flexible sheets for waterproofing — Determination of dimension stability — Bitumen sheets for roof waterproofing*
- EN 1848-1 : 1999 *Flexible sheets for waterproofing — Determination of length, width and straightness — Bitumen sheets for roof waterproofing*
- EN 1849-2 : 2001 *Flexible sheets for waterproofing — Determination of thickness and mass per unit area — Plastic and rubber sheets for roof waterproofing*
- EN 12311-1 : 2000 *Flexible sheets for waterproofing — Determination of tensile properties — Bitumen sheets for roof waterproofing*
- BS EN 12310-1 : 2000 *Flexible sheets for waterproofing — Determination of resistance to tearing (nail shank) — Bitumen sheets for roof waterproofing*
- MOAT No 64 : 2001 *UEAtc Technical Guide for the assessment of Roof Waterproofing Systems made of Reinforced APP or SBS Polymer Modified Bitumen Sheets*
- MOAT No 66 : 2001 *UEAtc Technical Guide for the assessment of non-reinforced, reinforced and/or Backed Roof Waterproofing Systems made of EPDM*

## 13 Conditions

13.1 This Certificate:

- relates only to the product/system 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.

13.2 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.

13.3 This Certificate will remain valid for an unlimited period provided that the product/system 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.

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

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

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