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Agrément Certificate
No 99/3608

PRODUCT SHEET 1 — WALKSAFE UPVC ROOF WALKWAYS

PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate relates to Walksafe UPVC Roof Walkways, for metal, membrane and traditional roofing systems, for use in providing anti-slip walkways across flat roofs, in roof valleys and half-valleys, for access and maintenance traffic.

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

Slip resistance — the product has satisfactory slip resistance in both dry and wet conditions (see section 5).

Resistance to impact — the product has sufficient resistance to be undamaged by impacts likely to occur in service (see section 6).

Colour stability — the white product remains colour stable over an extended period. The silver and brown product will fade evenly in exposed areas (see section 7).

Performance in relation to fire — the product is classified as Class 1Y when tested to BS 476-7 : 1987 (see section 8).

Durability — the product when subjected to normal conditions of exposure and use, will retain its integrity for a period in excess of 25 years (see section 10).



The BBA has awarded this Agrément Certificate for Walksafe UPVC Roof Walkways to Latchways plc as fit for its intended use provided it is installed, used and maintained as set out in this Agrément Certificate.

On behalf of the British Board of Agrément

Head of Approvals
— Materials

Chief Executive

Date of First issue: 3 June 1999

Date of Third issue: 11 July 2008

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

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, Walksafe UPVC Roof Walkways, 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 2000 (as amended) (England and Wales)

In the opinion of the BBA, the use of this product is not subject to these Regulations.



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)(2)	Fitness and durability of materials and workmanship
Comment:		The use of the product satisfies the requirements of this Regulation. See sections 9.1, 9.2 and 10 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards – construction
Standard:	4.8(d)	Danger from accidents
Comment:		The roof safety walkway can provide safe and suitable access over roof areas and can contribute to a roof satisfying this Standard, with reference to clause 4.8.7 ⁽¹⁾ . See section 5 of this Certificate.
Regulation:	12	Building standards – conversions
Comment:		All comments given for this product under Regulation 9, 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) 2000 (as amended)

In the opinion of the BBA, the use of this product is not subject to these Regulations.

The Work at Height Regulations 2005

Requirement:	Regulation 6	Avoidance of risks from work at height
Comment:		The roof safety walkway can provide safe and suitable access over roof areas. See section 5 of this Certificate. The roof safety walkway can contribute to satisfying the requirements of this Regulation. See section 5 of this Certificate.
Requirement:	Regulation 9	Fragile surfaces
Comment:		The Fall Proof Covers provide suitable protection for fragile roofing materials. See section 3.4 of this Certificate.

Workplace (Health, Safety and Welfare) Regulations 1992

Requirement:	Regulation 13	Falls or falling objects
Comment:		The roof safety walkway can provide safe and suitable access over roof areas. See section 5 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 sections: 1 (1.2) *Description*, 5 *Slip resistance* and 3 *General* (3.4).

Non-regulatory Information

NHBC Standards 2007

NHBC accepts the use of Walksafe UPVC Roof Walkways, when installed and used in accordance with this Certificate, in relation to *NHBC Standards*, Chapter 7.1 *Flat roofs and balconies*, Clause D11, *Access for maintenance*.

Zurich Building Guarantee Technical Manual 2007

In the opinion of the BBA, Walksafe UPVC Roof Walkways, when installed and used in accordance with this Certificate, satisfy the requirements of the *Zurich Building Guarantee Technical Manual*, Section 1 *Scope and Requirements*, Sub-section *Establishing fitness of materials and workmanship*.

General

This Certificate relates to Walksafe UPVC Roof Walkways, for metal, membrane and traditional roofing systems, for use in providing anti-slip walkways across flat roofs, in roof valleys and half-valleys, for access and maintenance traffic. Fall Proof Covers are available for use in protecting fragile substrates where walkways are to be installed in valleys or at parapets and north-light roofs.

Technical Specification

1 Description

1.1 Walksafe UPVC Roof Walkways consist of an assembly of extruded PVC-U, moulded PVC-U, stainless steel and aluminium components. The plank components are manufactured with a patterned surface to give improved slip resistance in dry and wet weather.

1.2 The walkway sections are available in standard three-metre lengths⁽¹⁾ in three styles; Flat, Valley and Half-Valley (see Figure 1). The weight per unit area of the Flat-style product is 11.6 kgm^{-2} . The guidelines for the number of planks for a specific width are given in Table 1. The product is available coloured white or brown⁽²⁾.

(1) Other lengths are available to order.

(2) Other colours are available subject to special request.

Table 1 Plank/width specification guidelines

Required width (mm) ⁽¹⁾	Number of planks
175	2
275	3
375	4
475	5
575	6
675	7
775	8
875	9
975	10

(1) The Health and Safety Executive (HSE) recommends a minimum width of 430 mm or 600 mm if materials are to be carried along a walkway. It may not be possible to use the recommended widths in some situations (eg gutters). For widths above 915 mm, for use in valleys, a surveyor's opinion should be sought.

1.3 Fall Proof Covers are available to provide protection over fragile substrates (eg fibre-cement sheets), where walkways are to be installed in valleys or at parapets and north-light roofs.

1.4 The following ancillary items are for use with the walkways:

- edge skirting — for use in installing walkways in valleys and half-valleys. It is riveted to the plank to ensure stability
- edge gasket — fitted to the edge skirting to give a positive fit in the roof valley
- UPVC guardrails — guardrails on glazing bars for use with walkways designed for north-light roofs [see *Health and Safety in Roof Work* (HSG 33)⁽¹⁾ Figure 15, page 24, and Figure 33, page 58, for guidance on the use of guardrails]
- end caps — PVC-U caps for closing ends of runs
- jointing fasteners — stainless steel fasteners for use in joining sections into a linear run
- supporting angle — a heavy-duty metal angle for use in half-valleys.

(1) This document has been withdrawn and is currently being revised.

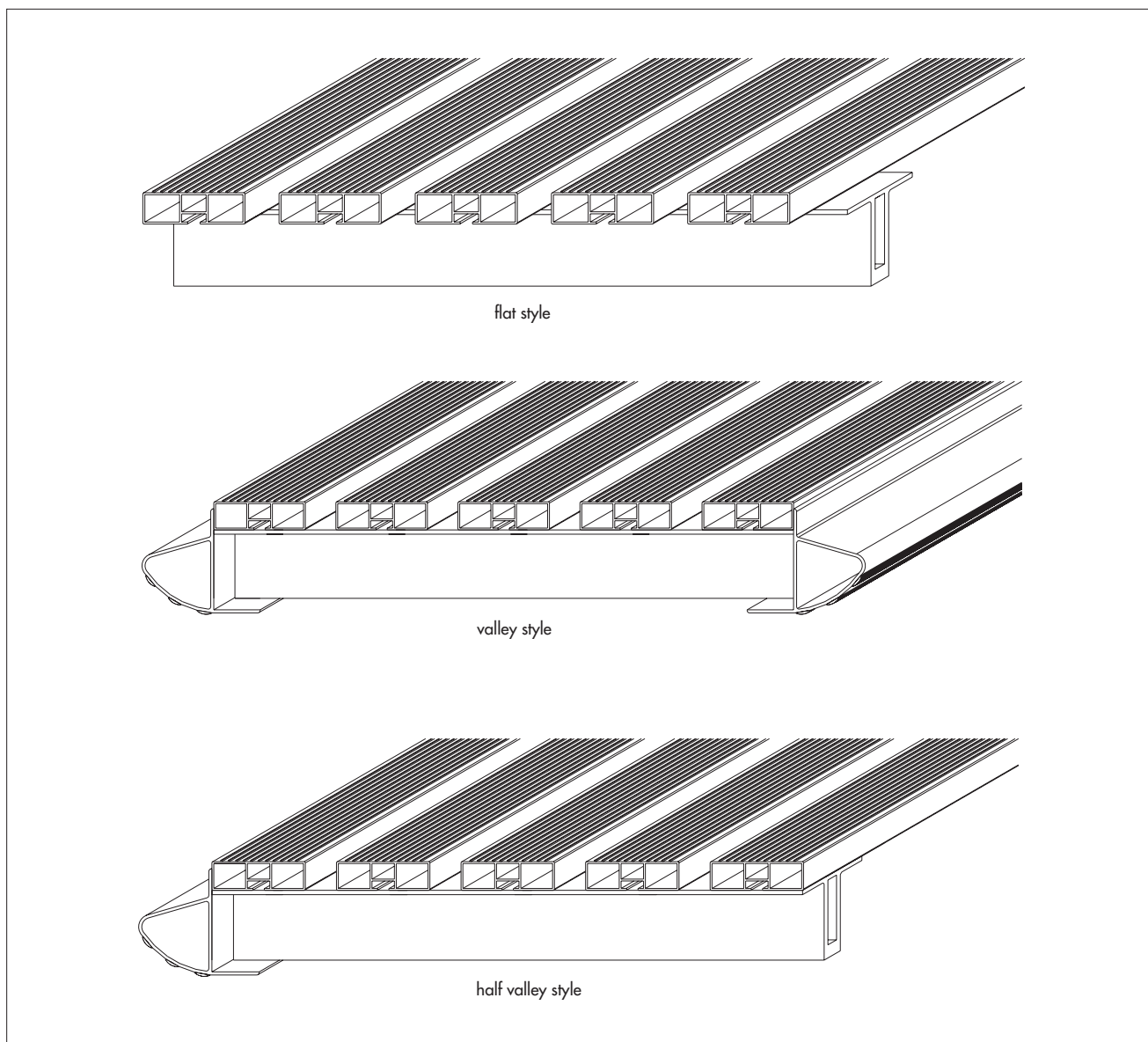
1.5 Quality control checks are carried out on incoming materials, during manufacture and on the final product. Extruded components are checked dimensionally during production and the assembled product visually prior to packing.

2 Delivery and handling

2.1 Packaging of Walksafe depends on the size and style of order. Wherever possible, the items are banded together to avoid movement in transit. Larger items are stacked separately for ease of handling. Other arrangements may be made for special orders.

2.2 Each assembly carries a label bearing product name, manufacturer's name, telephone and fax numbers. The BBA identification mark, incorporating the number of this Certificate, is displayed on the product packaging.

Figure 1 Walkway sections



Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Walksafe UPVC Roof Walkways.

Design Considerations

3 Use

3.1 Walksafe UPVC Roof Walkways are satisfactory for use in providing slip-resistant access across flat roofs, in roof valleys and half-valleys, for access and maintenance traffic.

3.2 When used on flat roofs, the roof deck must comply with BS 6229 : 2003. When used over fragile substrates in valleys or at parapets and north-light roofs, precautions to protect the substrate should be taken [see *Health and Safety in Roof Work* (HSG 33) Figure 15, page 24, and Figure 33, page 58, for guidance on the use of guardrails].

3.3 When used over roof waterproofing membranes, the waterproofing layer should have a minimum static indentation rating of I_3 , when tested to MOAT No 27 : 1983, to ensure sufficient resistance to damage.

3.4 The Fall Proof Cover, when used over fragile roofing materials in roof valleys, provides suitable protection to the material enabling it to meet the requirements of the Construction (Health, Safety and Welfare) Regulations 1996, Regulation 7 and the recommendations of *Health and Safety in Roof Work* (HSG 33), clauses 114 and 115.

4 Practicability of installation

The product can be installed easily by roofing/maintenance contractors.

5 Slip resistance



Tests show that the product has satisfactory slip resistance in both dry and wet conditions (see section 15, Table 2 for *Physical properties*) and so meets the requirements of:

Scotland — Mandatory Standard 4.8, clause 4.8.7⁽¹⁾

(1) Technical Handbook (Domestic).

The Work at Height Regulations 2005 — Regulations 6 and 9

Workplace (Health, Safety and Welfare) Regulations 1992 — Regulation 13.

6 Resistance to impact

Tests show the product has sufficient resistance to be undamaged by impacts likely to occur in normal service. If damage does occur, the affected section should be replaced (see section 15, Table 2 for *Physical properties*).

7 Colour stability

The white PVC compound is UV stabilised and will remain colour stable over an extended period. The silver and brown PVC compound is not colour stable and the exposed areas of the product will fade evenly.

8 Performance in relation to fire

Tests to BS 476-7 : 1987 show that the PVC compound used to manufacture Walksafe is classified as Class 1Y.

9 Maintenance



9.1 Walkways can easily be washed down periodically with a suitable liquid cleaner and water applied with a stiff brush to remove debris.

9.2 If installed in a gutter, the walkway can be easily removed to allow routine maintenance.

10 Durability



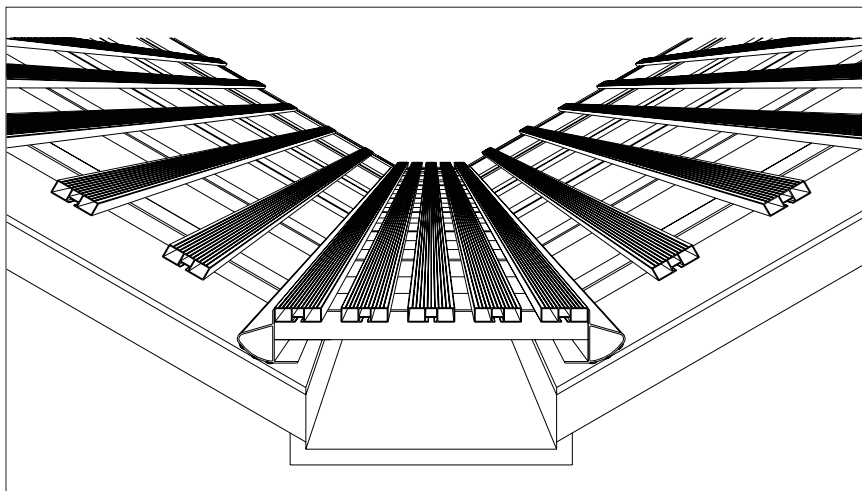
Walksafe UPVC Roof Walkways, when subjected to normal conditions of exposure and use, will retain their integrity for a period in excess of 25 years.

Installation

11 General

11.1 Walksafe UPVC Roof Walkways should be installed in accordance with the manufacturer's instructions and the relevant clauses of *Health and Safety in Roof Work* (HSG 33). A typical installation is shown in Figure 2.

Figure 2 Typical installation



11.2 To maintain integrity on linear runs, it is recommended by the manufacturer that sections are joined using the jointing fasteners. End caps should be used to close the end of walkway runs.

11.3 The walkways do not require mechanical fixing through the waterproofing layer of the roof, so maintaining the integrity of the layer.

12 Flat roofs

The walkway for flat roofs is constructed using a cushioned, non-slip bearing bolted to longitudinal planking. To allow better drainage in gutters and for profiled roof deckings, the walkway can be constructed using cross-planks and longitudinal bearers. Cushion bearers are available with a depth of 16 mm, 25 mm, 50 mm or 75 mm.

13 Valleys

13.1 Fall Proof Covers should be installed in accordance with the manufacturer's instructions when walkways are installed over fragile substrates. The covers are installed on both sides of valleys and on one side of parapets and north-light roofs.

13.2 The walkway section stands upon deep bearers including Edge Skirting. The angle of the bearers can be altered to suit the pitch of the valley. The valley walkways also include a flexible gasket to give a positive fit to the roof angle.

13.3 When installed in half-valley specifications a heavy-duty metal angle is bolted to the vertical wall to support the walkway.

13.4 When walkways are to be installed in valleys wider than 915 mm the opinion of a surveyor should be sought on the suitability.

14 Repair

If damage occurs to sections of walkway, the section should be replaced.

Technical Investigations

15 Tests

15.1 Samples of Walksafe UPVC Roof Walkways were obtained from the manufacturer for the purpose of testing. The results of these tests, which show typical results for the product, are summarised in Table 2.

Table 2 Physical properties

Test (units)	Mean result	Method ⁽¹⁾
Tensile impact (kJm ⁻²)		BS 2782-3.354A
white profile		
unaged	692	
heat aged ⁽²⁾	613	
heat aged ⁽³⁾	592	
water soak ⁽⁴⁾	692	
UV aged ⁽⁵⁾	518	
brown profile		
unaged	607	
heat aged ⁽²⁾	562	
heat aged ⁽³⁾	597	
water soak ⁽⁴⁾	632	
UV aged ⁽⁵⁾	408	
Coefficient of friction		BBA T1/10
dry	0.57	
wet	0.51	
Soft body impact		MOAT 11 : 3.1.13
on cross support	pass	
between cross support	pass	
Hard body impact		MOAT 11 : 3.1.1.5
on cross support	pass	
between cross support	pass	
Fragility	pass	ACR[M]001

(1) The test document is detailed in the *Bibliography*. Numbers in the table refer to sections/parts of the document.

(2) Heat aged 100 days at 80°C.

(3) Heat aged 200 days at 80°C.

(4) Water soak 28 days at 23°C.

(5) UV ageing for 2500 light hours using a cycle of 4 hours UV at 45°C/ 4 hours condensation at 50°C.

15.2 Tests were also carried out to determine:

- dimensions
- weight
- heat distortion
- point loading.

15.3 Test data from a previous assessment of the PVC-U compound were assessed for:

- density
- ash content
- dehydrochlorination
- resistance to impact at low temperature
- shrinkage on heating (reversion)
- verification of gelation by heating.

16 Investigations

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

16.2 A user survey was performed to examine the product's performance in use.

16.3 A visit to an existing site installed in 1981 was carried out to assess the durability of the product under natural ageing conditions.

16.4 Fire data to BS 476-7 : 1987 were obtained and assessed.

Bibliography

BS 476-7 : 1987 *Fire tests on building materials and structures — Method for classification of the surface spread of flame of products*

BS 2782-3.354A : 1991 *Methods of testing plastics — Mechanical properties — Determination of tensile-impact strength*

BS 6229 : 2003 *Flat roofs with continuously supported coverings — Code of practice*

Advisory Committee for Roofwork, ACR[M]001 : 2000 *Test For Fragility of Roofing Assemblies [second edition]*

MOAT No 11 : 1969 *Directive for the Assessment of Doors*

MOAT No 27 : 1983 *General Directive for the Assessment of Roof Waterproofing Systems*

HSG 33 *Health and Safety in Roof Work* (published by Health and Safety Executive).

17 Conditions

17.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is granted only to the company, firm or person named on the front page — no other company, firm or person may hold or claim any entitlement to this Certificate
- 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.

17.2 References in this Certificate to any Act of Parliament, Statutory Instrument, Directive or Regulation of the European Union, British, European or International Standard, Code of Practice, manufacturers' instructions or similar publication, are references to such publication in the form in which it was current at the date of this Certificate.

17.3 This Certificate will remain valid for an unlimited period provided that the product/system and the manufacture and/or fabrication including all related and relevant 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.

17.4 In granting this Certificate, the BBA is not responsible for:

- 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 the nature, design, methods and workmanship of or related to the installation
- the actual works in which the product/system is installed, used and maintained, including the nature, design, methods and workmanship of such works.

17.5 Any information relating to the manufacture, supply, installation, use and maintenance 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 and maintained. It does not purport in any way to restate the requirements of the Health & Safety at Work etc Act 1974, or of any other statutory, common law or other duty which may exist at the date 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. In granting this Certificate, the BBA does not accept responsibility to any person or body for any loss or damage, including personal injury, arising as a direct or indirect result of the manufacture, supply, installation, use and maintenance of this product/system.