

## Hambleside Danelaw Ltd

Long March  
Daventry

Northamptonshire NN11 4NR

Tel: 01327 701900 Fax: 01327 701909

e-mail: sales@hambleside-danelaw.co.uk

website: www.hambleside-danelaw.co.uk



Agrément Certificate  
**87/1915**  
Product Sheet 5

### HAMBLESIDE DANELAW GRP FLASHINGS

### HAMBLESIDE DANELAW GRP VALLEY TROUGH FOR INTERLOCKING TILED ROOFS

This Agrément Certificate Product Sheet<sup>(1)</sup> relates to Hambleside Danelaw GRP Valley Trough for Interlocking Tiled Roofs, for use in tiled roofs constructed in accordance with the relevant requirements of BS 5534 : 2014. The product provides a weatherproof jointing method at the junction of different tiled roof coverings in the same plane.

(1) Hereinafter referred to as 'Certificate'.

#### 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 complete roof, the product will resist the passage of moisture into the interior of the building (see section 6).

**Properties in relation to fire** — tests indicate that the product, when used as part of a complete roof, will be unrestricted under the Building Regulations (see section 7).

**Strength** — the product has adequate strength to resist the normal loads and impacts associated with the installation of the roof (see section 8).

**Durability** — under normal service conditions, the product will have a service life of at least 20 years (see section 10).

The BBA has awarded this Certificate to the company named above for the product described herein. These 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

A handwritten signature in black ink, appearing to read 'John Albon'.

Date of Second issue: 23 July 2015

John Albon — Head of Approvals  
Construction Products

A handwritten signature in black ink, appearing to read 'Claire Curtis-Thomas'.

Claire Curtis-Thomas  
Chief Executive

Originally certificated on 20 September 1987

*The BBA is a UKAS accredited certification body — Number 1113. 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.*

British Board of Agrément  
Bucknalls Lane  
Watford  
Herts WD25 9BA

tel: 01923 665300  
fax: 01923 665301  
clientservices@bba.star.co.uk  
[www.bbacerts.co.uk](http://www.bbacerts.co.uk)

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# Regulations

In the opinion of the BBA, Hambleside Danelaw GRP Valley Trough for Interlocking Tiled Roofs, 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 presence of a UK map indicates that the subject is related to the Building Regulations in the region or regions of the UK depicted):



## The Building Regulations 2010 (England and Wales) (as amended)

Requirement:	B4(2)	External fire spread
Comment:		Data to BS 476-3 : 1958 indicate that the product, when used as part of a complete roof, will not affect the fire rating of the roof construction. See section 7 of this Certificate.
Requirement:	C2(b)	Resistance to moisture
Comment:		The products will contribute to a roof meeting this Requirement. See section 6 of this Certificate.
Regulation:	7	Materials and workmanship
Comment:		The product is acceptable. See section 10 and the <i>Installation</i> part of this Certificate.



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

Regulation:	8(1)(2)	Durability, workmanship and fitness of materials
Comment:		The use of the product satisfies the requirements of this Regulation. See sections 9 and 10 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards applicable to construction
Standard:	2.8	Spread from neighbouring buildings
Comment:		Data to BS 476-3 : 1958 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 7 of this Certificate.
Standard:	3.10	Precipitation
Comment:		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 6 of this Certificate.
Standard:	7.1(a)	Statement of sustainability
Comment:		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.
Regulation:	12	Building standards applicable to conversions
Comment:		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) 2012 (as amended)

Regulation:	23(a)(i)(iii)(b)(i)	Fitness of materials and workmanship
Comment:		The product is acceptable. See section 10 and the <i>Installation</i> part of this Certificate.
Regulation:	28(b)	Resistance to moisture and weather
Comment:		The product will contribute to a roof satisfying this Regulation. See section 6 of this Certificate.
Regulation:	36(b)	External fire spread
Comment:		Data to BS 476-3 : 1958 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 7 of this Certificate.

## Construction (Design and Management) Regulations 2015

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

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

See sections: 1 *Description* (1.3) and 3 *Delivery and site handling* (3.1) of this Certificate.

# Additional Information

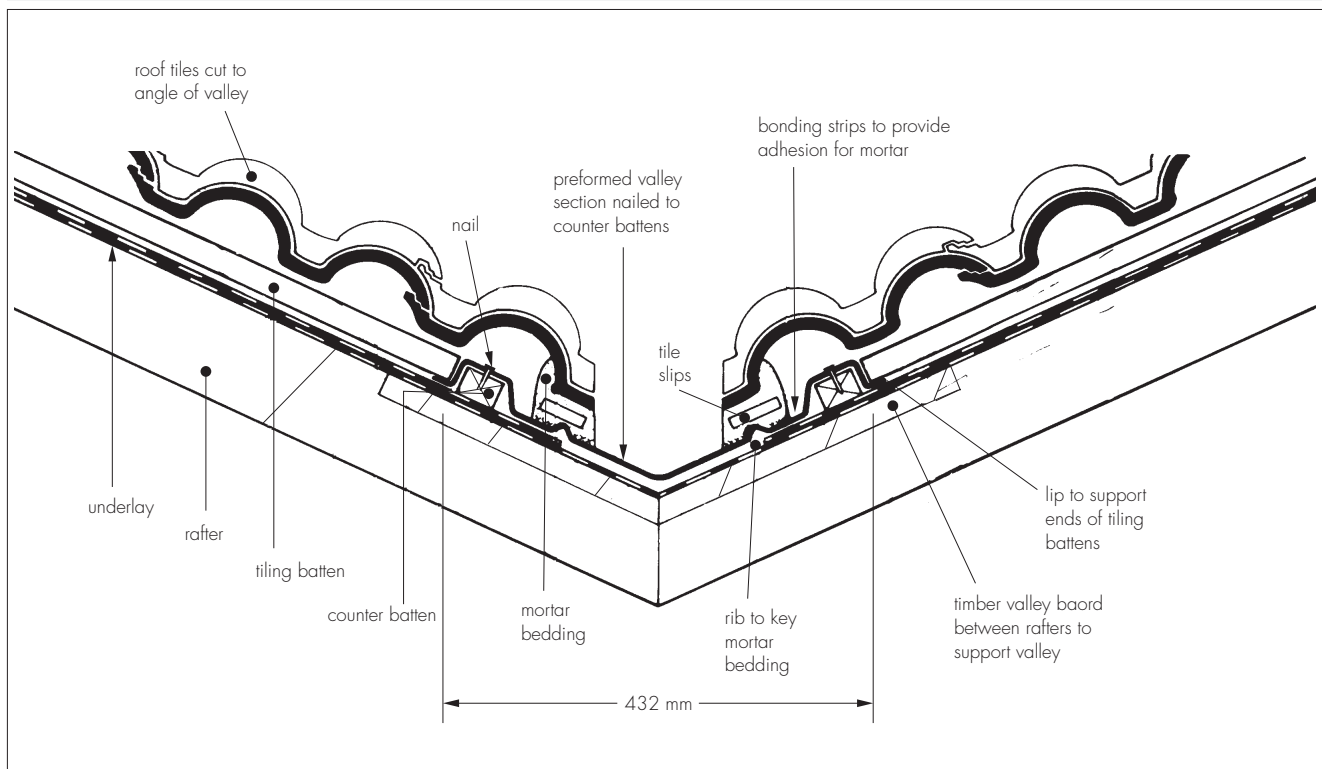
## NHBC Standards 2014

NHBC accepts the use of Hambleside Danelaw GRP Valley Trough for Interlocking Tiled Roofs, provided it is installed, used and maintained in accordance with this Certificate, in relation to *NHBC Standards, Part 7 Roofs, Chapter 7.2 Pitched roofs*.

## 1 Description

1.1 Hambleside Danelaw GRP Valley Trough for Interlocking Tiled Roofs is manufactured from glassfibre-reinforced polyester (GRP) laminate to the profile illustrated in Figure 1.

Figure 1 Standard valley section



1.2 Mortar bonding strips are provided on the upper surface of the trough, at the positions shown in Figure 1, to provide a key for bedding the roof tiles in mortar.

1.3 The product is supplied in 3 m lengths and with a pitch of 21°, but can be adapted by bending to accommodate roof pitches from 22.5° to 45°.

1.4 The product is finished in Standard Grey.

## 2 Manufacture

2.1 The product is manufactured in a continuous process. Glassfibre mats are impregnated with resin and laminated with a polyester carrier film and a weather protection film to the required profile.

2.2 As part of the assessment and ongoing surveillance of product quality, the BBA has:

- agreed with the manufacturer the quality control procedures and product testing to be undertaken
- assessed and agreed the quality control operated over batches of incoming materials
- monitored the production process and verified that it is in accordance with the documented process
- evaluated the process for management of nonconformities
- checked that equipment has been properly tested and calibrated
- 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.

2.3 The management system of Hambleside Danelaw Ltd has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2008 by BSI (Certificate FM 23063).

## 3 Delivery and site handling

3.1 The product is delivered to site in packs of 10 units, each unit marked with size, the application and the BBA logo including the number of this Certificate.

3.2 The packs must be stored flat or on end, 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 Hambleside Danelaw GRP Valley Trough for Interlocking Tiled Roofs.

## Design Considerations

### 4 Use

Hambleside Danelaw GRP Valley Trough for Interlocking Tiled Roofs is satisfactory for use in tiled pitched roofs constructed in accordance with the relevant clauses of BS 5534 : 2014, to provide a weatherproof junction where there are changes in direction or material in a roof structure.

### 5 Practicability of installation

Installation is designed to be carried out readily by slaters/tilers experienced with this type or product.

### 6 Weathertightness



Results of tests indicate that the product will adequately resist the passage of moisture to the interior of a building and so meet the requirements of the national Building Regulations.

### 7 Properties in relation to fire



When tested in accordance with BS 467-3 : 1958, samples of GRP representative of that used in the manufacture of the product achieved an EXT.S.AB rating.

### 8 Strength

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

### 9 Maintenance



Minimal maintenance is necessary and the smooth finish will inhibit the build up of foreign matter.

### 10 Durability



Available test data and knowledge of the material indicate that the product will have an expected life of at least 20 years.

## Installation

### 11 General

Installation of Hambleside Danelaw GRP Valley Trough for Interlocking Tiled Roofs should be in accordance with the Certificate holder's instructions, the product label and the relevant recommendations of BS 5534 : 2014 and BS 8000-6 : 2013.

### 12 Procedure

12.1 Installation must be carried out prior to application of tile battens.

12.2 Valley boards must be used, and be lined longitudinally with reinforced underlay one metre wide. Counter battens of similar size to those to be used for tiling battens must be fixed on both sides, along the length of the valley. The trough must be fitted over the battens and nailed into place. The trough can be bent to fit a range of pitch angles (see section 1.3).

12.3 Commencing at the foot, the trough is nailed to the counter battens through drilled holes at 600 mm centres, using nails of a quality acceptable in good roofing practice.

12.4 Consecutive lengths of trough are laid with a 150 mm overlap when measured vertically at the joints, and fixed with two aluminium nails per side. The head and foot of the valley are trimmed using a fine-toothed saw.

12.5 The tiling battens must be fixed and cut to the angle of the trough, the ends supported by the projecting lips.

12.6 The tiles are laid and cut to the rake of the valley, leaving a 125 mm central channel. The cut tiles are bedded in mortar applied over the sanded strip provided for keying and then neatly pointed. With deep profiled interlocking tiles, slips are used to reduce the risk of mortar shrinkage.

## 13 Tests

Tests were conducted and the results assessed to determine:

- density
- glass/resin ratio
- hardness
- cross-breaking strength
- impact resistance
- effect of elevated temperatures
- effect of water soak.

## 14 Investigations

14.1 An assessment was made of the results of a fire test in accordance with BS 476-3 : 1958 carried out by an independent test authority.

14.2 A survey of users was carried out to assess performance in use.

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

## Bibliography

BS 476-3 : 1958 *Fire tests on building materials and structures — Classification and method of test for external fire exposure to roofs*

BS 5534 : 2014 *Slating and tiling for pitched roofs and vertical cladding — Code of practice*

BS 8000-6 : 2013 *Workmanship on building sites — Code of practice for slating and tiling of roofs and walls*

BS 8747 : 2007 *Reinforced bitumen membranes (RBMs) for roofing — Guide to selection and specification*

BS EN ISO 9001 : 2008 *Quality management systems — Requirements*

## 15 Conditions

15.1 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.

15.2 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.

15.3 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.

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

15.5 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
- actual 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
- any claims by the manufacturer relating to CE marking.

15.6 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.