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Agrément Certificate

07/4492

Product Sheet 9 Issue 1

FILON V-FLOW GRP VALLEY TROUGH AND FLASHINGS RANGE

FILON HERITAGE VALLEY TROUGH (GDFHVT1)

This Agrément Certificate Product Sheet⁽¹⁾ relates to Filon Heritage Valley Trough (GDFHVT1), for use in slated or tiled pitched roofs constructed in accordance with the relevant requirements of BS 5534 : 2014. The product provides a weatherproof junction where there are changes in direction in a slated or tiled roof structure and creates a close mitred/stitched appearance valley.

(1) Hereinafter referred to as 'Certificate'.

The assessment includes

Product factors:

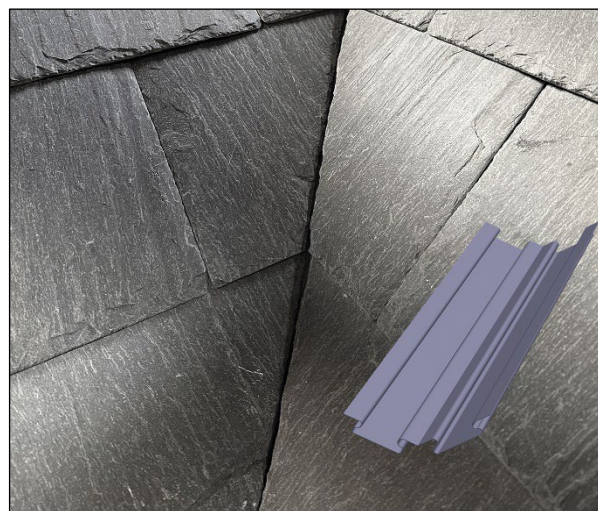
- compliance with Building Regulations
- compliance with additional regulatory or non-regulatory information where applicable
- evaluation against technical specifications
- assessment criteria and technical investigations
- uses and design considerations

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 issue: 3 November 2023

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 Filon Heritage Valley Trough (GDFHVT1), 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(2)	External fire spread
Comment:		On suitable substructures, the use of the product may enable a roof to be unrestricted under this Requirement. See section 2 of this Certificate.
Requirement:	C2(b)	Resistance to moisture
Comment:		The product will contribute to a roof satisfying 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.



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)(2)	Fitness and durability of materials and workmanship
Comment:		The use of this product satisfies the requirements of this Regulation. See sections 8 and 9 of this Certificate.
Regulation:	9	Building standards applicable to construction
Standard:	2.8	Spread from neighbouring buildings
Comment:		When applied to a suitable substructure, the product may enable a roof to be unrestricted under clause 2.8.1 ⁽¹⁾⁽²⁾ of this Standard. See section 2 of this Certificate.
Standard:	3.10	Precipitation
Comment:		The product will contribute to a structure satisfying the requirements of this Standard, with reference to clauses 3.10.1 ⁽¹⁾⁽²⁾ , 3.10.7 ⁽¹⁾⁽²⁾ and 3.10.8 ⁽¹⁾⁽²⁾ . 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:		Building standards applicable to conversions
Comment:		Comments in relation to 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:	28(b)	Resistance to moisture and weather
Comment:		The use of the product will enable a roof to satisfy the requirements of this Regulation. See section 3 of this Certificate.
Regulation:	36(b)	External fire spread
Comment:		On a suitable substructure, the use of the product may enable a roof to be unrestricted under this Regulation. See section 2 of this Certificate.

Additional Information

NHBC Standards 2023

In the opinion of the BBA, Filon Heritage Valley Trough (GDFHVT1), if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards*, Chapter 7.2 *Pitched roofs*.

Fulfilment of Requirements

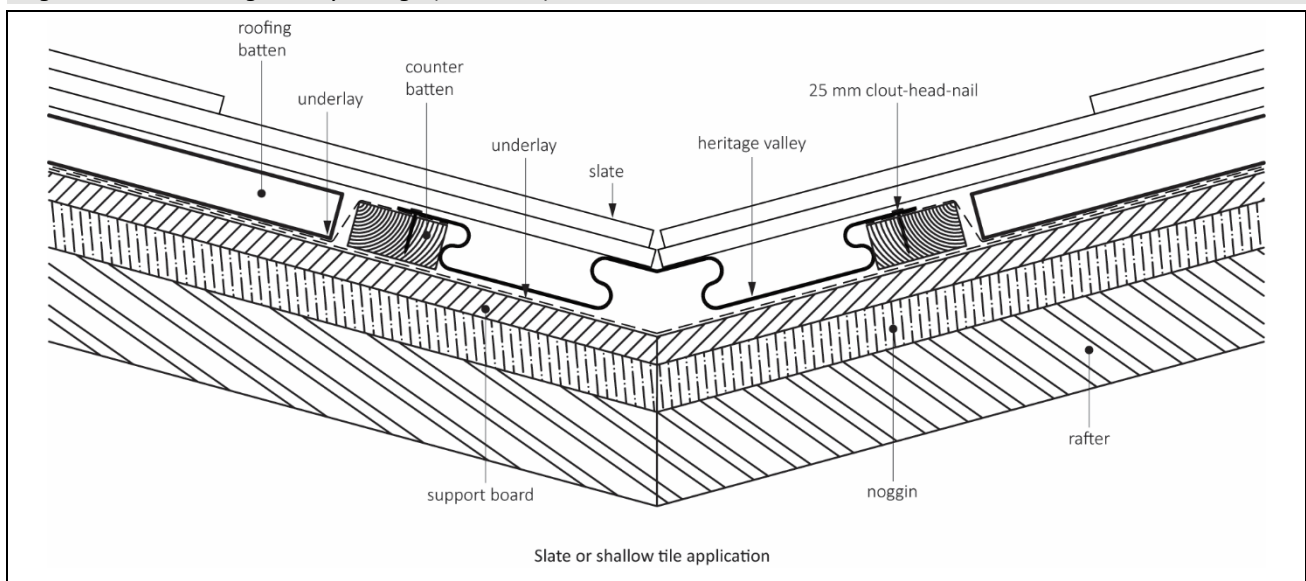
The BBA has judged Filon Heritage Valley Trough (GDFHVT1) to be satisfactory for use as a weatherproof junction where there are changes in direction in a slated or tiled roof structure and to create a close mitred/stitched appearance valley.

ASSESSMENT

Product description and intended use

The Certificate holder provided the following description for the product under assessment. Filon Heritage Valley Trough (GDFHVT1) consists of a glass fibre/polyester laminate, with a UV-resistant polyester film on the upper face (see Figure 1). The product is supplied in lengths of 3 m, with a width of 280 mm and is finished in a lead grey colour.

Figure 1 Filon Heritage Valley Trough (GDFHVT1)



Applications

The product is intended for use in the following situation:

- as a dry fix valley trough in slated and tiled pitched roofs, to provide a weatherproof finish and create a close mitred/stitched appearance valley.

Definitions for products and applications inspected

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

- pitched roof — a roof having a fall in excess of 1:6

Product assessment – key factors

The product was assessed for the following key factors, and the outcomes of the assessments are 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 1.

Table 1 Results of strength and stability tests

Product assessed	Assessment method	Requirement	Result
Filon GRP Valley sheet	Cross breaking strength to BS 2782 : Part 10 : Method 1005 : 1977 – Control	Value achieved	
	Elastic modulus		4985 MPa
	Flexural strength		177 MPa
Filon GRP Valley sheet	Barcol hardness to BS 2782 : Part 10 : Method 1001 : 1977 Control (smooth) tested at 23°C and 50%RH	Value achieved	
			46
Filon GRP Valley sheet	Hard body impact to MOAT 22 : 1988	No significant damage	Pass
Filon GRP Valley sheet	Tensile strength to BS 2782 : Part 3 : Method 320E : 1976	Value achieved	
			93.5 MPa
Filon GRP Valley sheet	Elongation to BS 2782 : Part 3 : Method 320E : 1976	Value achieved	2.6%

1.1.2 On the basis of data assessed, Filon Heritage Valley Trough (GDFHVT1) will resist the normal loads and impacts associated with installation and use.

2 Safety in case of fire

Data were assessed for the following characteristics.

2.1 External fire spread

2.1.1 Result of fire test is given in Table 2.

Table 2 Result of fire test

Product assessed	Assessment method	Requirement	Result
Glass-reinforced plastic (GRP) roofing sheet	External fire exposure to roofs in accordance with BS 476-3 : 2004 ⁽¹⁾	Value achieved	EXT.S. AA

(1) Test report references 20053 AE and 20053 AH, issued by Warringtonfire. Reports available from the Certificate holder.

2.1.2 On the basis of data assessed, the product is unrestricted by the documents supporting the national Building Regulations with respect to proximity to a boundary.

2.1.3 This designation can be affected by other components of the roof, eg insulation materials, substrates/decking and membranes. These constructions 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.

2.1.4 In the absence of an external fire exposure classification, the product must not be used on roofs within 20 m of a boundary (24 m in Scotland).

2.2 Reaction to fire

2.2.1 The Certificate holder has not declared a reaction to fire classification for the product to BS EN 13501-1 : 2018

2.2.2 Designers must refer to the relevant national Building Regulations and guidance for detailed conditions of use, particularly in respect of 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 Weathertightness

3.1.1 The weathertightness of the product was assessed using test data from a related product and met the requirement of remaining watertight when subjected to a one metre head of water for 24 hours.

3.1.2 On the basis of data assessed, Filon Heritage Valley Trough (GDFHVT1), when completely sealed, will adequately resist the passage of moisture to the inside of the building and so satisfy the relevant 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.

8.1.1 Specific test data were assessed, as given in Table 3.

Product assessed	Assessment method	Requirement	Result
Filon GRP Valley sheet	Cross breaking strength to BS 2782 : Part 10 : Method 1005 : 1977 Water immersion for 30 days at 23°C	No significant loss of properties following ageing	Pass
	Water boil for 2 hours; tested wet after 30 mins cooling		Pass
	Heat aged for 7 days at 70°C		Pass
	UV aged - 4 hours UV at 50°C, followed by 4 hours of condensation at 50°C for 1000 light hours		Pass
Filon GRP Valley sheet	Barcol hardness to BS 2782 : Part 10 : Method 1001 : 1977 Water immersion for 30 days at 23°C	No significant loss of properties following ageing	Pass
	Water boil for 2 hours; tested wet after 30 minutes cooling		Pass
	Heat aged for 7 days at 70°C		Pass

8.2 Service life

Under normal service conditions, the product will have a service life in excess of 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 Design

9.1.1 The design process was assessed by the BBA and the following requirements apply in order to meet the performance assessed in this Certificate.

9.1.2 Filon Heritage Valley Trough (GDFHVT1), when designed and installed in accordance with the relevant parts of BS 5534 : 2014, BS 8000-0 : 2014 and BS 8000-6 : 2013, is satisfactory for use as a dry fix valley trough in slated and tiled pitched roofs, to provide a weatherproof finish.

9.1.3 The trough is suitable for roof pitches of between 17.5 and 60° with a maximum 20° pitch differential of adjacent roofs.

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 of Filon Heritage Valley Trough (GDFHVT1) must be carried out in accordance with this Certificate, the Certificate holder's instructions and the relevant recommendations of BS 5534 : 2014, BS 8000-0 : 2014 and BS 8000-6 : 2013.

9.2.3 The product must be fitted over timber valley boards of sufficient width to provide end support for the tiling battens. Where rafters are positioned at up to 600 mm centres, valley boards must be flush-fitted with the top of the rafters, and must be either a minimum of 19 mm softwood (or 12 mm ply) set between the rafters and supported on timber noggins, or 6 mm continuous ply boards laid over the rafters.

9.2.4 The valley is first lined longitudinally with a single strip of 1 m wide, BS 8747 : 2007 Type 1F roofing underlay.

9.2.5 A length of the valley trough is pressed to a snug fit into the valley so that the drainage channels sit fully onto the valley boards. The fascia board must be marked so that it can be notched to allow the drainage channels of the valley trough to pass through it.

9.2.6 A chalk line is used to mark longitudinally along either side of the valley trough, to indicate the required counter batten position.

9.2.7 Counter battens of the same depth as the roofing battens are fixed along the marked lines to support the edges of the valley troughs.

9.2.8 The main roofing underlay is laid and dressed over the counter batten. Battens are fitted with the ends firmly located onto the valley boards, positioned close to the counter batten, with care taken to avoid damaging the underlay.

9.2.9 At the eaves, a 'V' shape is cut into the end of valley trough so that it replicates the internal angle of the fascia of the roof; the valley trough is positioned to ensure that it overhangs sufficiently to allow adequate drainage into the eaves gutter.

9.2.10 Commencing at the foot of the valley, the troughs are fixed using 25 mm clout-headed nails at maximum 500 mm centres onto the counter battens.

9.2.11 To join the valley troughs, the internal section can be levered open so that it firmly and accurately locates into position on the valley below. The wings can then be snapped back so the profile of the valley is firmly lapped. Care must be taken to ensure that the lap length is a minimum of 150 mm when measured vertically. The valley must then be mechanically fixed into position using 25 mm clout-headed nails at maximum 500 mm centres onto the counter battens.

9.2.12 At the top of adjoining troughs, the product is mitred and dressed with a Code 4 lead saddle, or other suitable material providing the aforementioned overlap length.

9.2.13 Minor gaps or openings beneath the valley where it passes over the fascia must be closed using an appropriate sealant.

9.2.14 Tiles and slates must be cut to the rake of the valley and be close fitting to form a neat and straight abutment with minimal gap.

9.2.15 The roof slating/tiling must be carried out in accordance with the relevant parts of BS 5534 : 2014, BS 8000-0 : 2014 and BS 8000-6 : 2013.

9.2.16 On completion, the valley must be cleared of any debris so that surface water flow is not obstructed.

9.3 Workmanship

Practicability of installation was assessed by the BBA 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 roofers experienced with this type of product.

9.4 Maintenance and repair

9.4.1 Ongoing satisfactory performance of the product in use requires that it is suitably maintained. The guidance provided by the Certificate holder was assessed by the BBA and found to be appropriate and adequate. The following requirements apply to satisfy the performance assessed in this Certificate:

9.4.2 As the product is confined and has suitable durability, maintenance is not required.

9.4.3 Damaged lengths can be replaced without having to remove adjacent lengths.

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. 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 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 in packs of 10 units, each unit marked with the application and the BBA logo including 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 packs must be stored flat or on end, on a smooth, clean, dry surface, under cover and protected from sunlight.

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 and BS EN ISO 14001 : 2015 by ISOQAR (Certificates 10146-QMS-001 and 10146-EMS-001 respectively).

Bibliography

BS 476-3 : 2004 *Fire tests on building materials and structures — Classification and method of test for external fire exposure to roofs*

BS 5534 : 2014 + A2 : 2018 *Code of practice for slating and tiling (including shingles)*

BS 8000-0 : 2014 *Workmanship on construction sites — Part 0 : Introduction and general principles*

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 (RSMs) for roofing — Guide to selection and specification*

BS 2782 : Part 10 : Method 1001 : 1977 *Methods of testing plastics — Glass reinforced plastics — Measurement of hardness by means of a Barcol Impressor*

BS 2782 : Part 3 : Method 320E : 1976 *Methods of testing plastics — Mechanical properties — Tensile strength, elongation and elastic modulus*

BS 2782 : Part 10 : Method 1005 : 1977 – Determination of flexural properties

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

BS EN ISO 14001 : 2015 *Environmental management systems — Requirements with guidance for use*

BS EN 13501-1 : 2018 *Fire classification of construction products and building elements — Classification using data from reaction to fire test*

MOAT 22 : 1988 *UEATc directives for the assessment of external insulation systems for walls, method 3.3.3.1 Impacts from hard bodies (10 joules)*

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 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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