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Agrément Certificate
12/4928
Product Sheet 2 Issue 4

KLOBER GRP VALLEY TROUGH AND FLASHING RANGE

KLOBER GRP SLATE VALLEY TROUGH

This Agrément Certificate Product Sheet(1) relates to Klober GRP Slate Valley Trough, for use in slated pitched roofs constructed in accordance with the relevant requirements of BS 5534 : 2014, with a minimum pitch of 17.5° and a maximum pitch of 60°. The product provides a weatherproof junction where there are changes in direction or material in a slated roof structure.

(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: 18 July 2025
Originally certified on 8 November 2012

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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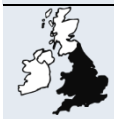
SUMMARY OF ASSESSMENT AND COMPLIANCE

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 Klober GRP Slate Valley Trough, 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 a suitable substructure, 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 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)**	**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 – 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 satisfying this Standard, with reference to clauses 3.10.1(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 at least 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)**	**Fitness of materials and workmanship**
Comment:	**(i)(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 2025

In the opinion of the BBA, Klober GRP Slate Valley Trough, 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.*

The opinion of the BBA does not amount to any endorsement or approval by NHBC and does not in any way guarantee that NHBC will approve such product / system as compliant with the NHBC Technical Requirements and Standards.

Fulfilment of Requirements

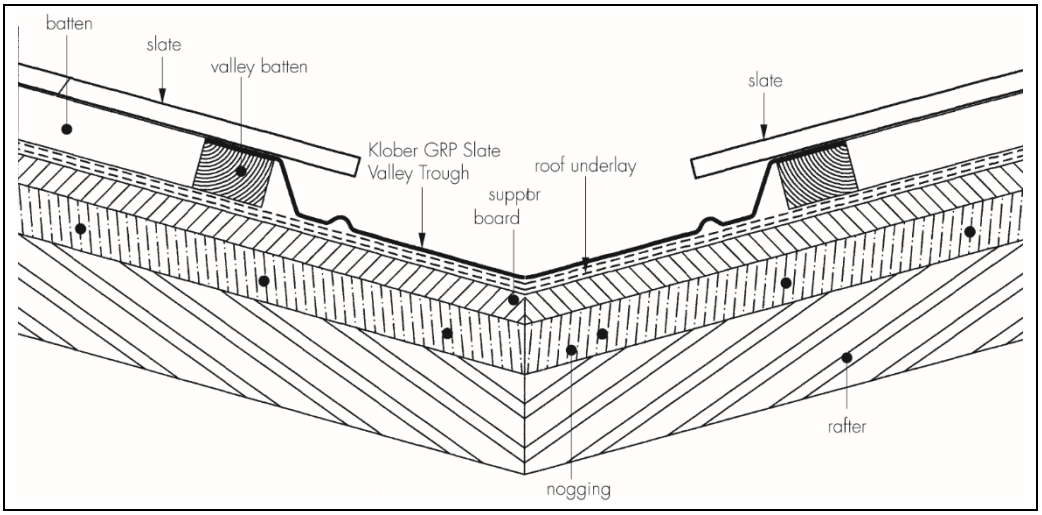
The BBA has judged Klober GRP Slate Valley Trough, to be satisfactory for use as described in this Certificate. The product has been assessed for use as a weatherproof junction where there are changes in direction or material in a slated roof structure.

ASSESSMENT

Product description and intended use

The Certificate holder provided the following description for the product under assessment. Klober GRP Slate Valley Trough, is a glass fibre reinforced polyester laminate with a UV-resistant polyester film on the upper face (see Figure 1).

Figure 1 Klober GRP Slate Valley Trough



The product has the nominal characteristics given in Table 1.

Table 1 Nominal characteristics

Characteristic (unit)	Components
	Klober GRP Slate Valley Trough
Length (m)	3
Width (mm)	330
Colour	Lead grey

Definitions for products and applications inspected

Pitched roofs are defined for the purpose of this Certificate as those having a fall in excess of 1:6.

Product assessment – key factors

The product was assessed for the following key factors, and the outcome of the assessments 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.

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

Table 2 Strength and stability

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

1.1.2 On the basis of data assessed, the product will resist the normal loads and impacts associated with installation and use.

2 Safety in case of fire

2.1.1 When tested to CEN/TS 1187 : 2012, Test 4 and classified to EN 13501-5 : 2016, a representative related product achieved $B_{ROOF}(t4)$ for slopes above 10°.

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

2.1.3 This classification 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.

2.2 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 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

3.1 Weathertightness

3.1.1 The weathertightness of the product was assessed using test data from a representative 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, the product, 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.

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

Table 3 Durability

Product assessed	Assessment method	Requirement	Result
A representative related product	Cross breaking strength to BS 2782 : Part 10 : Method 1005 : 1977	No significant loss of properties following ageing	
	after water immersion for 30 days at 23°C to MOAT 9 : 1973		Pass
	after water boil for 2 hours to MOAT 9 : 1973		Pass
	after heat ageing for 7 days at 70°C to MOAT 9 : 1973		Pass
	after UV ageing - 4 hours UV at 50°C, followed by 4 hours of condensation at 50°C for 1000 light hours		Pass
A representative related product	Barcol hardness to BS 2782 : Part 10 : Method 1001 : 1977	No significant loss of properties following ageing	
	after water immersion for 30 days at 23°C to MOAT 9 : 1973		Pass
	after water boil for 2 hours to MOAT 9 : 1973		Pass
	after heat ageing for 7 days at 70°C to MOAT 9 : 1973		Pass

8.3 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 to satisfy the performance specified in this Certificate.

9.1.2 The product must be designed in accordance with the relevant parts of BS 5534 : 2014, BS 8000-0 : 2014 and BS 8000-6 : 2023.

9.1.3 The product 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 the product must be 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 : 2023.

9.2.3 The product must be fitted over timber valley boards of sufficient width to provide end support for the tiling battens, outside the counter 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.

9.2.4 The valley must be first lined longitudinally with a single strip of 1 m wide BS 8747 : 2007 Type 1F or BBA-approved roofing underlay. A length of the slate valley trough is pressed to a snug fit into the valley and marked with a chalk line longitudinally along either side to indicate the required counter batten position.

9.2.5 Counter battens of the same depth as the tiling battens must be fitted along the marked lines to support the edges of the valley troughs, using nails of a quality acceptable in good roofing practice.

9.2.6 The roofing tile underlay must be laid, dressed over the counter batten. Tiling battens must be fitted with the ends firmly located onto the valley boards, positioned close to the counter batten, with care taken to avoid damaging the underlay.

9.2.7 The main roofing underlay must be laid either under or over the trough. If laid over the trough, it must not extend beyond the outer water channel.

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

9.2.9 Consecutive lengths of valley troughs must be laid dressed to shed water down the slope, allowing a minimum 150 mm overlap (measured in the vertical) at the joints. At the top of adjoining troughs, the units must be mitred and dressed with a Code 4 lead saddle providing the aforementioned overlap length.

9.2.10 Trimming of the fascia board may be required to ensure full water flow to the gutter.

9.2.11 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 : 2023.

9.3 Workmanship

Practicability of installation was assessed by the BBA, based on the 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 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 in order to satisfy the performance assessed in this Certificate.

9.4.2 As the product is fully or partially confined and have 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 has 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.

† 10.2 The BBA has undertaken to review 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 designated use and the BBA logo.

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

11.2.1 Packs must be stored flat or on end, 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.

Bibliography

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 *Methods of testing plastics — Glass reinforced plastics — Determination of flexural properties — Three point method*

BS 5534 : 2014 + A2 : 2018 *Slating and tiling for pitched roofs and vertical cladding — Code of practice*

BS 8000-0 : 2014 + A1 : 2024 *Workmanship on construction sites — Introduction and general principles*
BS 8000-6 : 2023 *Workmanship on construction sites — Slating and tiling of roofs and walls — Code of practice*

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

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

CEN/TS 1187 : 2012 *Test methods for external fire exposure to roofs*

EN 13501-5 : 2016 *Fire classification of construction products and building elements — Classification using data from external fire exposure to roofs tests*

MOAT 9 : 1973 *Directive for the Assessment of Products in Glass-Reinforced Polyester for use in Building*

MOAT 22 : 1988 *UEATc directives for the assessment of external insulation systems for walls (Expanded Polystyrene Insulation Faced with a Thin Rendering)*

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
- 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
- and any matter arising out of or in connection with it or its subject matter (including non-contractual disputes or claims) is governed by and construed in accordance with the law of England and Wales.
- the courts of England and Wales shall have exclusive jurisdiction to settle any matter arising out of or in connection with this Certificate or its subject matter (including non-contractual disputes or claims).

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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