

Klober Ltd

Unit 6F
East Midlands Distribution Centre
Short Lane
Castle Donington
Derbyshire DE74 2HA

Tel: 01332 813051 Fax: 01332 814033
e-mail: support@klober.co.uk
website: www.klober.co.uk



Agrément Certificate

12/4928

Product Sheet 3

KLOBER GRP VALLEY TROUGH AND FLASHINGS RANGE

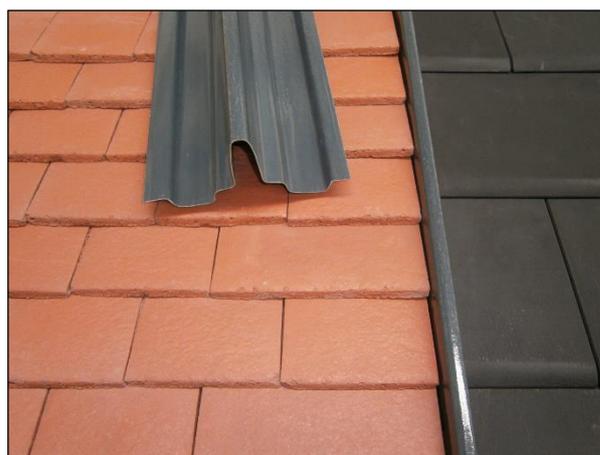
KLOBER GRP DRY FIX BONDING STRIPS (KR966500, KR966600, KR966700 and KR966750)

This Agrément Certificate Product Sheet⁽¹⁾ relates to Klober GRP Dry Fix Bonding Strips (KR966500, KR966600, KR966700 and KR966750), for use in slated and/or tiled roofs constructed in accordance with the relevant requirements of BS 5534 : 2014. The products provide a weatherproof junction where there are changes in direction or material in a slated and/or tiled roof structure.

(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 products will resist the passage of moisture into the interior of the building (see section 6).

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

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

Durability — under normal service conditions, the products will have a service life in excess of 20 years (see section 10).



The BBA has awarded this Certificate to the company named above for the products described herein. These products have been assessed by the BBA as being fit for their intended use provided they are installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of Second issue: 9 July 2018

John Albon – Head of Approvals
Construction Products

Originally certificated on 8 November 2012

Claire Curtis-Thomas
Chief Executive

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.*

Any photographs are for illustrative purposes only, do not constitute advice and should not be relied upon.

British Board of Agrément

Bucknalls Lane
Watford
Herts WD25 9BA

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tel: 01923 665300
clientservices@bbacerts.co.uk
www.bbacerts.co.uk

Regulations

In the opinion of the BBA, Klober GRP Dry Fix Bonding Strips (KR966500, KR966600, KR966700 and KR966750), 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:		The products, 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 satisfying this Requirement. See section 6 of this Certificate.
Regulation:	7	Materials and workmanship
Comment:		The products are 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 products 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:		The products can be regarded as having low vulnerability with reference to clause 2.8.1 ⁽¹⁾⁽²⁾ , and will not affect the fire rating of the roof construction. See section 7 of this Certificate.
Standard:	3.10	Precipitation
Comment:		The products will contribute to a roof satisfying clauses 3.10.1 ⁽¹⁾⁽²⁾ and 3.10.8 ⁽¹⁾⁽²⁾ of this Standard. See section 6 of this Certificate.
Standard:	7.1(a)(b)	Statement of sustainability
Comment:		The products 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 in relation to the products 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(a)(i)	Fitness of materials and workmanship
Comment:	(iii)(b)(i)	The products are acceptable. See section 10 and the <i>Installation</i> part of this Certificate.
Regulation:	28(b)	Resistance to moisture and weather
Comment:		The products will contribute to a roof satisfying this Regulation. See section 6 of this Certificate.

Regulation:	36(b)	External fire spread
Comment:	The products, 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) 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.

See sections: 1 *Description* (1.2) and 3 *Delivery and site handling* (3.1) of this Certificate.

Additional Information

NHBC Standards 2018

In the opinion of the BBA, Klover GRP Dry Fix Bonding Strips (KR966500, KR966600, KR966700 and KR966750) 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*.

Technical Specification

1 Description

1.1 Klover GRP Dry Fix Bonding Strips (KR966500, KR966600, KR966700 and KR966750) are glassfibre/polyester laminates with a UV-resistant polyester film on the upper face (see Figures 1, 2, 3 and 4).

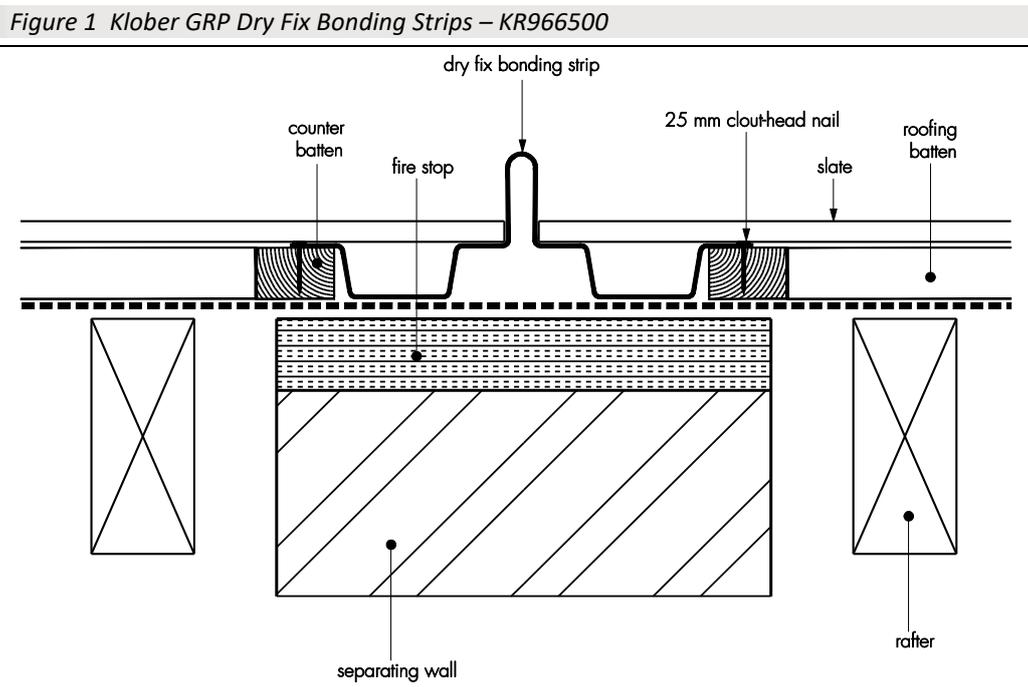


Figure 2 Klober GRP Dry Fix Bonding Strips – KR966600

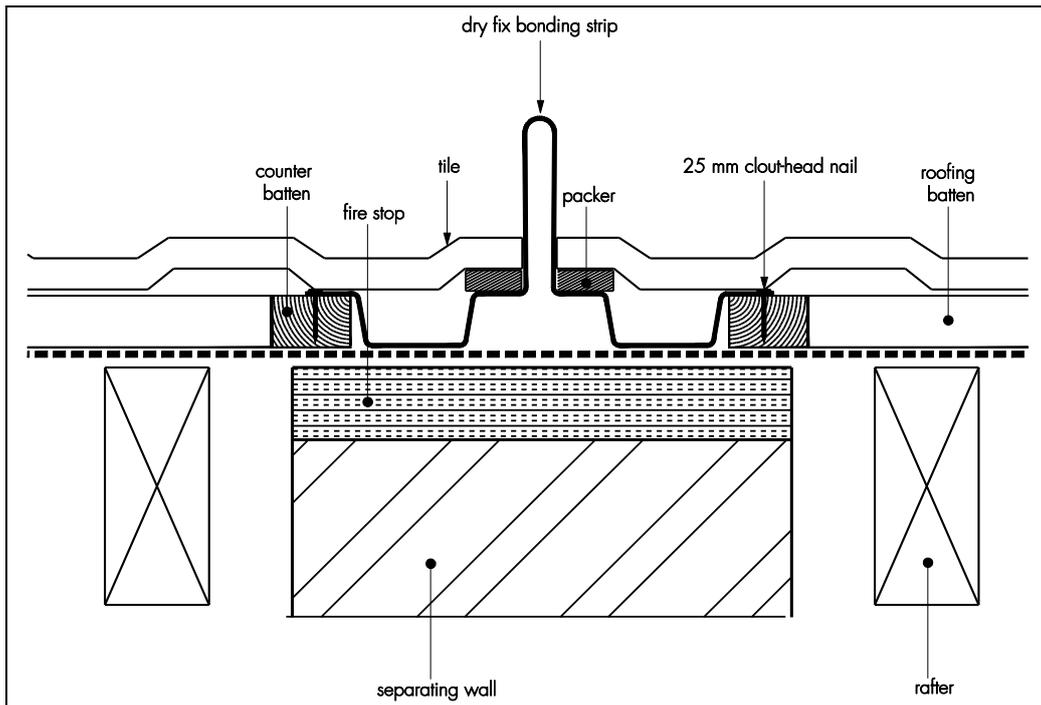
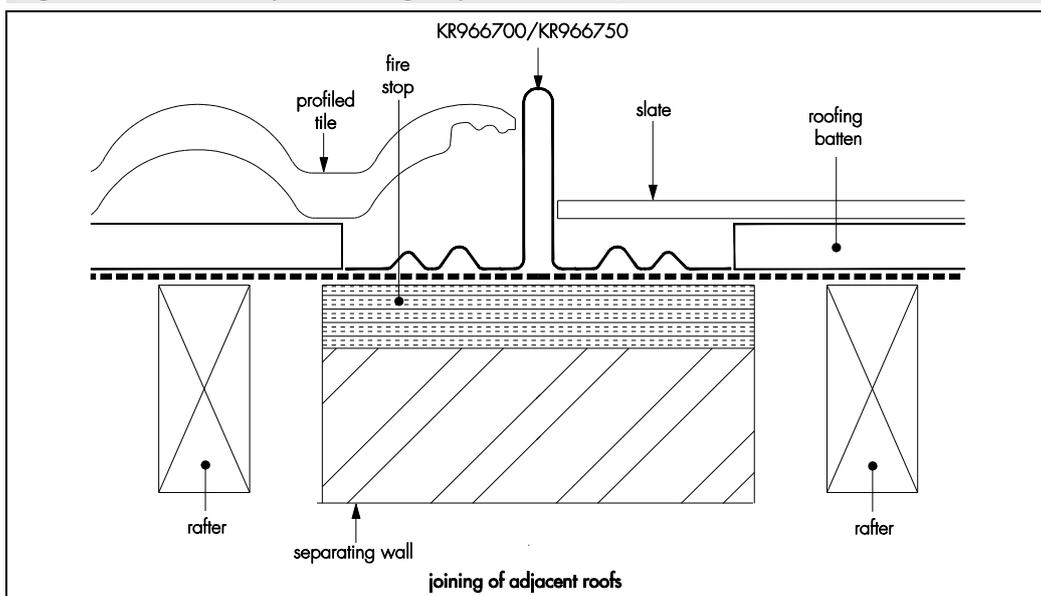


Figure 3 Klober GRP Dry Fix Bonding Strips – KR966700/ KR966750



1.2 The profiles are supplied in lengths of 3 m, with widths of 225 mm and depths of 70 mm (KR966500 and KR966700), 100mm (KR966600) and 110 mm (KR966750).

1.3 The products are finished in a standard lead grey colour.

1.4 Also for use with the products, but outside the scope of this Certificate, are Klober Tile Supports for use with small cut tiles.

2 Manufacture

2.1 Glassfibre strands are impregnated with resin and formed into a laminate with a polyester carrier film and a weather protection film. The required profile is shaped by wooden formers and allowed to cure.

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.

3 Delivery and site handling

3.1 The products are distributed in packs of 10 units, each unit marked with the application and the BBA logo including the number of this Certificate.

3.2 The packs should 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 Klober GRP Dry Fix Bonding Strips (KR966500, KR966600, KR966700 and KR966750).

Design Considerations

4 Use

Klober GRP Dry Fix Bonding Strips (KR966500, KR966600, KR966700 and KR966750), when designed and installed in accordance with the relevant parts of BS 5534 : 2014, BS 8000-0 : 2014 and BS 8000-6 : 2013, are satisfactory for use as bonding strips in slated pitched roofs (KR966500 and KR966700) and tile pitched roofs (KR966600, KR966700 and KR966750) to provide a weatherproof finish.

5 Practicability of installation

The products are designed to be installed by roofers experienced with these types of products.

6 Weathertightness



The products will adequately resist the passage of moisture to the interior of the building and so meet the requirements of the national Building Regulations.

7 Properties in relation to fire



Samples of GRP, representative of that used in the manufacture of the products, when tested in accordance with BS 476-3: 2004, achieved an EXT.S.AA rating.

8 Strength

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

9 Maintenance



Minimal maintenance is necessary and the smooth finish will restrict and inhibit mould and fungal growth.

10 Durability



The products, when subjected to normal conditions of exposure and use, will have a service life in excess of 20 years.

Installation

11 General

Installation of Klober GRP Dry Fix Bonding Strips (KR966500, KR966600, KR966700 and KR966750) must be in accordance with the Certificate holder's instructions and the relevant recommendations of BS 5534 : 2014, BS 8000-0 : 2014 and BS 8000-6 : 2013.

12 Procedure

Klober GRP Dry Fix Bonding Strips – KR966500 and KR966600

12.1 The end tiles/slates on both roofs must be removed to expose the construction over the separating wall. Fire stopping must be provided above and below the roofing underlay at the top of the separating wall to ensure that fire cannot spread to the adjoining building.

12.2 The roofing battens over the joint area of the separating wall are made good and a gap of 185 mm is left, into which the dry fix bonding strips fits. New underlay is inserted into the old, ensuring a sufficient overlap is achieved in accordance with BS 5534 : 2014.

12.3 The dry fix bonding strips is positioned in the gap between and on top of the battens over the separating wall. Commencing at the foot, the dry fix bonding strips is fixed using 25 mm clout-headed nails at maximum 500 mm centres onto the roofing battens.

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

12.5 Consecutive lengths of dry fix bonding strips are laid dressed to shed water down the slope, allowing a minimum 150 mm overlap (measured in the vertical) at the joints.

12.6 The use of double slates/tiles is advisable, to eliminate the possibility of small sections requiring fixing.

Klober GRP Dry Fix Bonding Strips – KR966700 and KR966750

12.7 The end tiles/slates on both roofs must be removed to expose the construction over the separating wall. Fire stopping must be provided above and below the roofing underlay at the top of the separating wall to ensure that fire cannot be spread to the adjoining building.

12.8 The roofing battens over the joint area are made good and new underlay is inserted to replace any that is failing, ensuring a sufficient overlap is achieved as per BS 5534: 2014.

12.9 The under batten bonding strip is positioned centrally over the separating wall on top of the roofing battens. The side walls of the bonding strips are pressed together to reduce the gap in the peak. Commencing at the foot, the dry fix bonding strips is fixed through the fixing flange using 25 mm clout-headed nails at maximum 500 mm centres onto the roofing battens.

12.10 The fascia board may require trimming to ensure full water flow into the gutter.

12.11 Consecutive lengths of dry fix bonding strips are laid dressed to shed water down the slope, allowing a minimum 150 mm vertical overlap at the joints.

12.12 The use of double slates/tiles is advisable to eliminate the possibility of small sections requiring fixing.

12.13 Slates or tiles must be laid in accordance with the manufacturer's recommendations. They should be close fitted to the peak of the bonding strips and not be forced against it.

12.14 In some instances, small cut tiles will not be supported by the internal support channel, in which case a Klober Tile support or proprietary stainless steel tile clip may be used.

12.15 At the top of the bonding gutter, the assembly is dressed with a Code 4 lead saddle or other flashing materials recommended by the Certificate holder, providing the aforementioned length.

13 Finishing

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.

14 Repair

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

Technical Investigations

15 Tests

Tests were carried out and the results assessed to determine:

- density
- glass/resin ratio
- dimensional checks
- hardness
- cross-breaking strength
- tensile strength/elongation
- impact resistance
- effect of elevated temperatures
- effect of water soak
- effect of UV exposure.

16 Investigations

16.1 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.

16.2 An assessment was made of the results of a fire test in accordance with BS 476-3 : 2004.

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*

17 Conditions

17.1 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 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.

17.2 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.

17.3 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.

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

17.5 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.

17.6 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.