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Agrément Certificate

96/3217

Product Sheet 1

GLAZPART TRICKLE VENTILATORS

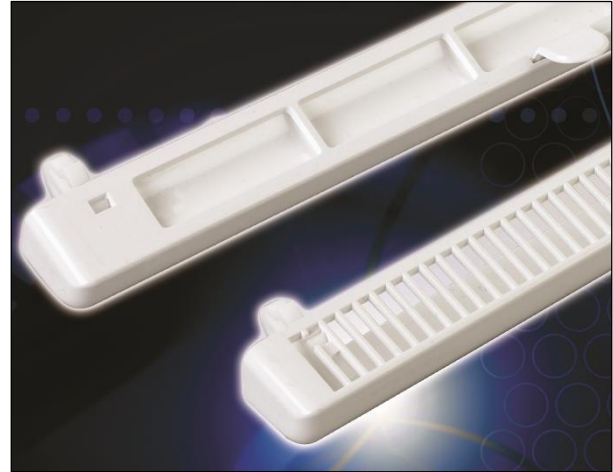
GLAZPART TRICKLE VENTILATORS 2000 AND 4000

This Certificate relates to Glazpart Trickle Ventilators 2000 and 4000, a range of window ventilators for use in new and existing windows for the provision of trickle ventilation in both domestic and commercial buildings.

(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

Ventilation — the products can contribute to satisfying the background natural ventilation requirements of the national Building Regulations. The equivalent area of the vents was also determined (see section 6).

Weathertightness — the products have adequate resistance to water ingress (see section 7).

Condensation — the products can contribute to limiting the risk of condensation (see section 8).

Durability — the products will have a life equivalent to that of the windows into which they are fitted (see section 11).



The BBA has awarded this Agrément 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 Third issue: 5 February 2019

John Albon – Head of Approvals
Construction Products

Claire Curtis-Thomas
Chief Executive

Originally certificated on 9 February 1996

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

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Regulations

In the opinion of the BBA, Glazpart Trickle Ventilators 2000 and 4000, 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:	C2(b)	Resistance to moisture
Comment:		The products have adequate resistance to water ingress. See section 7.5 of this Certificate.
Requirement:	C2(c)	Resistance to moisture
Comment:		The products can contribute to limiting the risk of condensation. See section 8 of this Certificate.
Requirement:	F1(1)	Means of ventilation
Comment:		The products can contribute to satisfying this Requirement. See section 6.1 of this Certificate.
Regulation:	7	Materials and workmanship (applicable to Wales only)
Regulation:	7(1)	Materials and workmanship (applicable to England only)
Comment:		The components are acceptable. See section 11 and the <i>Installation</i> part of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)	Durability, workmanship and fitness of materials
Comment:		The products can contribute to a construction satisfying this Regulation. See section 11 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards applicable to construction
Standard:	3.10	Precipitation
Comment:		The products have adequate resistance to water ingress, with reference to clause 3.10.1 ⁽¹⁾⁽²⁾ . See section 7.5 of this Certificate.
Standard:	3.14	Ventilation
Comment:		The products can contribute to satisfying this Standard, with reference to clauses 3.14.1 ⁽¹⁾⁽²⁾ , 3.14.2 ⁽¹⁾⁽²⁾ , 3.14.3 ⁽²⁾ and 3.14.5 ⁽¹⁾ . See section 6.2 of this Certificate.
Standard:	3.15	Condensation
Comment:		The products will contribute to minimising the risk of condensation, with reference to clauses 3.15.1 ⁽¹⁾⁽²⁾ and 3.15.2 ⁽¹⁾⁽²⁾ . See section 8 of this Certificate.

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).



The Building Regulations (Northern Ireland) 2012 (as amended)

Regulation:	23(a)(b)	Fitness of materials and workmanship
Comment:		The products are acceptable. See section 11 and the <i>Installation</i> part of this Certificate.
Regulation:	28(a)(b)	Resistance to ground moisture and weather
Comment:		The products have adequate resistance to water ingress. See section 7.5 of this Certificate.

Regulation: 65
Comment:

Means of ventilation

The products can contribute to satisfying this Regulation. See section 6.2 of this Certificate.

Construction (Design and Management) Regulations 2015 Construction (Design and Management) Regulations (Northern Ireland) 2016

In the opinion of the BBA, there is no information in this Certificate which relates to the obligations of the client, designer (including Principal Designer) and contractor (including Principal Contractor) under these Regulations.

Additional Information

NHBC Standards 2019

In the opinion of the BBA, Glazpart Trickle Ventilators 2000 and 4000, 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 6.7 *Doors, windows and glazing*.

Technical Specification

1 Description

1.1 The Glazpart Trickle Ventilators 2000 and 4000 ranges are as shown in Table 1 and Figure 1. The products are injection-moulded from UV stabilised PVC-U and are available in white, black or brown.

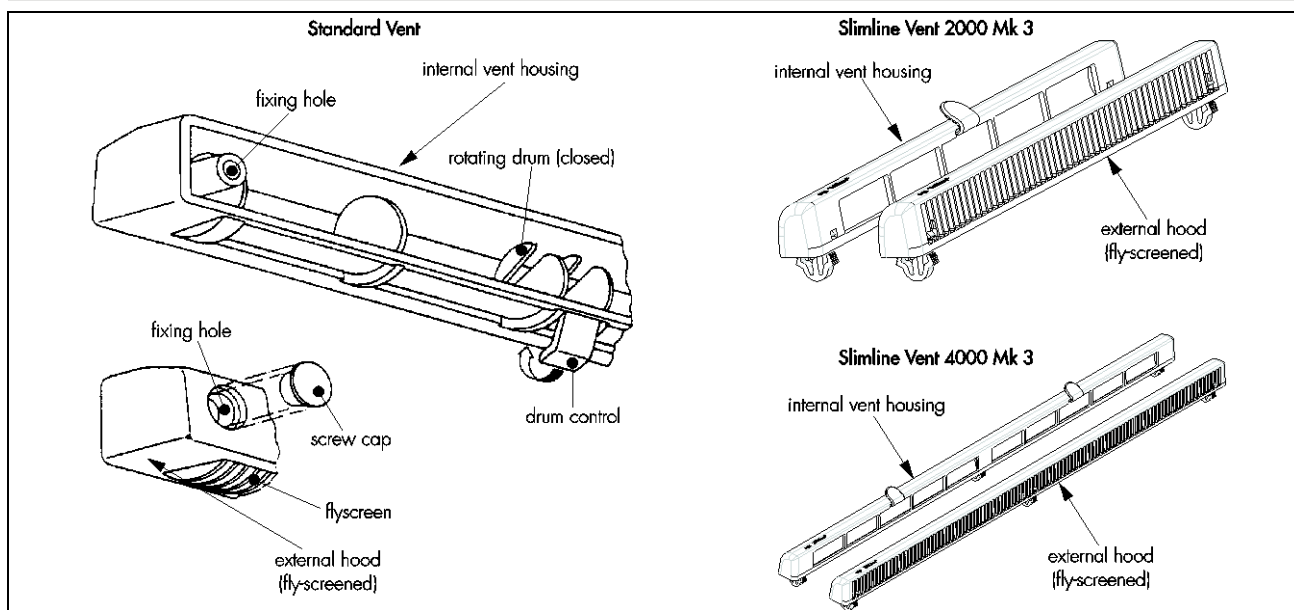
1.2 The Standard Vent 2000 and Standard Vent 4000 comprise an internal vent housing with an integral vent closure device and a separate external fly-screened hood or flat grille. The Standard Vents are screwed to the window frame and also supplied with screw cap covers.

1.3 The Slimline Vent 2000 Mark 3 and Slimline Vent 4000 Mark 3 comprise an internal vent housing, with an integral vent closure device and a separate external fly-screened hood. The Slimline Vents are snap-fitted into a slot in the window frame using integral clips.

Table 1 Product range

Model	Component
Standard Vent 2000	internal vent housing external hood or flat grille
Standard Vent 4000	internal vent housing external hood or flat grille
Slimline Vent 2000 Mark 3	internal vent housing external hood
Slimline Vent 4000 Mark 3	Internal vent housing external hood

Figure 1 Glazpart Trickle Ventilators 2000 and 4000



2 Manufacture

2.1 The ventilator plastic components are injection-moulded at the Glazpart factory. The PVC-U parts are produced from virgin polymer, with an option to incorporate a maximum of 20% of 'in-house' recycled PVC-U material in the manufacturing process. Assembly and packing of the ventilators is carried out either at the Glazpart factory or outsourced to an external supplier.

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 Glazpart Ltd has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2015 by BSI Ltd (Certificate 10024).

3 Delivery and site handling

3.1 The products are delivered to site, either sealed within polythene tubes and packed in cardboard boxes, or in cardboard boxes only.

3.2 The products should be kept in clean, dry surroundings and protected from mechanical damage.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Glazpart Trickle Ventilators 2000 and 4000.

4 Use

4.1 Glazpart Trickle Ventilators 2000 and 4000, when used in timber (Standard Vents only), aluminium or PVC-U windows, will provide trickle ventilation while maintaining weathertightness.

4.2 The external flat grille used with the Standard Vents may be installed horizontally with suitable weather protection, and should not be used unprotected in exposed sites.

4.3 When tested in accordance with BS EN 20140-10 : 1992 and mounted in an aperture within a brick dividing wall, the ventilators showed $D_{n,e,w}$ (C_{tr}) values with a difference in a range from 2 to 5 dB between opened and closed positions. The total sound insulation achieved in practice will be dependent upon the structure within which the ventilator is located and the position of the ventilator in the structure.

5 Practicability of installation

The products are designed to be installed by a competent general builder or a contractor experienced with these types of products.

6 Ventilation



6.1 The use of appropriate ventilators, chosen in accordance with the equivalent areas (to BS EN 13141-1 : 2004) and detailed in Table 2, will contribute to satisfying the background ventilation requirements of the documents supporting the national Building Regulations:

Table 2 Equivalent area of the ventilators

Model	Equivalent area (mm ²) at 1 Pa pressure difference
Standard Vent 2000 (with external hood)	1380
Standard Vent 2000 (with external flat grille)	1360
Standard Vent 4000 (with external hood)	2580
Standard Vent 4000 (with external flat grille)	2700
Slimline Vent 2000 Mark 3	1480
Slimline Vent 4000 Mark 3	2590



6.2 The use of appropriate ventilators, with the free opening areas detailed in Table 3, will contribute to satisfying the background ventilation requirements of the documents supporting the national Building Regulations:

Table 3 Opening areas

Model	Opening area (mm ²)
Standard Vent 2000	2000
Standard Vent 4000	4000
Slimline Vent 2000 Mark 3	2000
Slimline Vent 4000 Mark 3	4000

7 Weathertightness

7.1 The inclusion of a trickle ventilator in a window will affect its air permeability and may affect the watertightness, two of the factors that determine the exposure category (as defined in BS 6375-1 : 2015) assigned to a window.

7.2 The products were tested for air permeability under the test conditions set out in BS 5368-1 : 1976 and to BS EN 1026 : 2000, with the results given in Table 4. Results for the other ventilators tested in each range may be estimated by multiplying the results for the appropriate ventilator by the scaling factors given in Table 5. The scaling factors are the proportional difference in perimeter between the ventilators.

Table 4 Air permeability test results

Pressure (Pa)	Air leakage ($\text{m}^3 \cdot \text{h}^{-1}$)		
	Standard Vent 4000		Slimline Vent 4000
	External hood	External flat grille	Mark 3
50	2.0	1.6	0.4
100	3.2	3.0	0.7
150	4.1	4.1	0.9
200	4.2	4.8	1.2
250	4.7	5.3	1.3
300	5.3	5.8	1.6
400	6.6	6.6	—
450	—	—	2.4
500	8.0	7.7	—
600	8.0	8.6	3.3

Table 5 Scaling factors for air permeability

Ventilator	Result for	Scale factor
Standard Vent 2000	Standard Vent 4000	0.55
Slimline Vent 2000 Mark 3	Slimline Vent 4000/Mark 3	0.55

7.3 When considering the air permeability of a window in which the product is installed, the figures given in Table 4 should be added to the results obtained for the window alone, when tested for air permeability in accordance with BS EN 1026 : 2016.

7.4 The products were tested for watertightness in accordance with the test conditions set out in BS 5368-2 : 1980 and BS EN 1027 : 2000. Results are given in Table 6.

Table 6 Watertightness results

Ventilator	Pressure at which no leakage occurred (Pa)
Standard Vent — with external hood	No leakage at 500
Standard Vent — with external flat grille	No leakage at 100
Slimline Vent Mark 3	No leakage



7.5 The products have adequate resistance to water ingress, in accordance with the documents supporting the national Building Standards.

8 Condensation



The use of the products can reduce the risk of condensation and contribute to satisfying the requirements of the national Building Standards.

9 Security

Provided the products are appropriately located (that is, away from such features as handles and catches), they will not affect the security of the windows in which they are installed.

10 Maintenance

10.1 The products are fixed to the window frame, have suitable durability (see section 11) and should not require any maintenance in normal use.

10.2 The design of the ventilator limits the risk of blockage. The ventilator should be inspected occasionally and cleaned if necessary.

11 Durability



The products will have a life equivalent to that of the windows into which they are fitted.

12 Re-use and recyclability

There is an option to incorporate a maximum of 20% recycled PVC-U within the manufacturing of the ventilators, which is reclaimed exclusively from 'in-house' surplus ventilator material.

Installation

13 General

13.1 Installation of Glazpart Trickle Ventilators 2000 and 4000 should not present difficulties, provided the installation instructions are followed.

13.2 PVC-U windows supplied with ventilators fitted do not incorporate reinforcement in the same frame member as the ventilators. Reinforcements in the other frame members are isolated by the extrusion. When fitting ventilators to non-vented PVC-U windows it is important to determine, before drilling, whether the frame member contains reinforcement. If reinforcement is present, installation should not be attempted, as the size of the slot would weaken it and corrosion could be caused by exposure to the vented air.

14 Procedure

14.1 When fitting Standard Vent ventilators, 12.5 mm high ventilation slots should be milled in the head or top rail of the sash, sized as per the installation instructions. The internal vent housing is fixed internally over the slots using the screws provided, which should then be covered with the screw caps. The external hood (or external grille) is then fixed externally, using the screws provided. When using the external hood, screw heads should be covered with the screw caps provided.

14.2 When fitting the Slimline Vent ventilators, 10 mm high ventilation slots should be milled in the head or top rail of the sash, sized as per the instructions. The internal vent housing and external hood can then both be snap-fitted into the slot, using the integral fixing clips. Once fitted, the ventilators cannot be removed. Should the ventilator be loose or installed in an exposed position, it would be best practice to apply a thin silicone bead around the edges of the housing to ensure a tight fit.

15 Tests

15.1 As part of the assessment, tests were carried out on Glazpart Trickle Ventilators 2000 and 4000 to determine:

- air permeability
- watertightness
- equivalent area (BS EN 13141-1 : 2004).

15.2 Tests were also carried out to confirm material specification and as part of the original durability assessment, as follows:

- ash content
- Vicat softening point
- density
- tensile impact
 - 56 days heat aged at 80°C
 - 1000 hours QUV
- dimensional stability
- water absorption
- dehydrochlorination
 - 56 days heat aged at 80°C
- stress relief.

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 examination was made of test data on sound reduction.

16.3 An examination was made of the equivalent areas of the vents.

16.4 An examination was made of test data for the recycled PVC-U used in the manufacture of the ventilators.

Bibliography

BS 5368-1 : 1976 *Methods of testing windows — Air permeability test*

BS 5368-2 : 1980 *Methods of testing windows — Watertightness test under static pressure*

BS 6375-1 : 2015 + A1 : 2016 *Performance of windows and doors — Classification for weathertightness and guidance on selection and specification*

BS EN 1026 : 2000 *Windows and doors — Air permeability — Test method*

BS EN 1026 : 2016 *Windows and doors — Air permeability — Test method*

BS EN 1027 : 2000 *Windows and doors — Watertightness — Test method*

BS EN 13141-1 : 2004 *Ventilation for buildings — Performance testing of components/products for residential ventilation — Externally and internally mounted air transfer devices*

BS EN 20140-10 : 1992 *Acoustics — Measurement of sound insulation in buildings and of building elements — Laboratory measurement of airborne sound insulation of small building elements*

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

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 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.

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.