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Agrément Certificate
96/3217
Product Sheet 1

GLAZPART TRICKLE VENTILATORS

GLAZPART TRICKLE VENTILATORS 2000 AND 4000

PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate replaces Certificate 93/2976 and relates to Glazpart Trickle Ventilators 2000 and 4000. The products are used for in new and existing windows for the provision of trickle ventilators in both domestic and commercial buildings.

AGRÉMENT 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 5).

Weathertightness — use of the products will not affect the ability of a wall to comply with national Building standards (see section 6).

Condensation — the products can contribute to limiting the risk of surface condensation (see section 7).

Durability — the products will have a life equivalent to that of the windows into which they are fitted (see section 10).

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 First issue: 4 November 2009

Chris Hunt

Greg Cooper

Originally certificated on 9 February 1996

Head of Approvals — Physics

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.

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Regulations

In the opinion of the BBA, Glazpart Trickle Ventilators 2000 and 4000, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements of the following Building Regulations:



The Building Regulations 2000 (as amended) (England and Wales)

| | | |
|--------------|--------------|---|
| Requirement: | C2(b)(c) | Resistance to moisture |
| Comment: | | Externally-mounted components will not affect the ability of a wall to meet this Requirement. See sections 6.5 and 7 of this Certificate. |
| Requirement: | F1 | Means of ventilation |
| Comment: | | The products can contribute to meeting this Requirement. See section 5 of this Certificate. |
| Requirement: | Regulation 7 | Materials and workmanship |
| Comment: | | The components are acceptable. See section 10 and the <i>Installation</i> part of this Certificate. |



The Building (Scotland) Regulations 2004 (as amended)

| | | |
|-------------|------|--|
| Regulation: | 8(1) | Fitness and durability of materials and workmanship |
| Comment: | | The products can contribute to a construction meeting this Standard. See section 10 and the <i>Installation</i> part of this Certificate. |
| Regulation: | 9 | Building standards – construction |
| Standard: | 3.10 | Precipitation |
| Comment: | | Externally-mounted components will not affect the ability of a wall to satisfy this Standard, with reference to clauses 3.10.1 ⁽¹⁾⁽²⁾ . See section 6.5 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⁾ , 3.14.4 ⁽¹⁾⁽²⁾ and 3.14.5 ⁽¹⁾ , 3.14.7 ⁽¹⁾ , 3.14.9 ⁽²⁾ and 3.14.11 ⁽¹⁾ . See section 5 this Certificate. |
| Standard: | 3.15 | Condensation |
| Comment: | | The products will contribute to minimising the risk of surface condensation, with reference to clause 3.15.1 ⁽¹⁾ . See section 7 of this Certificate. |
| | | (1) Technical Handbook (Domestic). |
| | | (2) Technical Handbook (Non-Domestic). |



The Building Regulations (Northern Ireland) 2000 (as amended)

| | | |
|-------------|-------|--|
| Regulation: | B2 | Fitness of materials and workmanship |
| Comment: | | The products are acceptable. See section 10 of this Certificate. |
| Regulation: | C4(b) | Resistance to ground moisture and weather |
| Comment: | | Externally-mounted components will not affect the ability of a wall to satisfy this Regulation. See section 6.5 of this Certificate. |
| Regulation: | K2 | Means of ventilation |
| Comment: | | The products can contribute to satisfying this Regulation. See section 5 of this Certificate. |

Construction (Design and Management) Regulations 2007

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

In the opinion of the BBA, there is no information in this Certificate which relates to the obligations of the client, CDM co-ordinator, designer and contractors under these Regulations.

Non-regulatory Information

NHBC Standards 2008

NHBC accepts the use of Glazpart Trickle Ventilators 2000 and 4000, when installed and used in accordance with this Certificate, in relation to *NHBC Standards, Chapter 6.7 Doors, windows and glazing*.

General

This Certificate replaces and extends Certificate 93/2976 and relates to the 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.

Technical Specification

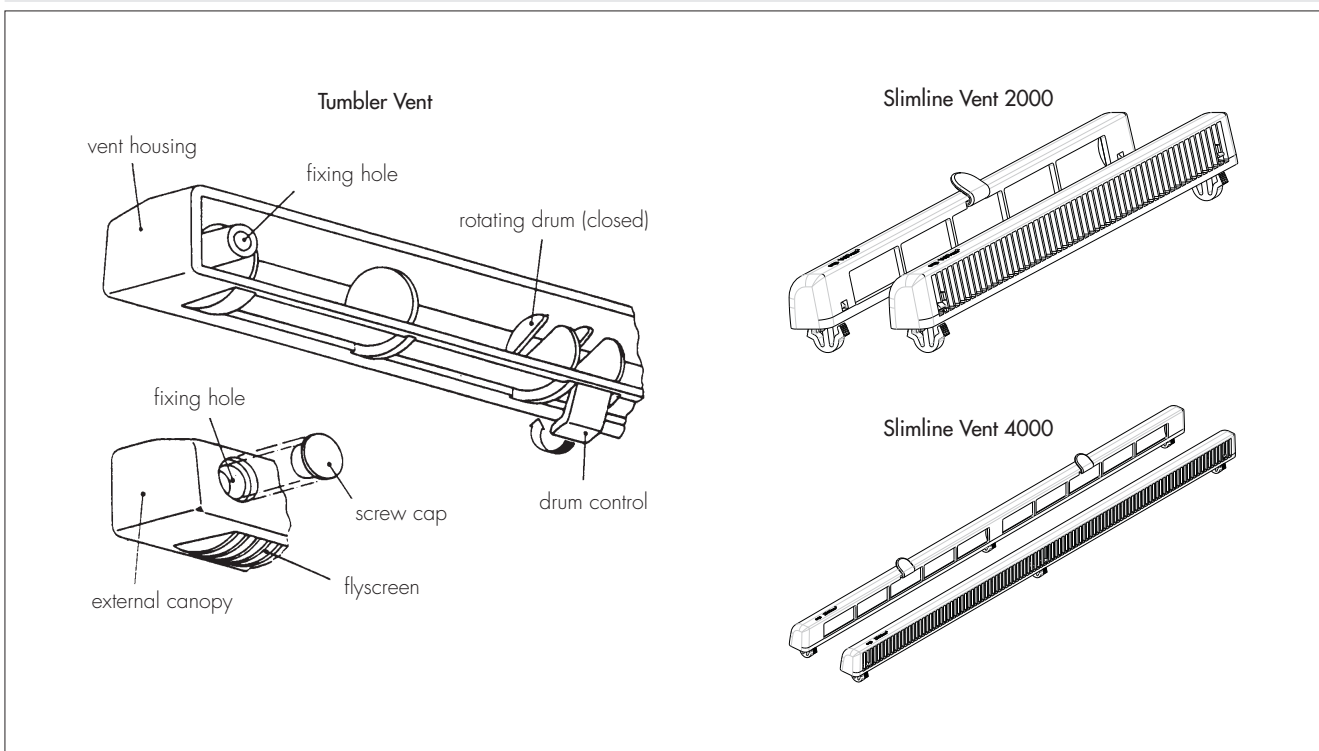
1 Description

1.1 The Glazpart Trickle Ventilators 2000 and 4000 range is 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.

Table 1 Product range

| Model | Component |
|---------------------------|--|
| Tumbler Vent 2000 | vent drum assembly/main or flat grille |
| Tumbler Vent 4000 | vent drum assembly/main or flat grille |
| Slimline Vent 2000 Mark 2 | inner vent/outer flyscreen |
| Slimline Vent 2000 Mark 3 | inner vent/outer flyscreen |
| Slimline Vent 4000 Mark 2 | inner vent/outer flyscreen |
| Slimline Vent 4000 Mark 3 | inner vent/outer flyscreen |

Figure 1 Glazpart Trickle Ventilators 200 and 4000



2 Delivery and site handling

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

2.2 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.

3 General

3.1 The products, when used in timber (Tumbler Vent ventilators only), aluminium or PVC-U windows, will provide trickle ventilation while maintaining weathertightness.

3.2 The geometric (opening) areas of the ventilators are shown in Table 2.

| Model | Opening area (mm ²) |
|----------------------------------|---------------------------------|
| Tumbler Vent 2000 | 2000 |
| Tumbler Vent 4000 | 4000 |
| Slimline Vent 2000/Mark 2/Mark 3 | 2000 |
| Slimline Vent 4000/Mark 2/Mark 3 | 4000 |

3.3 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 dB to 5 dB between opened and closed positions respectively. 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.

4 Practicability of installation

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

5 Ventilation



The use of appropriate ventilators, chosen in accordance with the equivalent areas (to BS EN 13141-1 : 2004) and detailed in Table 3, will contribute to satisfying the background ventilation requirements of the national Building Regulations:

England and Wales — Approved Document F

Scotland — Mandatory Standard 3.14, clauses 3.14.1, 3.14.2, 3.14.3, 3.14.4 and 3.14.5, 3.14.7, 3.14.9 and 3.14.11.

Northern Ireland — Technical Booklet K.

Table 3 Equivalent area (to BS EN 13141-1 : 2004) of the ventilators

| Model | Equivalent area (mm ²) At 1 Pa pressure difference |
|---------------------------------|---|
| Tumbler Vent 2000 (with hood) | 1380 |
| Tumbler Vent 2000 (with grille) | 1360 |
| Tumbler Vent 4000 (with hood) | 2580 |
| Tumbler Vent 4000 (with grille) | 2700 |
| Slimline Vent 2000/Mark 2 | 1390 |
| Slimline Vent 4000/Mark 2 | 2830 |
| Slimline Vent 2000/Mark 3 | 1480 |
| Slimline Vent 4000/Mark 3 | 2590 |

6 Weathertightness

6.1 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 : 2004) assigned to the window.

6.2 The products were tested for air permeability under the test conditions set out in BS 5368-1 : 1976 and to BS EN 1026 : 2000 the results are 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 (m ³ h ⁻¹) | | | | |
|---------------|---|-------------|---------------------------|---|---|
| | Tumbler Vent 4000 | | Slimline Vent 4000 Mark 2 | Slimline Vent 2000 Mark 3 (tested in a panel) | Slimline Vent 4000 Mark 3 (tested fitted to a window) |
| | Main grille | Flat grille | | | |
| 50 | 2.0 | 1.6 | 0.9 | 0.8 | 0.4 |
| 100 | 3.2 | 3.0 | 1.5 | 1.3 | 0.7 |
| 150 | 4.1 | 4.1 | 2.1 | 1.7 | 0.9 |
| 200 | 4.2 | 4.8 | 2.6 | 2.1 | 1.2 |
| 250 | 4.7 | 5.3 | 3.1 | 2.4 | 1.3 |
| 300 | 5.3 | 5.8 | 3.5 | 2.8 | 1.6 |
| 400 | 6.6 | 6.6 | 4.4 | – | – |
| 450 | – | – | – | 3.8 | 2.4 |
| 500 | 8.0 | 7.7 | 4.9 | – | – |
| 600 | 8.0 | 8.6 | 5.6 | 5.0 | 3.3 |

Table 5 Scaling factors for air permeability

| Ventilator | Result for | Scale factor |
|---------------------------|---------------------------|--------------|
| Tumbler Vent 2000 | Tumbler Vent 4000 | 0.55 |
| Slimline Vent 2000/Mark 2 | Slimline Vent 4000/Mark 2 | 0.53 |
| Slimline Vent 2000/Mark 3 | Slimline Vent 4000/Mark 3 | 0.55 |

6.3 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 5368-1 : 1976 or MOAT No 1 : 1974 or to BS EN 1026 : 2000.

6.4 The products were tested for watertightness in accordance with the test conditions set out in BS 5368-2 : 1980 and BS EN 1027 : 2000. The gradings determined in accordance with BS 6375-1 : 2004 and MOAT No 1 : 1974, are given in Table 6.

Table 6 Watertightness gradings

| Ventilator | Pressure at which leakage occurred (Pa) | Tested to | MOAT No 1 Watertightness class |
|----------------------------|---|---|--------------------------------|
| Tumbler Vent — main grille | No leakage at 500 | BS 6375-1 : 1989 Test pressure Class : 300 | E ₄ |
| Tumbler Vent — flat grille | No leakage at 100 | BS 6375-1 : 1989 Test pressure Class : 100 | E ₁ |
| Slimline Vent Mark 2 | No leakage at 500 | BS 6375-1 : 1989 Test pressure Class : 300 | E ₄ |
| Slimline Vent Mark 3 | No leakage | BS EN 13141-1 : 2004 | — |

E₁ indicates water leakage occurring between 50 Pa and 149 Pa.

E₄ indicates no water leakage occurring at a differential pressure of 500 Pa.



6.5 Use of the products will not affect the ability of a wall to comply with national Building Standards:

England and Wales — Approved Document C

Scotland — Mandatory Standard 3.10, clause 3.10.1⁽¹⁾⁽²⁾.

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

Northern Ireland — Technical Booklet C.

7 Condensation



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

England and Wales — Approved Document C

Scotland — Mandatory Standard 3.15, clause 3.15.1.

8 Security

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

9 Maintenance

As the products are confined within the window and it has suitable durability (see section 10), maintenance is not required.

10 Durability



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

Installation

11 General

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.

12 Procedure

12.1 When fitting Tumbler Vent ventilators, ventilation slots, 12.5 mm high should be milled in the head or top rail of the sash, sized as per the installation instructions. The vent body is fixed internally over the slots using the screws provided, which should then be covered with screw caps. The grille (either the flat grille or the main version) is then fixed externally using the screws provided. When using the main grille, the screw heads should be covered with screw caps.

12.2 When fitting the Slimline Vent Ventilators, ventilation slots 10 mm high should be milled in the head or top rail of the sash, sized as per the instructions. The ventilator grille can then be snapped into place. 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.

Technical Investigations

13 Tests

13.1 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 : 2004).

13.2 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.

14 Investigations

- 14.1 A re-examination was made of data on which the previous Certificate was based.
- 14.2 Regular factory inspections have been carried out to ensure that quality is being maintained.
- 14.3 An examination was made of test data on sound reduction.
- 14.4 An examination was done of the equivalent areas of the vents.

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 : 1989 *Performance of windows — Classification for weathertightness (including guidance on selection and specification)*
- BS 6375-1 : 2004 *Performance of windows and doors — Classification of weathertightness and guidance on selection and specification*
- BS EN 1026 : 2000 *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 room to room airborne sound insulation of small building elements*
- MOAT No 1 : 1974 *Directive for the Assessment of Windows*

15 Conditions

15.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is granted only to the company, firm or person named on the front page — no other company, firm or person may hold or claim any entitlement to this Certificate
- 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 and documents referred to in this Certificate are those that the BBA deems to be relevant at the date of issue or re-issue of this Certificate and include any: Act of Parliament; Statutory Instrument; Directive; Regulation; British, European or International Standard; Code of Practice; manufacturers' instructions; or any other publication or document similar or related to the aforementioned.

15.3 This Certificate will remain valid for an unlimited period provided that the product/system and the manufacture and/or fabrication including all related and relevant 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 In granting this Certificate, the BBA is not responsible for:

- 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
- individual installations of the product/system, including the nature, design, methods and workmanship of or related to the installation
- the actual works in which the product/system is installed, used and maintained, including the nature, design, methods and workmanship of such works.

15.5 Any information relating to the manufacture, supply, installation, use and maintenance 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 and maintained. It does not purport in any way to restate the requirements of the Health & Safety at Work etc Act 1974, or of any other statutory, common law or other duty which may exist at the date 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. In granting this Certificate, the BBA does not accept responsibility to any person or body for any loss or damage, including personal injury, arising as a direct or indirect result of the manufacture, supply, installation, use and maintenance of this product/system.