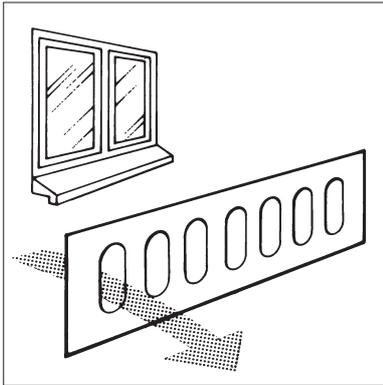


Product



- THIS CERTIFICATE RELATES TO GLAZPART TRICKLE VENTILATORS 2000 AND 4000, A RANGE OF WINDOW VENTILATORS.
- The products are for use in new and existing windows for the provision of trickle ventilation in both domestic and commercial buildings.

This Detail Sheet must be read in conjunction with the Front Sheets, which give the product's position regarding the Building Regulations, general information relating to the products, and the Conditions of Certification, respectively.

Technical Specification

1 Description

1.1 The range of Glazpart Trickle Ventilators 2000 and 4000 comprises the Tumbler Vent 2000, Tumbler Vent 4000, Slimline Vent 2000, Slimline Vent 2000 Mark 2, Slimline Vent 4000 and Slimline Vent 4000 Mark 2 ventilators (see 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

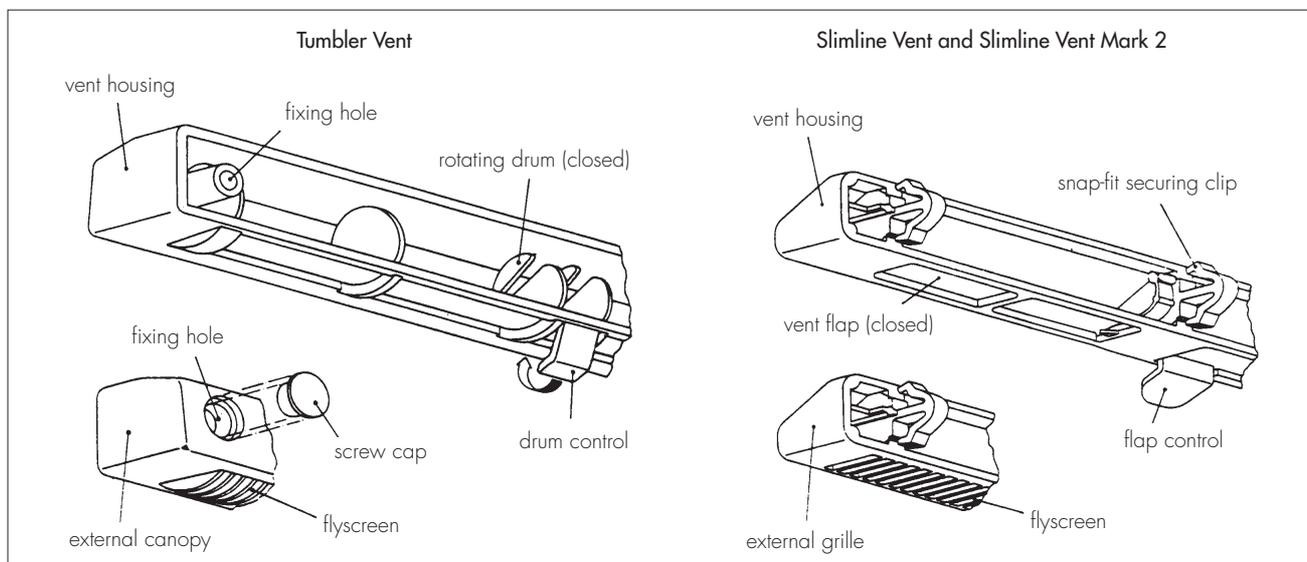
Model	Component
Tumbler Vent 2000	vent drum assembly/main or flat grille
Tumbler Vent 4000	vent drum assembly/main or flat grille
Slimline Vent 2000	inner vent/outer flyscreen
Slimline Vent 2000 Mark 2	inner vent/outer flyscreen
Slimline Vent 4000	inner vent/outer flyscreen
Slimline Vent 4000 Mark 2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

1.2 Tumbler Vent ventilators consist of two parts. The vent housing is fixed internally and includes a rotating drum, adjustable to control the amount of ventilation. The product is supplied with an external canopy, which is similar in shape to the vent housing but the drum is replaced by a flyscreen, and a flat grille for use in confined spaces. Each ventilator is supplied with fixing screws and screw caps.

1.3 Slimline Vent and Slimline Vent Mark 2 ventilators consist of two parts. The vent housing is fixed internally and includes flaps which allow the ventilator to be fully closed or fully or partially opened. The external grille is similar in design to the vent housing but with a flyscreen instead of the flaps.

1.4 All components are subject to regular inspection during production, checks include dimensions and fit. All finished products are subject to regular inspection for function.

Figure 1 Vent 4000



2 General

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

2.2 The opening area for each ventilator in the range is given in Table 2.

Table 2 Opening areas

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

2.3 When tested in accordance with BS EN 20140-10 : 1992, and mounted in an aperture within a brick dividing wall, the ventilators showed an improvement of $D_{n,e,w}$ (C_{tr}) 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.

3 Weathertightness

3.1 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.

3.2 The products were tested for air permeability under the test conditions set out in BS 5368-1 : 1976, the results are given in Table 3. 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 4. The scaling factors are the proportional difference in perimeter between the ventilators.

Table 3 Air permeability test results

Pressure (Pa)	Air leakage (m ³ h ⁻¹)		
	Tumbler Vent 4000		Slimline Vent 4000 and Slimline Vent 4000 Mark 2
	Main grille	Flat grille	
50	2.0	1.6	0.9
100	3.2	3.0	1.5
150	4.1	4.1	2.1
200	4.2	4.8	2.6
250	4.7	5.3	3.1
300	5.3	5.8	3.5
400	6.6	6.6	4.4
500	8.0	7.7	4.9
600	8.0	8.6	5.6

Table 4 Scaling factors for air permeability

Ventilator	Result for	Scale factor
Tumbler Vent 2000	Tumbler Vent 4000	0.55
Slimline Vent 2000/2000 Mark 2	Slimline Vent 4000/4000 Mark 2	0.55

3.3 When considering the air permeability of a window in which the product is installed, the figures given in Table 3 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.

3.4 The products were tested for watertightness in accordance with the test conditions set out in BS 5368-2 : 1980. The gradings, in accordance with BS 6375-1 : 2004 and MOAT No 1 : 1974, are given in Table 5.

Table 5 Watertightness gradings

Ventilator	Pressure at which leakage occurred (Pa)	BS 6375-1 Test pressure class	MOAT No 1 Watertightness class
Tumbler Vent – main grille	No leakage at 500	300	E ₄
Tumbler Vent – flat grille	100	100	E ₁
Slimline Vent Slimline Vent Mark 2	No leakage at 500	300	E ₄

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

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



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

England and Wales

Approved Document C

Scotland

Mandatory Standard 3.10

Northern Ireland

Regulation C4.

4 Durability



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

Installation

5 General

5.1 Installation of the Glazpart Trickle Ventilators 2000 and 4000 does not present difficulty provided the installation instructions are followed.

5.2 Those 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.

6 Procedure

6.1 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 grille) is then fixed externally, singly or in combination using the screws provided. When using the main grille the screw heads should be covered with screw caps.

6.2 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.

Technical Investigations

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

7 Tests

7.1 As part of the assessment resulting in the issue of the previous Certificate, tests were carried out to determine:

- air permeability
- watertightness.

7.2 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.

8 Investigations

8.1 A re-examination was made of data on which the previous Certificate was based.

8.2 Regular factory inspections have been carried out to ensure that quality is being maintained.

8.3 An examination was made of test data on sound reduction.

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 : 2004 *Performance of windows and doors— Classification of weathertightness and guidance on selection and specification*

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*



On behalf of the British Board of Agrément

Date of Third issue: 8th February 2006

Chief Executive

**Original Detail Sheet issued on 9th February 1996. This amended version includes a new Slimline Vent design with single closure plates (Slimline Vent Mark 2).*