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Agrément Certificate
93/2889
Product Sheet 2

TRIMVENT VENTILATORS

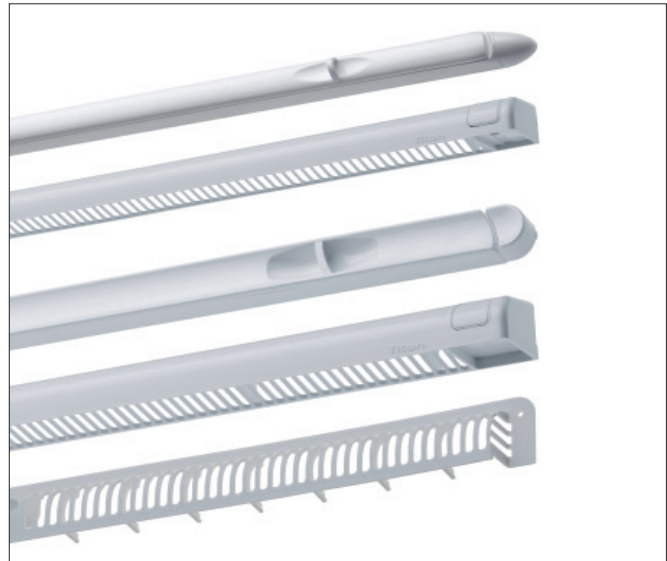
TRIMVENT SELECT AND TRIMVENT SELECT XTRA VENTILATORS

PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate relates to Trimvent Select and Trimvent Select Xtra Ventilators, for use in new-build and replacement timber, aluminium or PVC-U windows, for the provision of trickle ventilation in both domestic and non-domestic 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 satisfy or contribute to satisfying the requirements for background trickle ventilation. The products have an equivalent area in the range between 4266 mm² and 6490 mm² (see section 5).

Weathertightness — the products have adequate resistance to water ingress (see section 6).

Condensation — the products will contribute to limiting the risk of 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

Chris Hunt
Head of Approvals — Physics

Greg Cooper
Chief Executive

Date of First issue: 9 December 2010

Originally certificated on 7 March 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.

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Regulations

In the opinion of the BBA, Trimvent Select and Trimvent Select Xtra Ventilators, 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 2010 (England and Wales)

Requirement:	C2(b)	Resistance to moisture
Comment:		The products have adequate resistance to water ingress. See section 6.3 of this Certificate.
Requirement:	C2(c)	Resistance to moisture
Comment:		The products can contribute to minimising the risk of condensation. See section 7 of this Certificate.
Requirement:	F1(1)	Means of ventilation
Comment:		The products can contribute to meeting this Requirement. See sections 5.2 and 5.4 of this Certificate.
Requirement:	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)	Fitness and durability of materials and workmanship
Comment:		The products satisfy the requirements of this Regulation. See sections 9.1, 9.2 and 10 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards – 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 6.3 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 ⁽²⁾ , 3.14.5 ⁽¹⁾⁽²⁾ , 3.14.6 ⁽¹⁾ and 3.14.7 ⁽¹⁾ . See sections 5.3 and 5.4 of this Certificate.
Standard:	3.15	Condensation
Comment:		The products can contribute to minimising the risk of condensation with reference to clauses 3.15.1 ⁽¹⁾ , 3.15.2 ⁽¹⁾ and 3.15.5 ⁽¹⁾ . See section 7 of this Certificate.
Regulation:	12	Building standards – conversions
Comment:		All comments given for the products under Regulation 9, 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) 2000 (as amended)

Regulation:	B2	Fitness of materials and workmanship
Comment:		The products are acceptable. See section 10 and the <i>Installation</i> part of this Certificate.
Regulation:	B3(2)	Suitability of certain materials
Comment:		The products are acceptable. See sections 9.1 and 9.2 of this Certificate.
Regulation:	C4(b)	Resistance to ground moisture and weather
Comment:		The products have adequate resistance to water ingress. See section 6.3 of this Certificate.
Regulation:	C5	Condensation
Comment:		The products can contribute to satisfying this Regulation. See section 7 of this Certificate.
Regulation:	K2	Means of ventilation
Comment:		The products can contribute to satisfying this Regulation. See sections 5.3 and 5.4 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 to address their obligations under these Regulations.

Non-regulatory Information

NHBC Standards 2010

NHBC accepts the use of the Trimvent Select and Trimvent Select Xtra Ventilators, when installed and used in accordance with this Certificate in relation to *NHBC Standards*, Chapter 6.7 *Doors, windows and glazing*.

General

This Certificate relates to Trimvent Select and Trimvent Select Xtra Ventilators, for use in new-build and replacement timber, aluminium or PVC-U windows, for the provision of trickle ventilation in both domestic and non-domestic buildings.

Trimvent is a registered trademark of Titon Hardware Ltd.

Technical Specification

1 Description

1.1 The Trimvent Select and Trimvent Select Xtra Ventilators (as shown in Figure 1 and detailed in Table 1) consist of two parts. The vent, is made from polybutylene terephthalate (PBT), is fixed internally and includes a controllable flap which may be adjusted to regulate the direction and amount of ventilation. The external element comprises a standard canopy, or, where appropriate, a push-in grille, both made from injection moulded PVC-U.

Figure 1 Trimvent Select and Trimvent Select Xtra Ventilators, canopies and grilles

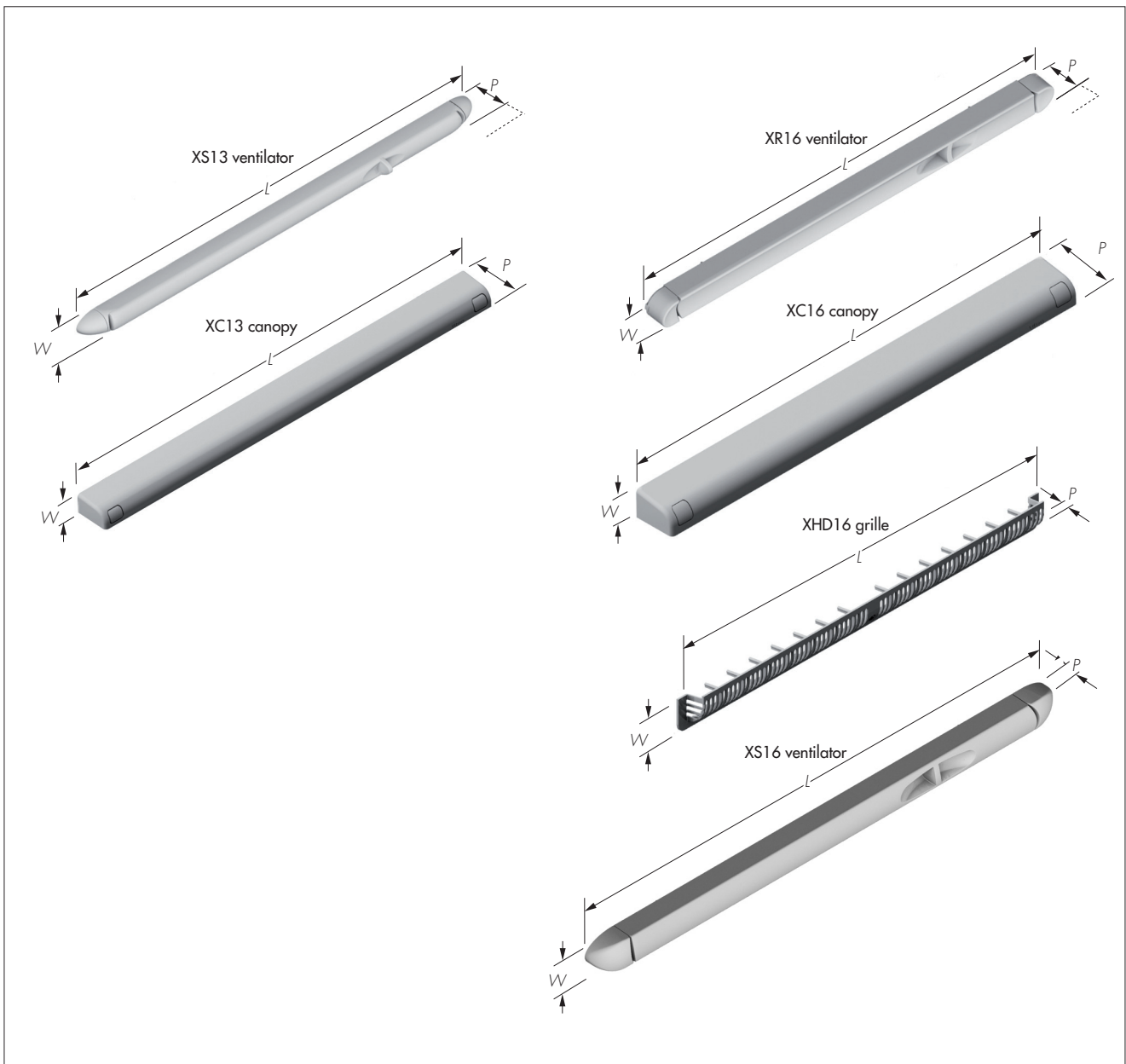


Table 1 Product range and dimensions (see Figure 1)

Range	Fixing method	Length (L) (mm)	Width (W) (mm)	Projection closed/open (P) (mm)
XS13 4000EA ventilator XC13 412 canopy	Clip-fixed	411 411	18.5-30 18	20/27 32.5
XS13 4400EA ventilator XC13 412 canopy	Screw-fixed	411 411	18.5-30 18	20/27 32.5
XS13 4000EA ventilator GS18 210 grille ⁽²⁾	Clip-fixed	411 210 ⁽¹⁾	18.5-30 25	20/27 1.5
XS13 4400EA ventilator GS18 210 grille ⁽²⁾	Screw-fixed	411 210 ⁽¹⁾	18.5-30 25	20/27 1.5
XS13 5000EA ventilator XC13 497 canopy	Screw- or clip-fixed	497 497	18.5-30 18	20/27 32.5
XS13 5000EA ventilator GS22 241 grille ⁽²⁾	Screw- or clip-fixed	497 241 ⁽¹⁾	18.5-30 27	20/27 1.5
XS16 4600EA ventilator XC16 364 canopy	Screw-fixed	366 364	21-31 22	16/28 32.5
XR16 4600EA ventilator XC16 364 canopy	Screw-fixed	351 364	21-32 22	0/18.5 32.5
XR16 4600EA ventilator XHD16 grille ⁽²⁾	Screw-fixed	351 358	21-32 26	0/18.5 13.5
E18 4200EA ventilator GS18 210 grille ⁽²⁾	Clip-fixed	372 210 ⁽¹⁾	24 25	13/23 1.5

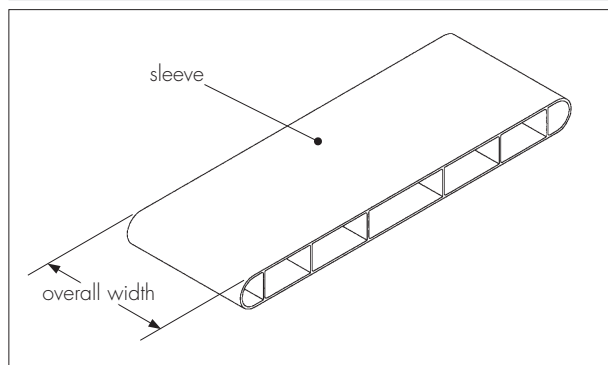
(1) Each grille.

(2) Supplied in pairs.

1.2 The ventilators, canopies and grilles are available in white or brown finish and are clip-fixed or screw-fixed (see Table 1). The ventilators and canopies are supplied with screw covers.

1.3 The Trimvent Sleeves (see Figure 2) comprise a section of flat ducting with intermediate webs for support and are inserted into the ventilation slots. They are for use with the Trimvent Select Xtra range on PVC-U profiles to minimise the risk of air or water entering the window profile chambers. They may be used on double ventilation slots, and are available in a range of widths to suit different profiles.

Figure 2 Trimvent Sleeve



1.4 Quality control is exercised over raw materials, during productions and on the final products.

2 Delivery and site handling

2.1 The products are delivered in cardboard boxes marked with the relevant product code.

2.2 The products should be stored in clean, dry surroundings and protected from mechanical damage and excessive heat.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Trimvent Select and Trimvent Select Xtra Ventilators.

3 Use

3.1 Trimvent Select and Trimvent Select Xtra Ventilators are for use in new-build and replacement windows for the provision of trickle ventilation in both domestic and commercial buildings.

3.2 XS13/16 ventilators with XC13/16 canopies are for use with PVC-U, aluminium and timber windows. XR16 ventilators with XHD16 grilles are for use with timber and composite windows. E18 ventilators with GS18/22 grilles are for use on vented heads of PVC-U windows.

3.3 The products, when used in timber, aluminium, PVC-U or composite windows, can provide the required trickle ventilation while maintaining weathertightness.

4 Practicability of installation

The products are designed to be installed by a contractor, experienced with this type of product.

5 Ventilation

5.1 The average equivalent area, tested in accordance with BS EN 13141-1 : 2004 and the free (minimum geometric) area of combinations of ventilators, canopies and grilles are given in Table 2.

Table 2 Free area and equivalent area

Range	Free area (mm ²)	Equivalent area ⁽¹⁾ (mm ²)	Fixing method
XS13 4000EA ventilator XC13 412 canopy	4149 4809	4298	Clip-fixed
XS13 4400EA ventilator XC13 412 canopy	4285 5027	4441	Screw-fixed
XS13 4000EA ventilator GS18 210 grille ⁽²⁾	4149 4608	4556	Clip-fixed
XS13 4400EA ventilator GS18 210 grille ⁽²⁾	4285 4608	4644	Screw-fixed
XS13 5000EA ventilator XC13 497 canopy	5230 6258	5469	Screw-fixed
XS13 5000EA ventilator GS22 241 grille ⁽²⁾	5230 10022	6490	Screw-fixed
XS13 5000EA ventilator XC13 497 canopy	5096 6055	5356	Clip-fixed
XS13 5000EA ventilator GS22 241 grille ⁽²⁾	5096 10022	6271	Clip-fixed
XS16 4600EA ventilator XC16 364 canopy	4511 4990	4722	Screw-fixed
XR16 4600EA ventilator XC16 364 canopy	4530 4990	4804	Screw-fixed
XR16 4600EA ventilator XHD16 grille ⁽²⁾	4530 5345	4791	Screw-fixed
E18 4200EA ventilator GS18 210 grille ⁽²⁾	4247 4608	4266	Clip-fixed

(1) Average from results at 1 Pa positive and negative pressure.

(2) Per pair.



5.2 The requirement for background ventilation will be met, notwithstanding other requirements, if the average equivalent area is not less than that given in Building Regulations document:

England and Wales — Approved Document F, clauses 5.8, 5.11 to 5.16, 6, 7.6, 7.8, 7.12, 7.18 and 7.21 and Tables 5.2a, 5.2b and 5.2c.



5.3 The requirement for trickle/background ventilation will be met, notwithstanding other requirements, if the total free area is not less than that given in Building Regulations documents:

Scotland — Mandatory Standard 3.14, clauses 3.14.2⁽¹⁾⁽²⁾ and 3.14.5⁽¹⁾

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

Northern Ireland — Technical Booklet K, clauses 2.4 and 2.5 and Tables 2.1 and 3.1.



5.4 The location of ventilators must comply with:

England and Wales — Approved Document F, clauses 4.19 and 5.16 and Tables 5.2a, 5.2b and 5.2c

Scotland — Mandatory Standard 3.14, clauses 3.14.2⁽¹⁾⁽²⁾, 3.14.3⁽²⁾ and 3.14.5⁽¹⁾

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

Northern Ireland — Technical Booklet K, clauses 1.2, 2.4 and 2.5 and Tables 2.1 and 3.1.

5.5 Buildings must include appropriate provision for rapid and extract ventilation.

6 Weathertightness

6.1 The products were tested for air permeability generally in accordance with BS EN 1026 : 2000. Indicative results are given in Table 3.

Table 3 Indicative air permeability test results

Ventilator	Pressure (Pa)	Air leakage (m ³ ·h ⁻¹)					
		XS13 4400EA ⁽¹⁾	XS13 5000EA ⁽¹⁾	XS13 5000EA ⁽²⁾	XS16 4600EA ⁽¹⁾	XR16 4600EA ⁽¹⁾	XR16 4600EA ⁽¹⁾
Canopy/grille		XC13 412 ⁽¹⁾	XC13 497 ⁽¹⁾	XC13 497 ⁽²⁾	XC16 364 ⁽¹⁾	XC16 364 ⁽¹⁾	XHD16 ⁽¹⁾⁽³⁾
	50	—	4.57	5.69	—	—	—
	100	—	7.39	8.88	—	—	—
	150	14.29	9.70	11.64	5.36	11.53	11.62
	200	17.17	11.68	14.08	6.71	13.83	13.78
	250	20.51	13.46	16.24	7.84	15.60	
	300	24.14	14.37	18.13	8.80	17.75	17.36
	450	24.14	—	—	11.21	22.88	
	600	34.96	—	—	13.39	26.29	26.61

(1) Screw-fixed.

(2) Clip-fixed.

(3) Per pair.

6.2 The products were tested for watertightness generally in accordance with BS EN 1027 : 2000 (spray method 1A). Indicative test results are given in Table 4.

Table 4 Indicative watertightness gradings

	BS EN 1027 Test pressure class (Pa)
XS13 4400EA ⁽¹⁾ ventilator with XC13 412 ⁽¹⁾ canopy	300 ⁽⁵⁾
XS13 5000EA ⁽¹⁾ ventilator with XC13 497 ⁽¹⁾ canopy	300 ⁽⁴⁾
XS13 5000EA ⁽²⁾ ventilator with XC13 497 ⁽²⁾ canopy	300 ⁽⁴⁾
XS16 4600EA ⁽¹⁾ ventilator with XC16 364 ⁽¹⁾ canopy	300 ⁽⁵⁾
XR16 4600EA ⁽¹⁾ ventilator with XC16 364 ⁽¹⁾ canopy	300 ⁽⁵⁾
XR16 4600EA ⁽¹⁾ ventilator with XHD16 ⁽¹⁾ grille ⁽³⁾	300 ⁽⁵⁾

(1) Screw-fixed.

(2) Clip-fixed.

(3) Per pair.

(4) No water leakage up to an applied air pressure of 450 Pa (in the closed position).

(5) No water leakage up to an applied air pressure of 600 Pa (in the closed position).



6.3 The products have adequate resistance to water ingress.

7 Condensation



The products can minimise the risk of condensation and contribute to satisfying the requirements of the national Building Regulations.

8 Security

Provided the ventilators are appropriately located (ie away from handles, catches, etc) they will not affect the security of the windows in which they are installed.

9 Maintenance



9.1 The design of the canopy limits the risk of blockage, but should this occur the performance of the products would be impaired. The flyscreen should be inspected occasionally and cleaned if necessary; if damaged it should be replaced.

9.2 The silicone sealant along the canopy sealant groove must be checked regularly and repairs or renewal carried out promptly.

10 Durability



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

Installation

11 General

When fitting Trimvent Select and Trimvent Select Xtra Ventilators to PVC-U windows it is important to determine whether the frame member contains reinforcement before cutting/machining ventilation slots. If reinforcement is present, care should be taken to ensure that it is not weakened or exposed to vented air which may cause corrosion. In cases of doubt, the window system supplier should be consulted.

12 Procedure

12.1 To fix the surface-mounted ventilators to the window frame, appropriately sized slots (see Table 5) should be cut through the head or top rail of the sash or vented head section and fixing holes should be pre-drilled, avoiding glazing rebates. The vent (with snib on the right) and appropriate canopy or external grille should be screw fixed [using 3.5 mm (number 6) pan head or equivalent screws, outside the scope of this Certificate] or clip fixed as required, to ensure the slot is fully covered. The push-in grilles are suitable for frames with a head drip feature, in combination with a recessed or surface-mounted internal ventilator (see Figures 1 and 2) The screw heads on the ventilator and canopy should be concealed using the covers provided. To improve water resistance, silicone sealant should be applied in the groove at the top and bottom of the ventilator (XS13 and XS16 ventilators) and at the top of the canopy before fixing. The protective cover tape on vents, if applicable, should not be removed during installation.

12.2 The Trimvent Sleeve, when used, is inserted into the cut/machined slot, enlarged to enable sleeve to be fitted.

Table 5 Fixing methods and slot details

Range	Fixing method	Slot detail and dimensions (mm)
XS13 4400EA ventilator XC13 412 canopy	Screw-fixed Screw-fixed	
XS13 4400EA ventilator GS18 210 grille ⁽¹⁾	Screw-fixed Clip-fixed	
XS13 4000EA ventilator XC13 412 canopy	Clip-fixed Clip-fixed	
XS13 4000EA ventilator GS18 210 grille ⁽¹⁾	Clip-fixed Clip-fixed	
XS13 5000EA ventilator XC13 497 canopy	Screw-fixed Screw-fixed	
XS13 5000EA ventilator XC13 497 canopy	Clip-fixed Clip-fixed	
XS13 5000EA ventilator GS22 241 grille ⁽¹⁾	Screw-fixed Screw-fixed	
XS13 5000EA ventilator GS22 241 grille ⁽¹⁾	Clip-fixed Clip-fixed	
XS16 4600EA ventilator XC16 364 canopy	Screw-fixed Screw-fixed	
XR16 4600EA ventilator XHD16 grille ⁽¹⁾	Screw-fixed Screw-fixed	
E18 4200EA ventilator GS18 210 grille ⁽¹⁾	Clip-fixed Clip-fixed	

(1) Supplied in pairs.

12.2 The Trimvent Sleeve, when used, is inserted into the cut/machined slot, enlarged to enable sleeve to be fitted.

13 Tests

13.1 Tests were carried out on Trimvent Select and Trimvent Select Xtra Ventilators by the manufacturer, in accordance with BS EN 13141-1 : 2004 and generally in accordance with the methods defined in BS EN 1026 : 2000 and BS EN 1027 : 2000 to determine:

- equivalent area
- air permeability
- watertightness.

13.2 Confirmatory tests were carried out in accordance with BS EN 13141-1 : 2004.

13.3 Tests were carried out on the ventilators to determine:

- ash content
- vicat softening point
- density
- tensile impact
 - 0°C
 - 23°C
 - 56 days heat aged at 80°C
 - 500 hours QUV
- dimensional stability
- water absorption.

14 Investigations

An assessment was made of:

- the fabrication process and assembly procedure, including the methods adopted for factory production control
- the effect of the installation of the ventilators on frame strength and security against intrusion
- the manufacturer's test data and calculations for the equivalent and free areas of each ventilator/canopy combination
- the manufacturer's test data for air permeability and watertightness of ventilator/canopy combinations
- the durability of the ventilators.

Bibliography

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*

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.

