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**Agrément
Certificate
No 05/4250**

Designated by Government
to issue
European Technical
Approvals

WICKES ROOFLINE SYSTEM

Accessoires en PVC-U pour toits
Zubehör (von PVC-U) für Dächer

Product



• THIS CERTIFICATE RELATES TO THE WICKES ROOFLINE SYSTEM, COMPRISING FASCIA, SOFFIT AND BARGE BOARDS, SOFFIT VENTILATOR, AND ACCESSORIES.

• The system is for external use on roofs as a substitute for timber or other conventional materials.

• It is essential that the system is installed in accordance with the manufacturer's instructions and the Design Data and Installation parts of this Certificate.

Regulations

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



The Secretary of State has agreed with the British Board of Agrément the requirements of the Building Regulations to which roofline systems can contribute in achieving compliance. In the opinion of the BBA, the Wickes Roofline System, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements.

Requirement: C2(a)(b)(c)

Resistance to moisture

Comment:

The system will contribute to providing protection against the penetration of moisture to the inner surface of the building on which it is installed. See section 7.1 of this Certificate.

Requirement: F2

Condensation in roofs

Comment:

When used in accordance with this Certificate, the soffit ventilators can contribute in enabling a roof to meet this Requirement. See sections 7.4 to 7.14 of this Certificate.

Requirement: Regulation 7

Materials and workmanship

Comment:

The components of the system are acceptable. See section 12.1 of this Certificate.

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2 The Building (Scotland) Regulations 2004



In the opinion of the BBA, the Wickes Roofline System, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Regulations and related Mandatory Standards as listed below.

Regulation:	8	Fitness and durability of materials and workmanship
Regulation:	8(1)	Fitness and durability of materials and workmanship
Comment:		The system can contribute to a construction satisfying this Regulation. See section 12.1 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards – construction
Standard:	3.10	Precipitation
Comment:		The system will contribute to satisfying this Standard with reference to clause 3.10.1 ⁽¹⁾⁽²⁾ by giving protection against the penetration of moisture to the inner surface of the building on which it is installed. See section 7.1 of this Certificate.
Standard:	3.15	Condensation
Comment:		The soffit ventilators can contribute towards enabling a roof to meet this Standard with reference to clause 3.15.2 ⁽¹⁾ . See sections 7.4 to 7.14 of this Certificate.
		(1) Technical Handbook (Domestic).
		(2) Technical Handbook (Non-Domestic).

3 The Building Regulations (Northern Ireland) 2000



In the opinion of the BBA, the Wickes Roofline System, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Building Regulations as listed below.

Regulation:	B2	Fitness of materials and workmanship
Comment:		The components of the system are acceptable. See section 12.1 of this Certificate.
Regulation:	C4	Resistance to ground moisture and weather
Comment:		The system will contribute to providing protection against the penetration of moisture to the inner surface of the building on which it is installed. See section 7.1 of this Certificate.
Regulation:	C5	Condensation
Comment:		The soffit ventilators can contribute towards enabling a roof to meet this Regulation. See sections 7.4 to 7.14 of this Certificate.

4 Construction (Design and Management) Regulations 1994 (as amended) Construction (Design and Management) Regulations (Northern Ireland) 1995 (as amended)

Information in this Certificate may assist the client, planning supervisor, designer and contractors to address their obligations under these Regulations.

See sections: 6 *Delivery and site handling* (6.2) 8 *Practicability of installation* and 13 *General* (13.3).

Technical Specification

5 Description

5.1 The Wickes Roofline System is for external use on roofs as a substitute for timber or other conventional materials.

5.2 The system comprises a range of white cellular PVC-U (PVC-UE) boards (see Figure 1), including vented soffits (see Figure 2), together with ancillary components, including vented hollow soffits, a rigid soffit ventilator and other extruded trims, and injection moulded joints and end caps (see Figure 3).

5.3 The soffit ventilators, which include vented cellular boards, vented hollow boards and a ventilator trim, provide a means of ventilating the roof void.

5.4 The cellular boards comprise a closed cell cellular PVC-U core, beneath an outer weathering impact-modified PVC-U skin. The soffit ventilator, hollow boards and other extruded trims are composed of impact-modified PVC-U and the injection mouldings of PVC-U.

5.5 Characteristics of the cellular boards are shown in Table 1.

Table 1 Characteristics of boards

Standard length (m)	5
Nominal thickness (mm)	see Figure 1
Nominal thickness of outer skin (mm)	0.5
Average density (kgm ⁻³)	0.55

Figure 1 Cellular boards

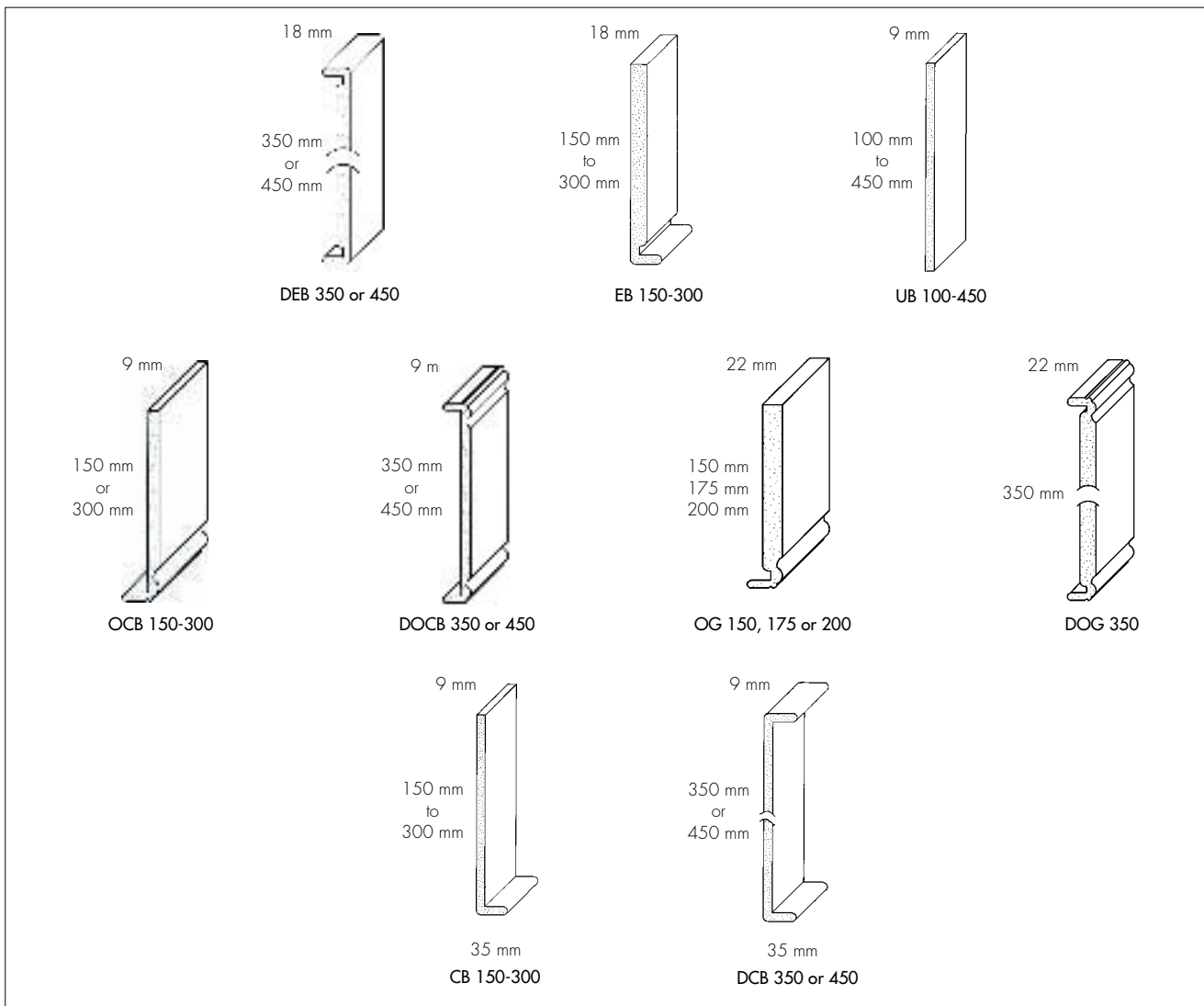
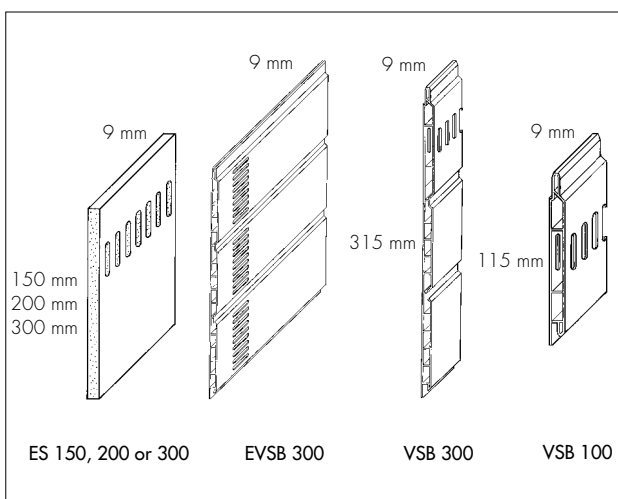


Figure 2 Vented (soffit) boards



5.6 The cellular boards are manufactured by co-extruding a high-impact PVC-U compound onto a foamable PVC-U compound, cooling and forming to section. Cellular PVC-U is formed during the process by the evolution of gas from a blowing agent present in the foamable PVC-U compound. A clear protective polyethylene film is applied to the outer face of the extrusion before the board is cut to length.

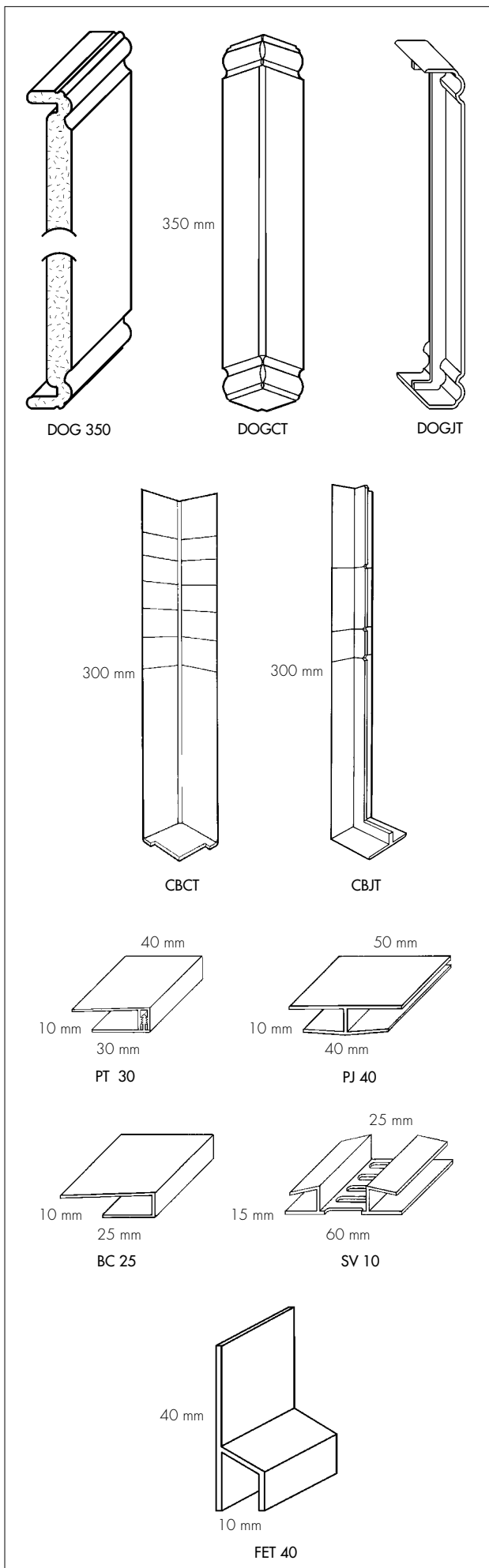
5.7 The trims are manufactured using conventional extrusion and injection moulding techniques.

5.8 Continuous quality control is undertaken during the manufacture of cellular boards to include checks on appearance, colour, dimensions, weight per metre and impact strength, and on rigid trims to include checks on appearance, colour, dimensions, weight, heat reversion and heat ageing.

5.9 Stainless steel (A4), annular ring-shank nails with white plastic heads are used to fix both cellular boards to rafter feet, noggings, gable ladders and other timber framework, and also hollow soffit boards. The 50 mm long (FN50) nails are used with the 9 mm Capping board and timber backing board, the 65 mm long (FN65) nails are used with the 18 mm Euroboard and the 22 mm Ogee board, the 30 mm long (FP30) pins are used with the 9 mm Utility board, the Euro soffit board and the Rigid Hollow soffit board. Stainless Steel 50 mm long Capping Screws (CS50), with a plastic cover are used also to fix the 9 mm Capping board. Stainless steel 25 mm long Cladding Pins (CP25) are used to fix the 100 mm Rigid Hollow soffit panel.

5.10 A PVC solvent adhesive, recommended by the manufacturer, is used to secure joint and corner trims.

Figure 3 Ancillary components




6 Delivery and site handling

6.1 The fascia, barge board, soffit and trim profiles are delivered to site in packs sealed in polyethylene sleeves bearing the product marking. Pack quantities vary dependent upon the type of profile.

6.2 Unloading should be carried out by hand to avoid damage to the components, which should be stored flat, in their protective wrapping, on a clean, level surface. Stacks must not exceed one metre in height and should be restrained to prevent collapse. To avoid damage it is recommended that profiles should be stored under cover wherever possible.

Design Data

7 General


 7.1 The Wickes Roofline System is suitable for use externally to provide a protective and decorative trim to roofs where timber or other conventional materials would normally be used.

7.2 The system must be fixed only to structurally sound building substrates, at centres not exceeding 600 mm. Rafter feet and gable ladders should be adequately supported by noggings to ensure rigidity. Replacement, rather than over fixing, of existing fascia, is recommended. Timber roof structures, to which the system is fixed, must be designed and/or constructed in accordance with the relevant Building Regulations and, as appropriate, in compliance with one of the following technical specifications:

- BS 5268-2 : 2002
- BS 5268-3 : 2001
- The Building Regulations 2000 (as amended) (England and Wales), Approved Document A1/2, Section 2B
- The Building Regulations (Northern Ireland) 2000, Part D *Structure*.

7.3 The cellular PVC-U components have a similar coefficient of thermal expansion to that of conventional solid PVC-U. A 5 mm gap should be provided at the end of each board, at the joint trim (ie 10 mm between boards), to allow for movement. Care should be taken not to install the system in extremes of temperature. The recommended temperature for installation is between 5°C and 25°C.

Ventilation

 7.4 The soffit ventilators can contribute towards providing the necessary roof space ventilation. Guidance on the provision of adequate ventilation is given in the 1995 edition of The Approved Document F2 *Condensation in roofs*, to the Building Regulations 2000 (as amended) (England and Wales), and in BS 5250 : 2002, Clause 8.4.

7.5 When providing roof space ventilation it is essential that the airway should not be allowed to become blocked by the loft insulation. This may be achieved by the use of a suitable BBA approved insulation retainer producing an air passage with an effective area (geometric free area) at least equal to that of the soffit ventilator used.

7.6 The vented area and equivalent continuous vent width at eaves for the ventilation products are given in Table 2.

Table 2 Vented boards and trims

Product	Vented area (mm ² m ⁻¹)	Equivalent continuous vent width (mm)
Vented cellular soffit board	11 500	11.5
Vented hollow soffit board	10 200	10.2
Soffit ventilator trim	12 100	12.1

7.7 The soffit ventilators referred to in section 7.6 will meet the ventilation requirements for the application detailed in section 7.8 and contribute to meeting the requirements for applications described in sections 7.9 and 7.10.

7.8 For roofs with a pitch of 15° or more, where both the ceiling and insulation are horizontal, soffit ventilators with a minimum vented area of 10 000 mm² per metre run, if used in accordance with section 7.5, can provide adequate ventilation to insulated loft spaces as set out in BS 5250 : 2002, Clause 8.4. The soffit ventilators should run along the eaves of the longest opposite sides of a rectangular roof to provide adequate cross-ventilation. The ventilators are suitable for use with traditional (semi-permeable) and high performance (impermeable) sarking felts. Consideration should be given to the use of high-level ventilation openings to increase the ventilation rate for roofs as recommended in BS 5250 : 2002, Clause 8.4. The use of high-level ventilation openings is strongly recommended in roofs with a pitch greater than 35° or roof spans in excess of 10 m.

7.9 For roofs where the ceiling follows the pitch of the roof, soffit ventilators with a minimum vented area of 25 000 mm² per metre run, if used in conjunction with suitable high-level ventilation, can provide adequately for roof voids as set out in BS 5250 : 2002, Clause 8.4. It is essential that a minimum unrestricted air space of 50 mm is maintained between the underside of the roof deck and the top of the insulation. Consideration should be given to the probability of the sarking felt bowing between rafters and it should be ensured that this does not reduce the gap between felt and insulation to less than 50 mm. Where there is an obstruction to the ventilation, eg rooflights or a change in pitch of roof, adequate ventilation, in accordance with the requirements of BS 5250 : 2002, Clause 8.4, should be provided above and below the obstruction using suitable ventilators. The required ventilation at high level and around obstructions may be achieved by using a suitable BBA approved ventilator.

7.10 For roofs with a pitch of less than 15°, soffit ventilators with a minimum vented area of 25 000 mm² per metre run, if used in accordance with section 7.5, can provide adequate ventilation to insulated roof voids as set out in BS 5250 : 2002, Clause 8.4. When providing roof space ventilation for flat roofs, it is essential that a minimum unrestricted air space of 50 mm is maintained between the underside of the roof deck

and the top of the insulation. Ventilation should be provided along two opposite sides of the deck: where possible these should be the two longest sides to achieve maximum cross-ventilation. The recommendations contained in BS 5250 : 2002, Clause 8.4, should be followed when planning the provision of ventilation to flat roofs, especially where spans exceed 5 m, or for concrete deck roofs. Where a flat roof has a span of greater than 10 m, or is not of a simple rectangular plan, more ventilation will be required, totalling at least 0.6% of the total area of the roof. It should be noted that cold flat roof construction is generally unacceptable in Scotland and not the preferred option elsewhere in the UK⁽¹⁾.

(1) See BRE report (BR 262 : 2002) *Thermal insulation : avoiding risks*.

7.11 Where soffit ventilators are used in lean-to or mono-pitched roofs, high-level ventilation, in accordance with BS 5250 : 2002, Clause 8.4, must be provided.

7.12 Where a pitched roof abuts a wall, additional high-level ventilation must be arranged to provide an open area at least equal to a 5 mm slot running the full length of the abutment.

7.13 The soffit ventilator sections meet NHBC requirements for protection against the ingress of birds, rodents or large insects. For applications covered by section 7.8, a mesh may be incorporated into the ventilator trim to increase this protection.

7.14 The dimensions of the slots in the soffit ventilators are such that the risk of blockage is limited. However, the slots should be examined occasionally and cleared if necessary.

8 Practicability of installation

Special training is not required to install the roof trim system correctly, provided the manufacturer's instructions and the procedures outlined in section 14 are followed. However, normal precautions should be taken when installing boards at roof level.

9 Strength and stability

9.1 The system will withstand, without damage or permanent deflection, the wind loads likely to be encountered in the United Kingdom. In exposed locations care should be taken to ensure that all profiles are adequately fixed.

9.2 The system has adequate resistance to the hard and soft body impacts likely to occur in practice.

9.3 The PVC-U gutters, as specified in BS 4576-1 : 1989 may be screw-fixed directly to Ogee and Euroboards. Gutter bracket spacings must not exceed 1 m; reduced spacings are recommended in the Scottish Highlands. Other lightweight gutters may also be screw-fixed to Ogee and Euroboards provided the maximum bracket loading, covered in BS 4576-1 : 1989 is not exceeded. For other boards, all gutters should be fixed through the fascia to rafter ends or other sound timber.

9.4 Apart from the exceptions detailed in section 9.3, the fascia boards are not loadbearing and must not be used independently to support

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fixtures such as roof tiles, gutters, other roof structure components, or television aerials. Suitably fixed telephone wires and power cables may be run along the boards, but the main brackets for these services should be fixed through the fascia to structurally sound timber.

10 Performance in relation to fire

10.1 When tested in accordance with BS 476-7 : 1997 the boards achieved a Class 1Y rating.

10.2 On exposure to fire, PVC-U tends to char and may fall away. The spread of flame along its surface is limited. It is unlikely that the roof trim system will significantly affect the overall fire performance of any roof in which it is installed.


10.3 Where it is normal practice to carry the eaves box over, between dwellings, it is important that the box is fire-stopped at compartment walls.

11 Maintenance

11.1 The system can be cleaned by washing with water and detergent. Solvent-based cleaners should not be used. The material can be cut and drilled, using normal woodworking tools, if repairs are required.

11.2 As with all PVC products, paint can adversely affect the impact strength of the cellular PVC-U sections, and the application of dark colours could lead to a risk of thermal distortion. Therefore, painting is not recommended.

12 Durability

 12.1 Accelerated weathering tests indicate that Wickes PVC-U is as durable as conventional solid PVC-U and will retain adequate impact resistance for a period of 20 years.

12.2 The system will retain its decorative qualities for the service life of the product with only minor changes in surface appearance.

12.3 Where the timber substrate is preservative treated with copper/chrome/arsenic, care must be taken to ensure that sufficient time is allowed for complete fixation of the preservative (approximately seven days) to avoid corrosion of screws and nails used to fix the Wickes components.

Installation

13 General

13.1 Installation of Wickes Roofline System must be carried out in accordance with the manufacturer's instructions and the requirements of this Certificate.

13.2 The components of the system are easy to work using normal woodworking tools for cutting, drilling and shaping. Handsaws should have a fine-toothed blade. Hand-held and bench-mounted power tools with a carbide-tipped blade should be run at speeds similar to, or higher than, those normally used for timber (see also section 8).

13.3 When using power tools to cut or shape the product, it is recommended that eye protection and a coarse-particle dust mask is used.

13.4 Fascia, soffit and barge boards should be fixed to preservative-treated, structurally sound timber, using the screws and nails specified by the manufacturer.

13.5 Sarking felt should be checked to ensure that it is in good condition and extends onto the verge rafter and over a continuous tilting fillet and fascia into the gutter at the eaves. Damaged or worn felt should be replaced.

13.6 Ogee and Euroboards may be used directly to support PVC-U and other lightweight gutters (see section 9.3).

13.7 Soffit ventilators should be selected and installed so that the roof ventilation conforms to the relevant Building Regulations.

14 Procedure

14.1 Selected boards and accessories are assembled and cut to size.

14.2 Rafter feet are cut to a line.

14.3 Noggings, soffit bearers, battens, eaves fillets, brackets and other additional timber supports are fixed to a sound substrate.

14.4 Protective films should be removed prior to fixing.

14.5 The summary for the installation details of fascia, soffit and barge boards (see sections 14.7 to 14.17) should be read with reference to the typical installation diagrams shown in Figure 4.

14.6 All capping board profiles should be fixed either to a sound timber support or a 6 mm plywood backboard.

Fascias

14.7 Fascia boards are fixed to rafter feet at centres not exceeding 600 mm, using two specified fixings.

14.8 Butt joints between fascia boards should be made at the rafter end and covered with a butt joint trim, glued using a PVC solvent adhesive to the end of one board with a suitable adhesive. Provision for expansion (minimum 10 mm gap) should be allowed between boards, both of which should be fixed to the rafter.

14.9 Corner trims are used to cover corner joints. The trims, with mitred ends, are glued using a PVC solvent adhesive to the end of one board with a suitable adhesive. Provision for expansion (minimum 5 mm gap) should be allowed between boards, both of which should be fixed to the rafter.

Soffits

14.10 Soffit board is used to construct the soffit.

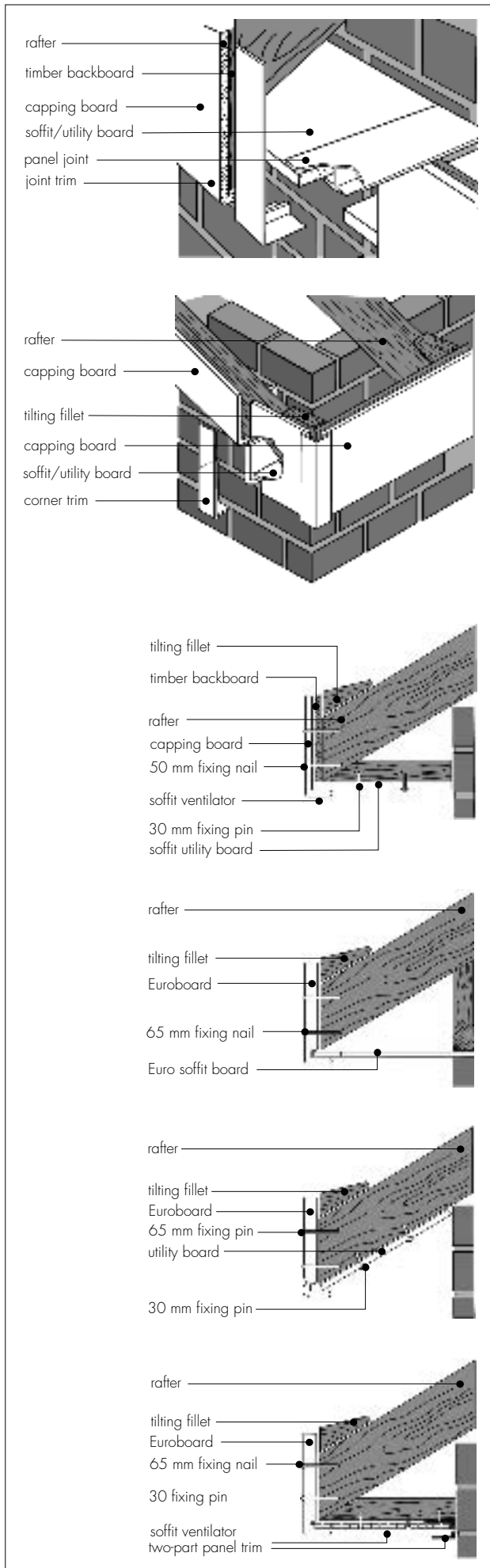
14.11 The board is cut to size and fitted into the groove at the rear of the fascia or sat on the top of the capping board at the rafter end.

14.12 The boards are fixed to rafter feet, soffit bearers, or other timber support at centres along their length, not exceeding 600 mm, and across their width, not exceeding 200 mm, using the specified nails.

14.13 Where required, soffit boards may be joined along their length or width using a soffit jointing strip.

14.14 To comply with building regulations a vented soffit board or soffit ventilator trim is used as required.

Figure 4 Typical installation details



Barge boards

14.15 Barge boards are installed by fixing fascia boards to a gable ladder or noggings, using the procedures given in sections 14.7 and 14.8.

14.16 Barge boards meeting at a ridge should be mitred to the appropriate angle.

14.17 Box ends are constructed from fascia board and trims to suit the roof pitch and overhead requirement. Any timber framework required in the construction of the box end must be preservative treated.

Technical Investigations

The following is a summary of the technical investigations carried out on the Wickes Roofline System.

15 Tests

15.1 Tests were carried out on the cellular product to determine:

- voidage
- thickness of layers
- density
- impact strength
- flexural strength and modulus of elasticity
- colour stability
- resistance to gutter loading
- impact strength after UV ageing
- suitability of adhesive.

15.2 Tests were carried out on trims to determine:

- heat reversion
- stress relief.

16 Investigations

16.1 Calculations were undertaken to establish the resistance of the product to wind suction.

16.2 The dimensions of cellular boards and trims were checked.

16.3 An assessment was made of the acceptability of soffit ventilators in meeting ventilation requirements.

16.4 An examination was made of existing data relating to:

- surface spread of flame
- colour stability.

16.5 The manufacturing process, including the methods adopted for quality control, were examined and details were obtained of the quality and composition of the materials used.

16.6 The practicability of the installation was assessed.

Bibliography

BS 476-7 : 1997 *Fire tests on building materials and structures — Method of test to determine the classification of the surface spread of flame of products*

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BS 4576-1 : 1989 *Specification for unplasticized polyvinyl chloride (PVC-U) rainwater goods and accessories— Half-round gutters and pipes of circular cross-section*

BS 5250 : 2002 *Code of practice for control of condensation in buildings*

BS 5268-2 : 2002 *Structural use of timber — Code of practice for permissible stress design, materials and workmanship*

BS 5268-3 : 2001 *Structural use of timber — Code of practice for trussed rafter roofs*

Conditions of Certification

17 Conditions

17.1 This Certificate:

- (a) relates only to the product that is named, described, installed, used and maintained as set out in this Certificate;
- (b) is granted only to the company, firm or person identified on the front cover — no other company, firm or person may hold or claim any entitlement to this Certificate;
- (c) is valid only within the UK;
- (d) has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective;
- (e) is copyright of the BBA;
- (f) is subject to English law.

17.2 References in this Certificate to any Act of Parliament, Regulation made thereunder, Directive or Regulation of the European Union, Statutory Instrument, Code of Practice, British Standard, manufacturers' instructions or similar publication, are references to such publication in the form in which it was current at the date of this Certificate.

17.3 This Certificate will remain valid for an unlimited period provided that the product and the

manufacture and/or fabrication including all related and relevant processes thereof:

- (a) are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA;
- (b) continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine; and
- (c) are reviewed by the BBA as and when it considers appropriate.

17.4 In granting this Certificate, the BBA is not responsible for:

- (a) the presence or absence of any patent, intellectual property or similar rights subsisting in the product or any other product;
- (b) the right of the Certificate holder to market, supply, install or maintain the product; and
- (c) the actual works in which the product is installed, used and maintained, including the nature, design, methods and workmanship of such works.

17.5 Any recommendations relating to the use or installation of this product which are contained or referred to in this Certificate are the minimum standards required to be met when the product is used. They do 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 or in the future; nor is conformity with such recommendations to be taken as satisfying the requirements of the 1974 Act or of any present or future 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 installation and use of this product.



In the opinion of the British Board of Agrément, the Wickes Roofline System is fit for its intended use provided it is installed, used and maintained as set out in this Certificate. Certificate No 05/4250 is accordingly awarded to Wickes Building Supplies Ltd.

On behalf of the British Board of Agrément

Date of issue: 14th September 2005

A handwritten signature in black ink, appearing to read 'G. A. Cooper', is written over the printed name 'Chief Executive'.

Chief Executive

British Board of Agrément

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