

Homeline Building Products Ltd

Aberaman Park Industrial Estate
Aberaman
Aberdare
Glamorgan CF44 6DA

Tel: 01685 882447 Fax: 01685 870887

e-mail: sales@homeline.uk.com

website: www.homeline.uk.com



Agrément Certificate

09/4639

Product Sheet 1

HOMELINE ROOF TRIM SYSTEMS

HOMELINE ROOFLINE SYSTEM

This Agrément Certificate Product Sheet⁽¹⁾ relates to the Homeline Roofline System, a co-extruded cellular PVC-U system comprising fascia, soffit and barge boards, soffit ventilator and accessories, for external use at the roofline as a substitute for timber or other conventional materials. The components of the system are available in white, black and grey, and coloured laminated foil finishes.

(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 ventilated soffit board can contribute towards providing the necessary roof space ventilation (see section 6).

Strength and stability — in terms of wind loading resistance, the system can be used in all areas of the UK (see section 7).

Behaviour in relation to fire — the reaction to fire classifications depend on the board type and colour chosen. The use of the system is restricted in some cases (see section 8).

Durability — the system will retain its decorative qualities for a period in excess of 20 years, with only minor changes in surface appearance (see section 10).

Reuse and recyclability — the source and quantity of recycled material for profiles with an 'E' prefix has been verified by the BBA (see section 13).



The BBA has awarded this Certificate to the company named above for the system described herein. This system has been assessed by the BBA as being fit for its intended use provided it is installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

John Albon – Head of Approvals
Construction Products

Claire Curtis-Thomas
Chief Executive

Date of Sixth issue: 26 February 2019

Originally certificated on 8 April 2009

Certificate amended on 7 March 2019 (Section 1.3).

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

Bucknalls Lane
Watford
Herts WD25 9BA

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tel: 01923 665300
clientservices@bbacerts.co.uk
www.bbacerts.co.uk

Regulations

In the opinion of the BBA, the Homeline Roofline System, 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:	B4(1)	External fire spread
Comment:		The system is restricted by this Requirement. See sections 8.1 and 8.2 of this Certificate
Requirement:	C2(b)	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 4.1 of this Certificate.
Requirement:	C2(c)	Resistance to moisture
Comment:		When used in accordance with this Certificate, the soffit ventilators can contribute to enabling a roof to satisfy this Requirement. See section 6 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 of the system are acceptable. See section 10.1 and the <i>Installation</i> part of this Certificate.
Regulation:	7(2)	Materials and workmanship (applicable to England only)
Comment:		The system is restricted by this Regulation. See sections 8.1 and 8.2 of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)(2)	Durability, workmanship and fitness of materials
Comment:		The system is acceptable. See sections 9 and 10.1 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards applicable to 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 4.1 of this Certificate.
Standard:	3.15	Condensation
Comment:		The soffit ventilators can contribute to enabling a roof to satisfy this Standard, with reference to clauses 3.15.1 ⁽¹⁾ , 3.15.3 ⁽¹⁾ , 3.15.5 ⁽¹⁾ and 3.15.7 ⁽¹⁾ . See section 6 of this Certificate.
Regulation:	12	Building standards applicable to conversions
Comment:		All comments given for the system under Regulation 9, Standards 1 to 6, 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) 2012 (as amended)

Regulation:	23(a)(i)	Fitness of materials and workmanship
Comment:	(iii)(b)(i)	The system is acceptable. See section 10.1 and the <i>Installation</i> part of this Certificate.

Regulation:	28	Resistance to 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 4.1 of this Certificate.
Regulation:	29	Condensation
Comment:		The soffit ventilators can contribute towards enabling a roof to satisfy this Regulation. See section 6 of this Certificate.

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

Information in this Certificate may assist the client, designer (including Principal Designer) and contractor (including Principal Contractor) to address their obligations under these Regulations.

See sections: 3 *Delivery and site handling* (3.2) and 11 *General* (11.3 and 11.8) of this Certificate.

Additional Information

NHBC Standards 2019

In the opinion of the BBA, the Homeline Roofline System, 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 7.2 *Pitched roofs*.

Technical Specification

1 Description

1.1 The Homeline Roofline System comprises a range of cellular PVC-U (PVC-UE) boards (see Figure 1), soffits (see Figure 2), an extruded soffit vent together with matching ancillary components, other extruded trims and injection-moulded joint covers (see Figure 3).

1.2 The soffit ventilators (including vented cellular boards), vented hollow soffits and an 80 mm soffit vent provide a means of ventilating the roof void.

1.3 The system is available in white (standard white, and blue white), black and grey, and the following coloured laminated foil finishes:

- red walnut
- cream
- dark grey
- light oak
- Chartwell green
- rosewood
- white woodgrain
- mahogany
- English oak
- silver birch
- antique pine
- mountain ash
- dark teal
- dark walnut
- wine red
- rustic green
- royal blue
- Irish oak
- slate grey
- anthracite grey
- black.

1.4 The cellular boards comprise a closed-cell cellular PVC-U core beneath an outer weathering, impact-modified PVC-U skin. The soffit ventilator and other extruded trims are composed of impact-modified PVC-U, and the injection mouldings of acrylonitrile styrene acrylate (ASA).

Figure 1 Cellular boards

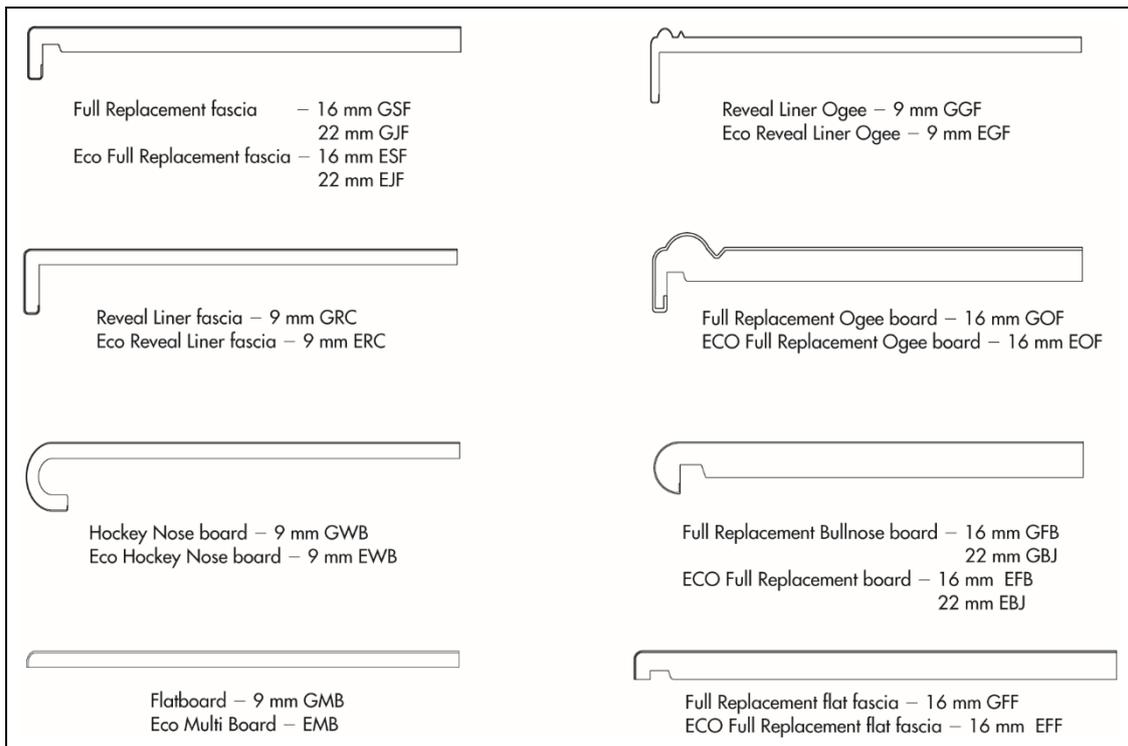


Figure 2 Soffit boards — available as single- or double-vented (dimensions in mm)

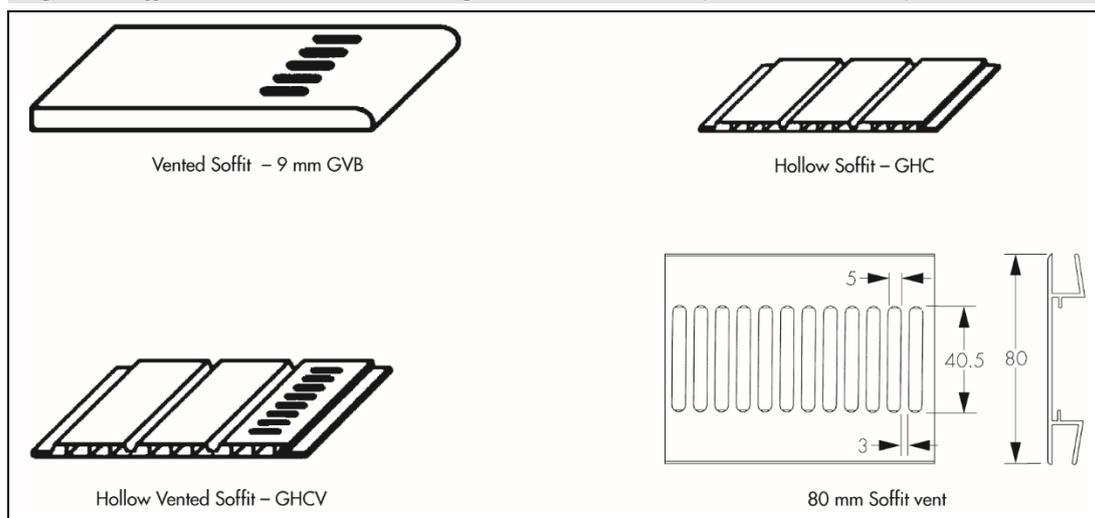


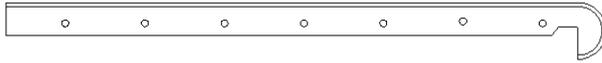
Figure 3 Ancillary components



Square end external corner GSC 500 mm



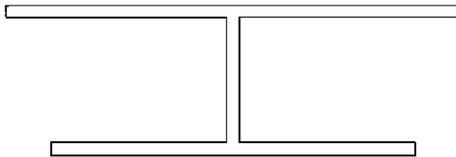
Radius external corner GBC 300 mm/500 mm



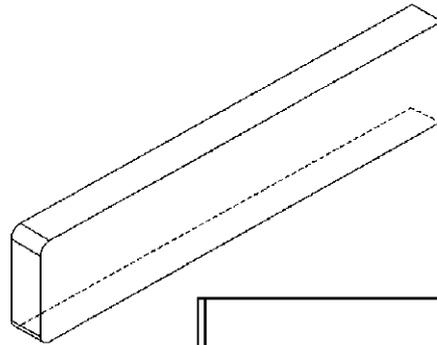
Radius inline joint trim GBJ 300 mm/500 mm



J trim for hollow soffit GJT



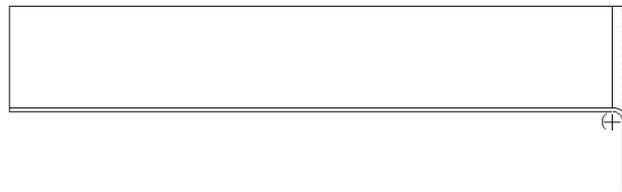
Hollow cladding centre trim - GHS



Universal long end cap - GREC



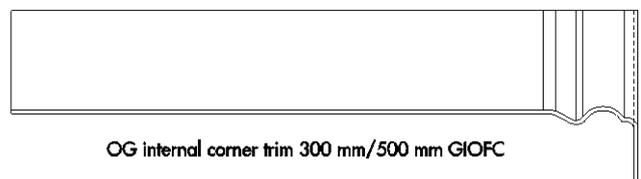
External corner trim for Hollow Soffit GFT



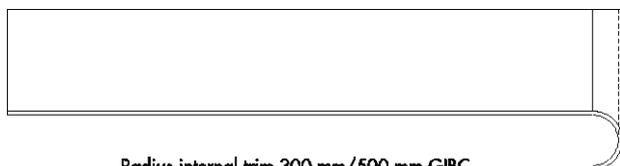
Square end internal corner 300 mm/500 mm GISC



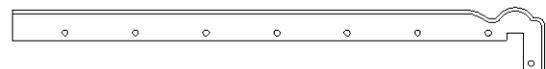
OG external corner trim 300 mm/500 mm GOFC



OG internal corner trim 300 mm/500 mm GIOFC

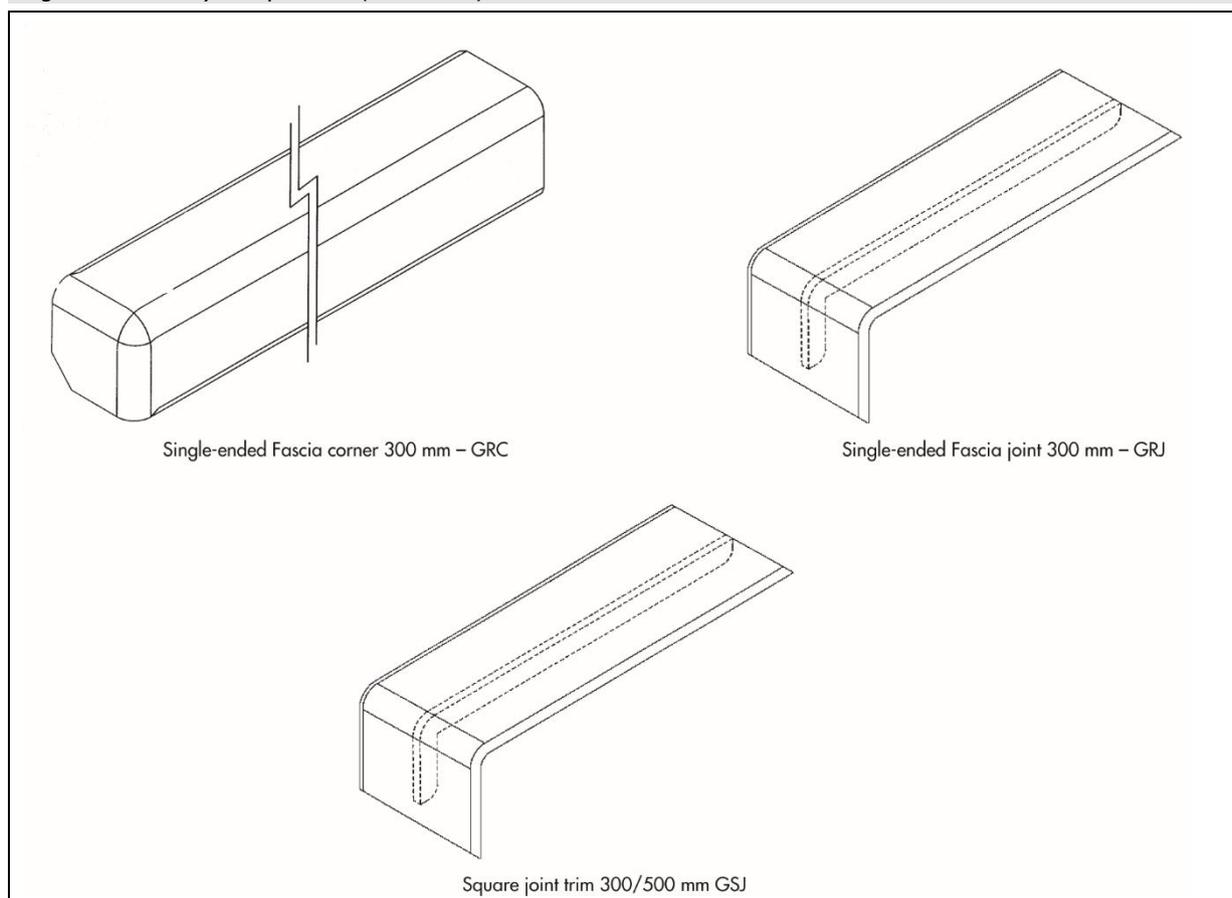


Radius internal trim 300 mm/500 mm GIBC



OG inline joint trim 300 mm/500 mm GOFJ

Figure 3 Ancillary components (continued)



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

Table 1 Characteristics of boards

Board type	Standard length (m) ⁽¹⁾	Nominal thickness (mm)	Minimum thickness of outer skin (mm)	Average density (kg·m ⁻³)
Eco/Full Replacement fascia	5	22/16	0.6	500
Eco/Reveal Liner fascia	5	9	0.6	500
Eco/Hockey Nose board	5	9	0.6	500
Eco/Full Replacement Bullnose board	5	22/16	0.6	500
Eco/Reveal Liner	5	9	0.6	500
Eco/Full Replacement Ogee board	5	16	0.6	500
Flatboard	5	9	0.6	500
Vented Soffit	5	9	0.6	500
Hollow Vented Soffit	5	8	0.6	500
Hollow Soffit (Cladding)	5	8	0.6	500
Eco Multi Board	5	9	0.6	500
Eco/Full Replacement Flat fascia	5	16	0.6	500

(1) Available in other lengths on request.

1.6 Stainless steel annular ring-shank nails with white plastic heads are available from the manufacturer for fixing cellular boards and ancillary components. Solvent-weld and low-modulus silicone adhesives are available for fixing joint covers to fascia boards.

2 Manufacture

2.1 The cellular boards are manufactured by co-extruding a high-impact calcium/zinc PVC-U skin compound onto a foamable calcium/zinc PVC-U core compound, and cooling and forming to section. Cellular PVC-UE is formed during the process by the evolution of gas from sodium bicarbonate 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. Coloured laminated foil profiles are surface-covered with PVC incorporating a clear acrylic protective layer, and the foil is applied to the external face adhering to the PVC-U skin.

2.2 The ancillary components are manufactured using conventional extrusion and injection-moulding techniques.

2.3 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.

2.4 The management system of Homeline Building Products Ltd has been assessed and registered by BSI as meeting the requirements of BS EN ISO 9001 : 2015 (Certificate FM 537077) and BS EN ISO 14001 : 2015 (Certificate EMS 565873).

3 Delivery and site handling

3.1 The cellular boards and trim profiles are delivered to site in packs sealed in polythene sleeves bearing the Certificate holder's marking. Pack quantities vary dependent upon the type of profile.

3.2 The packs should be unloaded by hand to avoid damage, and stored flat in the polythene sleeves on a clean, level surface in stacks not exceeding one metre in height and restrained from collapse. If stored externally, the packs should be kept under cover.

3.3 Care must be taken when handling PVC-U boards and trims to avoid contact with solvents or materials containing volatile organic components.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on the Homeline Roofline System.

Design Considerations

4 Use



4.1 The Homeline Roofline System is suitable for external use to provide a protective and decorative trim at the roofline where timber or other conventional materials would normally be used. The system will provide adequate protection to the interior of the building from the penetration of moisture.

4.2 The system must be fixed only to structurally sound building substrates, at centres not exceeding 600 mm for white fascia boards and 400 mm for all other colours. 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 national Building Regulations and BS EN 1995-1-1 : 2004.

4.3 The cellular PVC-UE components have a similar coefficient of thermal expansion to that of conventional solid PVC-U. For white fascia boards, a 5 mm gap should be provided at the end of each board (ie 10 mm at the joint trim

between boards) and for all other colours, an 8 mm gap (ie 16 mm at the joint trim 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 and 25°C.

5 Practicability of installation

The system is designed to be installed by a competent general builder or contractor experienced with this type of system.

6 Ventilation



6.1 The soffit ventilators can contribute towards providing the necessary roof space ventilation. Guidance on the provision of adequate ventilation is given in the national Building Regulations and in BS 5250 : 2011, Annex H.

6.2 When providing roof space ventilation, it is essential that the airway does not 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 a geometric free area at least equal to that of the soffit ventilator used.

6.3 The vented soffit board and hollow vented soffit both have a vented area of 12 600 mm² per metre run (equivalent to a continuous slot 12.6 mm wide at eaves level) and are suitable for the applications given in section 6.5.

6.4 The 80 mm soffit vent (without mesh) has a vented area of 25 300 mm² per metre run (equivalent to a continuous vent 25.3 mm wide at the eaves) and is suitable for the applications given in section 6.5.

6.5 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 6.2, can provide adequate ventilation to insulated loft spaces as set out in BS 5250 : 2011, Annex H. 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 high resistance (HR) and low resistance (LR) underlay⁽¹⁾ sarking felts. Consideration should be given to the use of high-level ventilation openings to increase the ventilation rate for roofs as referred to in BS 5250 : 2011, Annex H. 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.

(1) As defined in BS 5250 : 2011.

6.6 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 : 2011, Annex H. 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 (for example, rooflights or a change in pitch of roof), adequate ventilation, in accordance with the requirements of BS 5250 : 2011, Annex H, 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.

6.7 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 6.2, can provide adequate ventilation to insulated roof voids as set out in BS 5250 : 2011, Annex H. 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 : 2011, Annex H, 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 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.

6.8 Where soffit ventilators are used in lean-to or mono-pitched roofs, high-level ventilation, in accordance with BS 5250 : 2011, Annex H, must be provided.

6.9 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.

6.10 The soffit ventilator sections satisfy NHBC requirements for protection against the ingress of birds, rodents or large insects.

6.11 The dimensions of the slots in the soffit ventilators are such that the risk of blockage is limited. However, blockage by insects and debris would impair their performance as vents and, therefore, the slots should be examined occasionally and cleared if necessary.

7 Strength and stability

7.1 When installed in accordance with this Certificate, the system will withstand, without damage or permanent deflection, the wind loads likely to be encountered in the UK. In exposed locations, care should be taken to ensure that all profiles are adequately fixed.

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

7.3 PVC-U gutters, as specified in BS EN 607 : 2004, may be screw-fixed directly to the Full Replacement fascia boards. Gutter bracket spacings must not exceed one metre; reduced spacings are recommended in the Scottish Highlands and similar exposed locations, and the advice of a suitably experienced and competent individual should be sought in such situations. Other lightweight gutters may also be screw-fixed to the Full Replacement fascia board provided the maximum bracket-loading, covered in BS EN 1462 : 2004, is not exceeded. For all other boards, all gutters should be fixed through the fascia to rafter ends or other sound timber.

7.4 The 16 and 22 mm fascia boards will support all eaves tiles in common usage in the UK (up to 10 kg load per 1 m length of fascia), provided they are installed in accordance with the requirements of this Certificate.

7.5 Apart from the exception detailed in section 7.4, the fascia boards are not loadbearing and must not be used independently to support 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.

8 Behaviour in relation to fire



8.1 When tested in accordance with BS 476-7 : 1997, the fascia boards achieved the surface spread of flame rating as detailed in Table 2 of this Certificate.

Table 2 Reaction to fire classifications

Board type	Classification according to BS 476-7		
	white	black/grey	coloured foil
Full Replacement fascia	Class 1	Class 1	Class 4
Flatboard	Class 1Y	Class 2Y	Class 4Y
Hollow Soffit (cladding)	Class 1Y	—	—

8.2 The system should not be used on buildings in England that have a storey at least 18 m above ground level and contain: one or more dwellings, an institution, a room for residential purposes (excluding any room in a hostel, hotel or boarding house), student accommodation, care home, sheltered housing, hospitals or dormitories in boarding schools.

8.3 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.

8.4 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.

9 Maintenance



9.1 The system can be cleaned by washing with water and mild detergent. Abrasive or solvent-based cleaners must not be used. For the removal of more resistant stains, the manufacturer's advice must be sought. The material can be cut and drilled, using normal woodworking tools, if repairs are required.

9.2 As with all PVC products, paint can adversely affect the impact strength of the cellular PVC-UE sections, and the application of dark colours could lead to a risk of thermal distortion. Therefore, painting must not be carried out.

9.3 The slots of ventilated soffit boards should be examined periodically and cleared if necessary.

10 Durability



10.1 Homeline PVC-UE is as durable as conventional solid PVC-U and boards will retain adequate impact resistance for a period in excess of 20 years.

10.2 The system will retain its decorative qualities for a period in excess of 20 years, with only minor changes in surface appearance.

10.3 Where the timber substrate is preservative-treated, 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 components.

Installation

11 General

11.1 Installation of the Homeline Roofline System must be carried out in accordance with the manufacturer's instructions and the requirements of this Certificate (see Figure 4).

11.2 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.

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

11.4 Fascia, soffit and barge boards should be fixed to preservative-treated, structurally sound, solid timbers at centres not exceeding 600 mm for white fascia boards and not exceeding 400 mm for all other colours, using the fixings specified by the manufacturer. The nails should be selected to give 40 mm penetration into the support timbers.

11.5 Existing support timbers should be checked for soundness and, where necessary, replaced.

11.6 Sarking felt should be checked to ensure that it is in good condition and extends onto the verge rafter and over the fascia and into the gutter at the eaves. A continuous fillet should be installed at the eaves to prevent the felt sagging between the rafters. Damaged or worn felt should be replaced in accordance with good practice.

11.7 For the Full Replacement fascia boards, gutter brackets may be fixed directly into the board at spacings not greater than one metre, using the screws recommended by the manufacturer. The screws should penetrate the rear face of the board. For all other boards, gutter brackets are screwed through the fascia board into rafter feet or other timber support (see section 7.3).

11.8 Care should be taken when handling boards at roof level.

11.9 Soffit ventilators should be selected and installed so that the roof ventilation conforms to the relevant national Building Regulations (see section 4).

12 Procedure

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

12.2 Rafter feet are cut to a line.

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

12.4 Protective films should be removed just prior to fixing (that is, peeled off as nailing progresses along the board).

12.5 The summary for the installation details of fascia, soffit and barge boards (see sections 12.6 to 12.16) should be read with reference to the typical installation diagrams shown in Figure 4.

Fascias

12.6 Fascia boards are fixed to rafter feet at centres not exceeding 600 mm for white fascia boards and not exceeding 400 mm for all other colours, using two specified ring-shanked nails. Full Replacement fascia boards may be fixed directly to rafter feet using 65 mm long nails (50 mm for other boards). Full Replacement fascia boards are fixed directly to rafter ends; other boards should be fixed to rafter ends through a sound fascia backing board.

12.7 Butt joints between fascia boards should be made at the rafter end and covered with a butt-joint trim, which is fixed to the end of one board with either a low-modulus silicone sealant or a solvent-weld adhesive. Provision for expansion (minimum 10 mm for white fascia boards and minimum 16 mm for all other colours between two 5 m boards) should be allowed between boards, both of which should be nailed to the rafter end.

12.8 At corners, the joint is covered with a corner trim, which is fixed to the end of one board only with a specified pin, solvent-weld adhesive or low-modulus silicone sealant. Provision for thermal movement of the boards should be allowed, as detailed in section 12.7.

12.9 Gutter brackets are fixed through the fascia into supporting timberwork, normally the rafter feet.

Soffit boards

12.10 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.

12.11 The boards are fixed to rafter feet, soffit bearers or other timber support at centres along their length, not exceeding 600 mm for white fascia boards and not exceeding 400 mm for coloured or foiled fascia boards, and across their width, not exceeding 200 mm, using the specified 40 mm nails.

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

12.13 To comply with national Building Regulations, a vented soffit board or soffit ventilator trim is used as required.

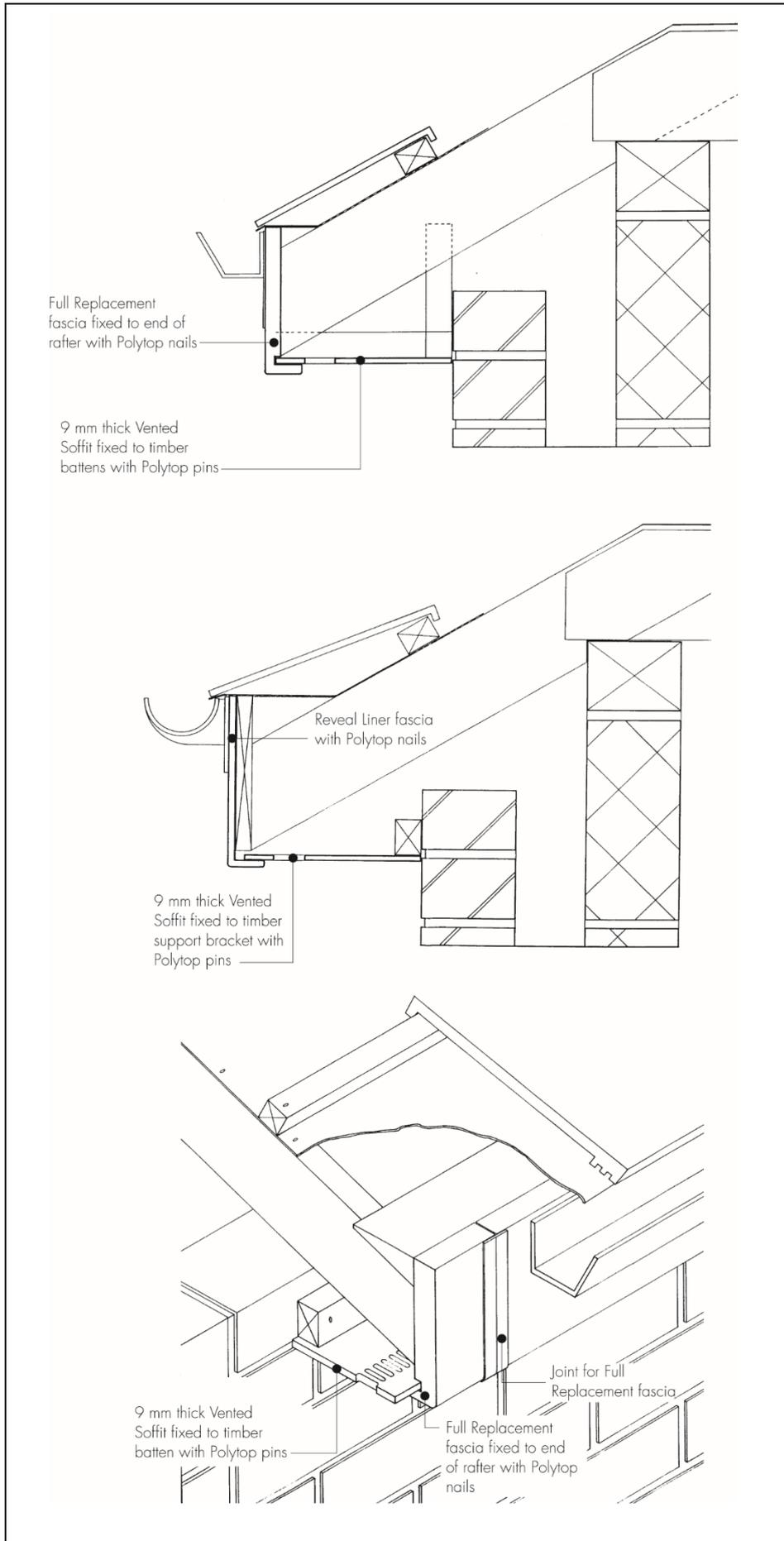
Barge boards

12.14 Barge boards are installed by fixing fascia boards to a gable ladder or noggings, using the procedures given in sections 12.6 and 12.7.

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

12.16 Box ends are constructed from Flatboard 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.

Figure 4 Typical insulation details



13 Reuse and recyclability

Recycled content

13.1 The recycled content of profiles with an 'E' prefix (see Figure 1) has been defined and calculated using the *Waste & Resources Action Programme (WRAP), Calculating and declaring recycled content in construction products 'Rules of Thumb'* guide. See Table 3.

Table 3 Recycled content of core material

Recycled input material	Input mass per tonne of product (in tonnes) ⁽¹⁾	Yield factor (%) ⁽²⁾	Recycled content (%)
Recycled pulver – brown skin/white core or black skin/white core	0.80	0	80
Total recycled content ⁽³⁾	—	—	80

(1) Input mass per tonne of recycled material is verified by the BBA as part of post-certification auditing and calculated in accordance with BS EN ISO 14021 : 2016, Clause 7.8.4.

(2) Yield factor is an estimated allowance for any loss or gain of recycled material associated with the manufacture of the product. This factor has been supplied by the Certificate holder but does not form part of BBA post-certification auditing.

(3) Total recycled content in the final core material.

13.2 The recycled input material is described as recycled pulver from offcuts or scrap and satisfies criteria C as defined in the *Waste & Resources Action Programme (WRAP), Calculating and declaring recycled content in construction products 'Rules of Thumb'* guide.

13.3 Only the core of profiles with an 'E' prefix is manufactured using recycled material, with profile skins being manufactured from virgin material. All other items (ie without an 'E' prefix) covered by this Certificate are manufactured using solely virgin material.

14 Tests

Tests were carried out on the cellular component and rigid trims and mouldings of the Homeline Roofline System to determine:

- weight per linear metre
- thickness of layers
- shrinkage on heating
- dimensional stability
- flexural strength and modulus of elasticity
- colour stability
- density
- voidage
- resistance to splitting and delamination (acetone)
- stress relief on heat ageing
- cross-cut of foil coating
- ash content
- resistance to impact
- shrinkage on heating
- Vicat softening temperature
- peel strength of foil coating
- resistance to gutter loading.

15 Investigations

15.1 Assessments were made of the resistance of the system components to wind suction.

15.2 An assessment was made of the acceptability of the soffit ventilators in satisfying ventilation requirements.

15.3 An examination was made of existing data relating to surface spread of flame.

15.4 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.

15.5 The practicability of the installation was assessed.

Bibliography

BRE Report BR 262 : 2002 *Thermal insulation : avoiding risks*

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*

BS 5250 : 2011 + A1 : 2016 *Code of practice for control of condensation in buildings*

BS EN 607 : 2004 *Eaves gutters and fittings made of PVC-U — Definitions, requirements and testing*

BS EN 1995-1-1 : 2004 + A2 : 2014 *Eurocode 5 : Design of timber structures — General — Common rules and rules for buildings*

BS EN 1462 : 2004 *Brackets for eaves gutters — Requirements and testing*

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

BS EN ISO 14001 : 2015 *Environmental management systems – Requirements with guidance for use*

BS EN ISO 14021 : 2016 *Environmental labels and declarations — Self-declared environmental claims (Type II environmental labelling)*

16 Conditions

16.1 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.

16.2 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.

16.3 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.

16.4 The BBA has used due skill, care and diligence in preparing this Certificate, but no warranty is provided.

16.5 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.

16.6 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.