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Agreement Certificate

16/5378

Product Sheet 1

SIGA AIR AND WEATHERTIGHTNESS PRODUCTS

FENTRIM SEALING TAPES

This Agreement Certificate Product Sheet⁽¹⁾ relates to Fentrim Sealing Tapes, for use as airtight and/or weathertight seals around windows and doors.

(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

Weathertightness — the products will resist the passage of wind-driven rain, snow, run-off water and dust into the interior of the building (see section 6).

Air barrier continuity — the products will contribute to maintaining air barrier continuity at lintels, jambs and sills (see section 7).

Risk of condensation — the products will adequately limit the risk of surface condensation; the risk of interstitial condensation will depend on the construction and should be assessed for each project (see section 8).

Resistance to damage — the products are suitably robust not to be damaged during installation (see section 9).

Durability — the products will continue to function for the lifetime of the frame around which they are installed (see section 11).



The BBA has awarded this Certificate to the company named above for the products described herein. These products have been assessed by the BBA as being fit for their intended use provided they are installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of First issue: 5 December 2016

John Albon – Head of Approvals
Construction Products

Claire Curtis-Thomas
Chief Executive

The BBA is a UKAS accredited certification body – Number 113.

The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at www.bbacerts.co.uk
Readers are advised to check the validity and latest issue number of this Agreement Certificate by either referring to the BBA website or contacting the BBA direct.

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Regulations

In the opinion of the BBA, Fentrim Sealing Tapes, 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:	C2(b)	Resistance to moisture
Comment:		The products will contribute to meeting this Requirement. See section 6 of this Certificate.
Requirement:	C2(c)	Resistance to moisture
Comment:		The products will contribute to meeting this Requirement with respect to interstitial condensation. See section 8.1 of this Certificate.
Requirement:	L1(a)(i)	Conservation of fuel and power
Comment:		The products can contribute to minimising heat loss at lintels, jambs and sills. See section 7 of this Certificate.
Regulation:	7	Materials and workmanship
Comment:		The products are acceptable. See section 11 and the <i>Installation</i> part of this Certificate.
Regulation:	26	CO₂ emission rates for new buildings
Comment:		The products can contribute to minimising heat loss at lintels, jambs and sills. See section 7 of this Certificate.
Regulation:	26A	Fabric energy efficiency rates for new dwellings (applicable to England only)
Regulation:	26A	Primary energy consumption rates for new buildings (applicable to Wales only)
Regulation:	26B	Fabric performance values for new dwellings (applicable to Wales only)
Comment:		The products can contribute to meeting these Regulations. See section 7 of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)	Durability, workmanship and fitness of materials
Comment:		The use of the products can contribute to satisfying the requirements of this Regulation. See section 11 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards applicable to construction
Standard:	3.10	Precipitation
Comment:		The products will resist the effects of driving rain and enable an installation to satisfy the requirements of this Standard, with reference to clause 3.10.1 ⁽¹⁾⁽²⁾ . See section 6 of this Certificate.
Standard:	3.15	Condensation
Comment:		The products can contribute to minimising the risk of interstitial and surface condensation, with reference to clauses 3.15.1 ⁽¹⁾ , 3.15.4 ⁽¹⁾ and 3.15.5 ⁽¹⁾ . See section 8.1 of this Certificate.
Standard:	6.1b	Carbon dioxide emissions
Standard:	6.2	Building insulation envelope
Comment:		The products can contribute to minimising heat loss at lintels, jambs and sills. See section 7 of this Certificate.
Standard:	7.1(a)	Statement of sustainability
Comment:		The products can contribute to meeting the relevant requirements of Regulation 9, Standards 1 to 6 and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard.

Regulation:	12	Building standards applicable to conversions
Comment:	Comments in relation to the products 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) (iii)(b)	Fitness of materials and workmanship
Comment:	The products are acceptable. See section 11 and the <i>Installation</i> part of this Certificate.	
Regulation:	28	Resistance to moisture and weather
Comment:	The products have adequate resistance to the ingress of rain and wind-driven spray and so can contribute towards the wall satisfying this Regulation. See section 6 of this Certificate.	
Regulation:	29	Condensation
Comment:	The products will contribute to minimising the risk of interstitial and surface condensation. See section 8.1 of this Certificate.	
Regulation:	39(a)(i)	Conservation measures
Regulation:	40(2)	Target carbon dioxide emission rate
Comment:	The products can contribute to minimising heat loss at lintels, jambs and sills. See section 7 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 section: *3 Delivery and site handling* (3.2 and 3.4) of this Certificate.

Additional Information

NHBC Standards 2016

NHBC accepts the use of Fentrim Sealing Tapes, provided they are installed, used and maintained in accordance with this Certificate, in relation to *NHBC Standards*, Chapters 6.1 *External masonry walls*, 6.2 *External timber framed walls*, 6.7 *Doors, windows, and glazing* and 6.9 *Curtain walling and cladding*.

Technical Specification

1 Description

1.1 Fentrim Sealing Tapes are a range of self-adhesive, pre-folded tapes used to seal around windows and doors. The tapes covered by this Certificate are:

- Fentrim 2 — a black polyolefin sealing tape for external use, non-woven on one face and self-adhesive on the other, protected with a release liner. The tape features perforations at one edge to improve keying of applied plaster
- Fentrim IS 2 — a black polyolefin sealing tape for external use, non-woven on one face and self-adhesive on the other, protected with a release liner
- Fentrim 20 — a white polyolefin sealing tape for internal use, non-woven on one face and self-adhesive on the other, protected with a release liner. The tape features perforations at one edge to improve keying of applied plaster
- Fentrim IS 20 — a white polyolefin sealing tape for internal use, non-woven on one face and self-adhesive on the other, protected with a release liner.

1.2 The products are supplied in 25 m rolls, in the grades given in Table 1.

Table 1 Product grades

Width (mm) ⁽¹⁾	Fentrim 2 / Fentrim 20	Fentrim IS 2 / Fentrim IS 20
75	—	15/60
100	15/85	15/85
150	15/135	15/135
200	15/185	15/185
250	—	15/235
300	—	15/285

(1) Customised widths are available.

2 Manufacture

2.1 The products are manufactured by coating a non-woven carrier with an adhesive and applying a release film.

2.2 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 being operated by the manufacturer are being maintained.

3 Delivery and site handling

3.1 The products are delivered to site in cartons, containing 2 to 8 rolls depending upon the roll width, bearing the Certificate holder's name, product name and width of membrane. Each roll of membrane bears a label with the product name, the article number, the QR Code that links to the product webpage and batch number. The roll release liner bears the Certificate holder's name and website address.

3.2 The number of rolls per box and the number of boxes per pallet are given in Table 2.

Table 2 Packaging

Overall roll width (mm)	Rolls per box	Boxes per pallet
75	8	35
100	6	35
150	4	35
200	2	49
250	2	35
300	2	35

3.3 The tapes should be stored in their original containers in a cool, dry place and must not be exposed to sources of heat or high temperatures.

3.4 The Certificate holder has taken the responsibility of classifying and labelling the products under the *CLP Regulation (EC) No 1272/2008 on the classification, labelling and packaging of substances and mixtures*. Users must refer to the relevant Safety Data Sheet(s).

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Fentrim Sealing Tapes.

4 Use

4.1 Fentrim Sealing Tapes are satisfactory for use in providing a weathertight and airtight seal around window and door frames.

4.2 The tapes are suitable for use on the following substrates:

- PVC-U and other hard plastics
- wood
- metal
- concrete
- masonry
- plaster/plasterboard
- cement fibreboard
- rigid insulation (PIR, XPS, EPS)
- vapour control layers⁽¹⁾
- non-woven membrane for closed facades⁽²⁾.

(1) Fentrim 20 and IS 20 on Certificate holder-approved material types.

(2) Fentrim 2 and IS2.

4.3 When used and installed in accordance with this Certificate and the Certificate holder's instructions, the tapes can contribute towards an exterior building envelope meeting a minimum air leakage of less than $1 \text{ m}^3 \cdot \text{hr}^{-1} \cdot \text{m}^{-2}$ @ 50 Pa (see section 7) and also less than 0.6 air change per hour @ 50 Pa for passive houses.

4.4 The Fentrim 2 and IS 2 can be exposed to UV prior to the installation of an external finish but this period should be kept to a minimum. Advice should be sought from the Certificate holder.

5 Practicability of installation

The products are designed to be installed by a trained competent general builder.

6 Weathertightness



6.1 The products will resist the passage of water, wind-driven rain and dust into the interior of a building.

6.2 When the products were tested in accordance with EN 1027 : 2000, no detectable water or moisture penetration occurred up to a pressure of 600 Pa. They therefore satisfy the Class 9A requirements of BS EN 12208 : 1999.

7 Air barrier continuity



The membranes are air barriers and, when installed correctly, can contribute to elements and junctions minimising heat loss by unplanned air infiltration. The membranes have been tested according to EN 12114 : 2000 and achieved an air permeability of $< 0.1 \text{ m}^3 \cdot (\text{m} \cdot \text{h} \cdot \text{daPa}^{2/3})^{-1}$. In the opinion of the BBA the air infiltration classification according to BS EN 12207 : 2000 for suitable windows used in combination with the products will be Class 4. Guidance documents in this respect can be found in the documents supporting the national Building Regulations.

8 Risk of condensation



8.1 Under normal domestic conditions, the level of interstitial condensation associated with the products will be low and the risk of any resultant damage minimal.

8.2 The stated diffusion-equivalent air layer thickness (s_d) value for Fentrim 20 and Fentrim IS 20 is 20 m, and for Fentrim 2 and Fentrim IS 2 is 2 m.

9 Resistance to damage

The products are suitably robust not to be damaged during installation.

10 Maintenance

As the products are confined within the final construction and have suitable durability (see section 11), maintenance is not required. However, any damage occurring before enclosure must be repaired (see section 15).

11 Durability



The products will have a life comparable with that of the installed window or door frame, provided they are not exposed to sunlight for long periods. Advice regarding exposure can be obtained from the Certificate holder.

Installation

12 General

12.1 The installation procedure is dependent on the type of structure in which the window is being installed; guidance on this is given in the Certificate holder's installation guide. In cases of doubt, the Certificate holder's advice should be sought.

12.2 In most applications, Fentrim 2 and Fentrim IS2 are used in conjunction with Fentrim 20 and Fentrim IS20. In cases where only one tape is being used, the Certificate holder's advice should be sought.

12.3 Fentrim 2 and Fentrim IS 2 are for external use, and Fentrim 20 and Fentrim IS 20 for internal use.

12.4 All substrates should be clean, for example dust and loose material removed by brushing, prior to installation of the membrane, to ensure an effective adhesive bond.

13 Procedure

Internal (Fentrim 20/Fentrim IS 20)

13.1 Starting at the bottom edge of the window, the 15 mm pre-folded area of the tape is bonded by pressing firmly to either the face or the underside of the window frame, with the tape projecting 100 mm either side of the frame.

13.2 At the corners, the pre-folded tape is cut at a 45° angle, folded over and bonded to the wall (see Figure 1).

Figure 1 Internal window — corner detail



13.3 The release film is removed gradually, and the tape aligned and adhered to the substrate by pressing the tape down firmly, but not pulling taut (see Figure 2).

Figure 2 Removal of release film



13.4 The procedure is repeated on all sides of the frame.

External (Fentrim 2/Fentrim IS 2)

13.5 Starting at the bottom edge of the window, the 15 mm pre-folded area of the tape is bonded by pressing firmly to the bottom edge of the window frame (see Figure 3). If the frame is flush with the wall, the tape projects 100 mm either side of the frame.

Figure 3 Installing tape at bottom of frame



13.6 The release film is removed gradually, and the tape aligned and adhered to the substrate by pressing the tape down firmly, but not pulling taut.

13.7 The procedure is repeated of all sides of the frame (see Figures 4 and 5).

Figure 4 Installing tape vertically



Figure 5 Installing tape at top of frame



Installed window (protruding)

13.8 The 15 mm pre-folded area of the tape is bonded by pressing firmly to the bottom of the window frame, with the tape projecting either side of the frame for a distance in accordance with the Certificate holder's recommendations for the installation type.

13.9 The release film is removed gradually, and the tape aligned and adhered to the substrate by pressing the tape down firmly, but not pulling taut.

13.10 The procedure is repeated, first on the lateral sides of the frame, and finally on the top.

14 Finishing (plastering)

14.1 In specifications requiring plastering, Fentrim 2 and Fentrim 20 are used, the perforations in the tapes allowing keying of the plaster.

14.2 Fentrim 20 is bonded to the internal window surround by not more than 50% of the depth of the window surround, to a maximum of 60 mm, excluding the perforated area of the tape.

14.3 Once the tape is installed, the plaster is applied over the tape (see Figure 6). The plaster is tested on site for suitability for application prior to installation.

Figure 6 Application of plaster



15 Repair

Any damage to the tapes must be repaired as soon as possible, and before the application of the finishing layer(s) of the

construction detail. The tapes may be repaired by applying a patch of the tape over the damaged area. In case of doubt, advice on a suitable repair method should be sought from the Certificate holder.

Technical Investigations

16 Tests

An evaluation of independent test data was made to determine:

- air permeability
- resistance to driving rain
- water vapour permeability
- tensile strength and elongation
- adhesive strength to PVC-U, brick and plaster substrates
- adhesive strength to PVC-U, brick and plaster after thermal shock cycling
- adhesive strength to PVC-U, brick and plaster after UV light and moisture exposure
- compatibility with PVC-U, brick and plaster.

17 Investigations

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

17.2 The method of installation and the installation instructions have been assessed.

17.3 Third-party data on adhesion properties to other materials of a SIGA product using the same adhesive, unaged and following ageing, were assessed. The following materials were covered:

- wood
- galvanised steel
- plasterboard
- bituminous sheeting
- polyethylene vapour control layer
- non-woven membrane.

Bibliography

EN 1027 : 2000 *Windows and doors — Watertightness — Test method*

BS EN 12207 : 2000 *Windows and doors — Air permeability — Classification*

BS EN 12208 : 1999 *Windows and doors — Watertightness — Classification*

EN 12114 : 2000 *Thermal performance of buildings – Air permeability of building elements – Laboratory test method*

18 Conditions

18.1 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 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.

18.2 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.

18.3 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.

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

18.5 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.

18.6 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.