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Agrément Certificate
12/4891
Product Sheet 5

TREMCO iLLBRUCK WINDOW AND DOOR PRODUCTS

TP450 COMPRIBAND TIMBER MAX

This Agrément Certificate Product Sheet⁽¹⁾ relates to TP450 Compriband Timber Max, a range of polyurethane weathertight seals for use in new or existing structural and expansion joints in timber structural units, and as perimeter seals for windows installed in timber frame construction, accommodating high levels of vertical differential movement.

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

Thermal performance — the product can improve the thermal performance of the building (see section 7).

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

Durability — the product has a service life of at least 20 years (see section 10).



The BBA has awarded this Certificate to the company named above for the product described herein. This product 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

A handwritten signature in black ink, appearing to read 'Simon Wroe'.

Date of First issue: 10 November 2014

Simon Wroe
Head of Approvals — Materials

A handwritten signature in black ink, appearing to read 'Claire Curtis-Thomas'.

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 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, TP450 Compriband Timber Max, 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 product will contribute to a wall meeting this Requirement. See section 6.1 of this Certificate.
Requirement: C2(c)	Resistance to moisture
Comment:	The system will contribute to an installation meeting this Requirement with respect to interstitial condensation. See section 8 of this Certificate.
Requirement: L1(a)(i)	Conservation of fuel and power
Comment:	The system can contribute to minimising heat loss at lintels, jambs and cills. See section 7 of this Certificate.
Regulation: 7	Materials and workmanship
Comment:	The materials are acceptable. See section 10 and the <i>Installation</i> part of this Certificate.
Regulation: 26	CO₂ emission rates for new buildings
Comment:	The system can contribute to minimising heat loss at jambs and cills. See section 7 of this Certificate.
Regulation: 26A	Fabric energy efficiency rates for new dwellings (applicable to England only)
Comment:	The product 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 satisfies the requirements of this Regulation. See section 10 and the <i>Installation</i> part of this Certificate.
Regulation: 9	Building standards applicable to construction
Standard: 3.10	Precipitation
Comment:	The products can contribute to satisfying this Standard, with reference to clauses 3.10.1 ⁽¹⁾⁽²⁾ and 3.10.7 ⁽¹⁾⁽²⁾ of this Standard. See section 6.1 of this Certificate.
Standard: 3.15	Condensation
Comment:	The system 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 of this Certificate.
Standard: 6.1b	Carbon dioxide emissions
Standard: 6.2	Building insulation envelope
Comment:	The system can contribute to minimising heat loss at lintels, jambs and cills. 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:	All comments given for these systems 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

Regulation: 23(a)(i)(iii)(b)(i)	Fitness of materials and workmanship
Comment:	The products are acceptable. See section 10 and the <i>Installation</i> part of this Certificate.
Regulation: 28	Resistance to moisture and weather
Comment:	The products will contribute to a wall satisfying this Regulation. See section 6.1 of this Certificate.
Regulation: 29	Condensation
Comment:	The system will contribute to minimising the risk of interstitial and surface condensation. See section 8 of this Certificate.
Regulation: 39(a)(i)	Conservation measures
Regulation: 40(2)	Target carbon dioxide emission rate
Comment:	The system can contribute to minimising heat loss at lintels, jambs and cills. See section 7 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 under these Regulations.

Additional Information

NHBC Standards 2014

NHBC accepts the use of TP450 Compriband Timber Max, provided it is installed, used and maintained in accordance with this Certificate, in relation to *NHBC Standards*, Chapter 6.1 *External masonry walls*, Chapter 6.2 *External timber framed walls*, Chapter 6.7 *Doors, windows and glazing* and 6.9 *Curtain walling and cladding*.

Technical Specification

1 Description

1.1 TP450 Compriband Timber Max comprises a range of polyurethane weathertight tapes, for use as seals in new or existing structural and expansion joints and as perimeter seals for windows installed in timber frame construction, accommodating high levels of vertical differential movement. The tapes are available in a range of sizes as shown in Table 1, and are anthracite in colour.

Table 1 TP450 Compriband nominal characteristics

Reference no	Tape width/joint depth (mm)	Tape thickness/joint width (mm)	Roll length (m)	Metres per carton (m)	Density (kg·m ⁻³)
395995	14	4–10	5.8	121.8	85–100
395994	15	5–15	4.5	90.0	85–100
396917	25	10–24	5	40	99–121
308649	40	13–40	5.2	36.4	99–121
308650	50	13–50	5.2	31.2	99–121

1.2 When fitted in a joint, the tapes re-expand to fill and seal the joint. To provide a weathertight seal, the optimum final compression is 20% of the fully expanded thickness.

1.3 When on the roll, the adhesive layer is protected by a silicone release paper.

1.4 Quality control checks are carried out on the foam, the impregnating mixture and on the finished product.

2 Manufacture

2.1 The tapes are manufactured from soft polyurethane foam impregnated with a flame-retardant synthetic resin.

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 operated by the manufacturer are being maintained.

2.3 The management system of Tremco illbruck Production GmbH has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2008 by TÜV Rheinland Industrie Service GmbH (Certificate 01 100 4301).

3 Delivery and site handling

The product is supplied pre-compressed, wound into rolls and secured by a leader tape, and packed in varying quantities according to size in cartons bearing the Certificate holder's name and size of tapes.

Design Considerations

4 Use

4.1 TP450 Compriband Timber Max is satisfactory for use to provide a weathertight seal to structural and expansion joints, and in new or existing joints in structural units of timber, plastics, masonry, metal or concrete.

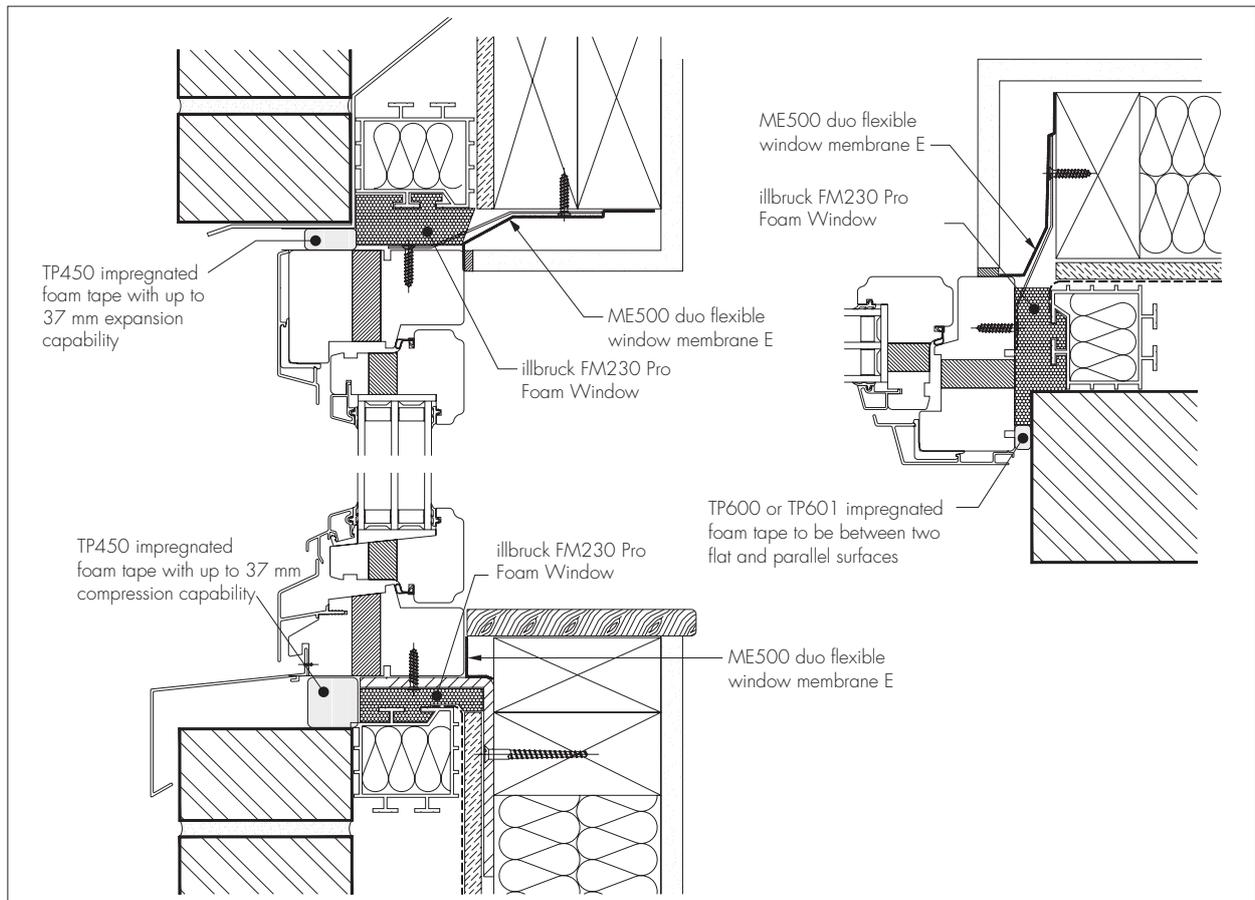
4.2 TP450 is also used as a weather seal to the head and cill of windows installed in timber frame construction and is capable of accommodating high levels of vertical differential movement.

4.3 Use of the product has been assessed in the installation shown below. Details of a typical installation are shown in Figure 1.

- wall structure — double-shell wall construction consisting of a sand-lime brickwork with approximately 4 cm core insulation and a brick front wall with external rebate

- window — wooden window (IV 68) with Uniphon 38/51 (13GH/16/96H) from the Uniglas group
- seal on room side — illbruck ME500 Duo Flexible Window Membrane 150 mm
- joint filler — illbruck FM230 Window Seal Foam
- external seal side and top, below window cill — Compriband TP600 20/10-18 grey; illbruck ME500 Duo Flexible Window Membrane 150 mm.

Figure 1 Typical installation details



5 Practicability of installation

The products are designed to be installed by a competent general builder or contractor experienced with this type of product.

6 Weathertightness



6.1 To achieve optimum resistance to water penetration, the tapes should be used under 80% compression.

6.2 The tapes are not designed to withstand a head of water; in such situations the advice of the Certificate holder should be sought.

7 Thermal performance



When used in conjunction with a suitable cavity closer with a minimum resistance path of at least $0.45 \text{ m}^2 \text{ K}\cdot\text{W}^{-1}$, the product can contribute to a lintel, jamb or cill meeting the requirements of the Accredited Construction Details. Detailed guidance on limiting heat loss and air infiltration can be found in:

England and Wales — Approved Documents to Part L and, for new thermal elements to existing buildings, Accredited Construction Details (Version 1.0). See also SAP 2009, *The Government's Standard Assessment Procedure for Energy Rating of Dwellings*, Appendix K and the *iSBEM User Manual* for new-build.

Scotland — Accredited Construction Details (Scotland)

Northern Ireland — Accredited Construction Details (Version 1.0).

8 Risk of condensation



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

9 Maintenance

As the product is confined within the wall and has suitable durability (see section 10), maintenance is not required.

10 Durability



10.1 Evaluation of samples from existing sites and data from accelerated laboratory tests indicate that a service life of at least 20 years is anticipated.

10.2 Samples removed from existing joints after 10 years had properties comparable with recently manufactured samples (see section 13.3).

10.3 The first 4 mm to 5 mm of the depth of samples showed signs of deterioration; however, this had caused a skin to form, helping to protect the remaining material from further degradation.

Installation

11 General

11.1 Installation must be carried out in accordance with the Certificate holder's instructions. TP450 Compriband Timber Max may be installed in all conditions likely to occur in practice; however, care must be taken when used at lower ambient temperatures.

11.2 Joints must be clean and free from debris likely to obstruct adhesion. eg dirt or mortar residue. The inner surfaces of the joints to be filled must be as smooth as possible. To achieve a perfect seal in masonry, the changes in level at mortar joints must be as small as possible.

11.3 The tape will start to re-expand as soon as it is unwound from the roll. The rate of re-expansion is temperature-dependent, and at low ambient temperatures the rate can be increased by the gentle application of heat. At high temperatures, the tapes should be stored in a cool environment prior to use.

11.4 A suitable profile needs to be installed to protect the product from UV exposure when the width of joint (tape thickness) exceeds 30 mm.

12 Procedure

12.1 The dimensions of the joint to be filled govern the size of tape used, but the width of the roll should not be less than the maximum in-service tape thickness. For particularly wide joints the advice of the Certificate holder should be sought. The width of the joint must be measured to ensure that the total movement, after any settlement, is within the capacity of the selected tape size (see Figure 2).

12.2 When using the tapes to seal between prefabricated units during construction, the seal must be bonded to the unit already in position. The adjoining unit can then be fitted.

12.3 Joints should be designed and the tapes positioned to ensure that differential movement between panels does not tend to force the product out of the joint.

12.4 The length of the joint to be sealed must be measured and an overlap of 10 mm per metre run allowed when the tape is cut to the required length. The silicone release paper must be removed and the tape positioned in the joint, starting at the end and aligned with a short straight edge set back from the front face of the joint (see Figure 3).

Figure 2 Installation details

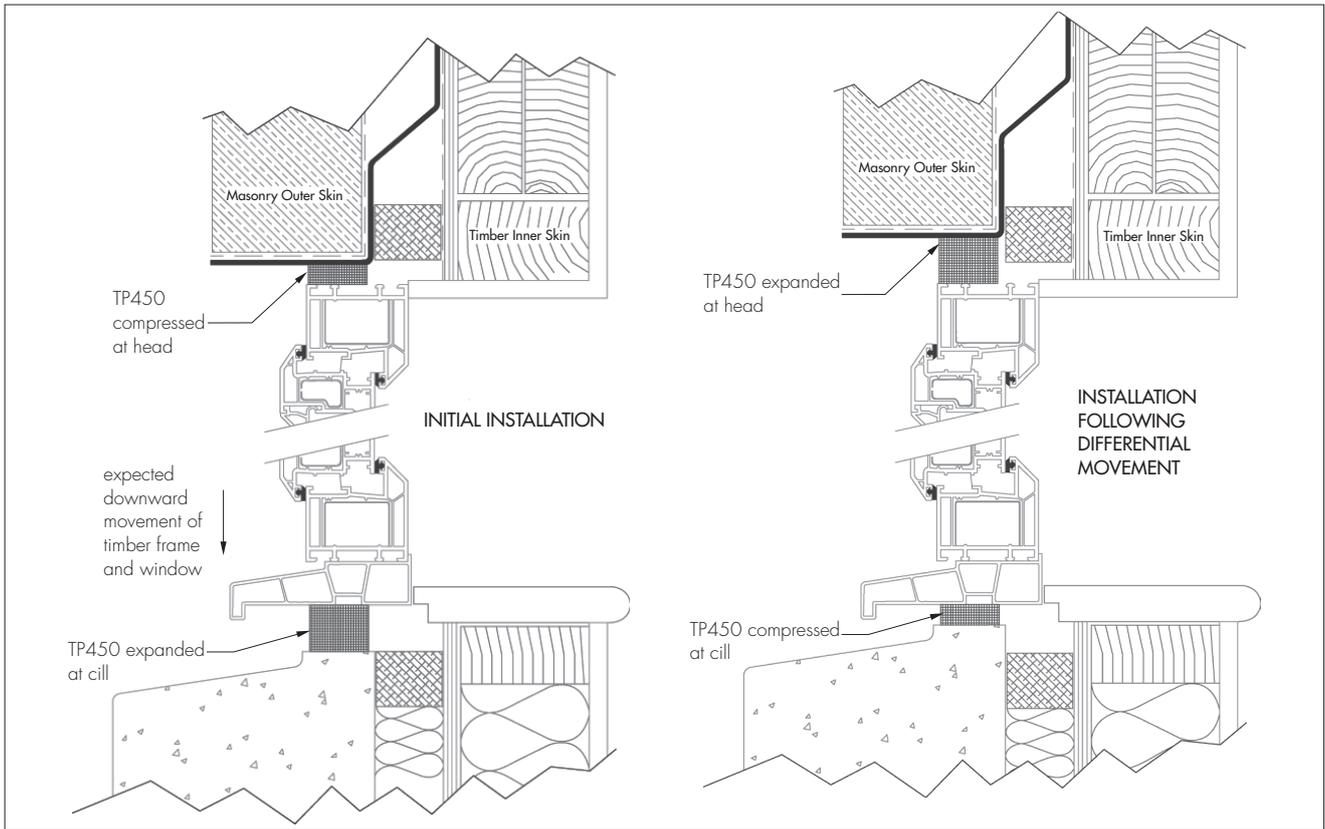
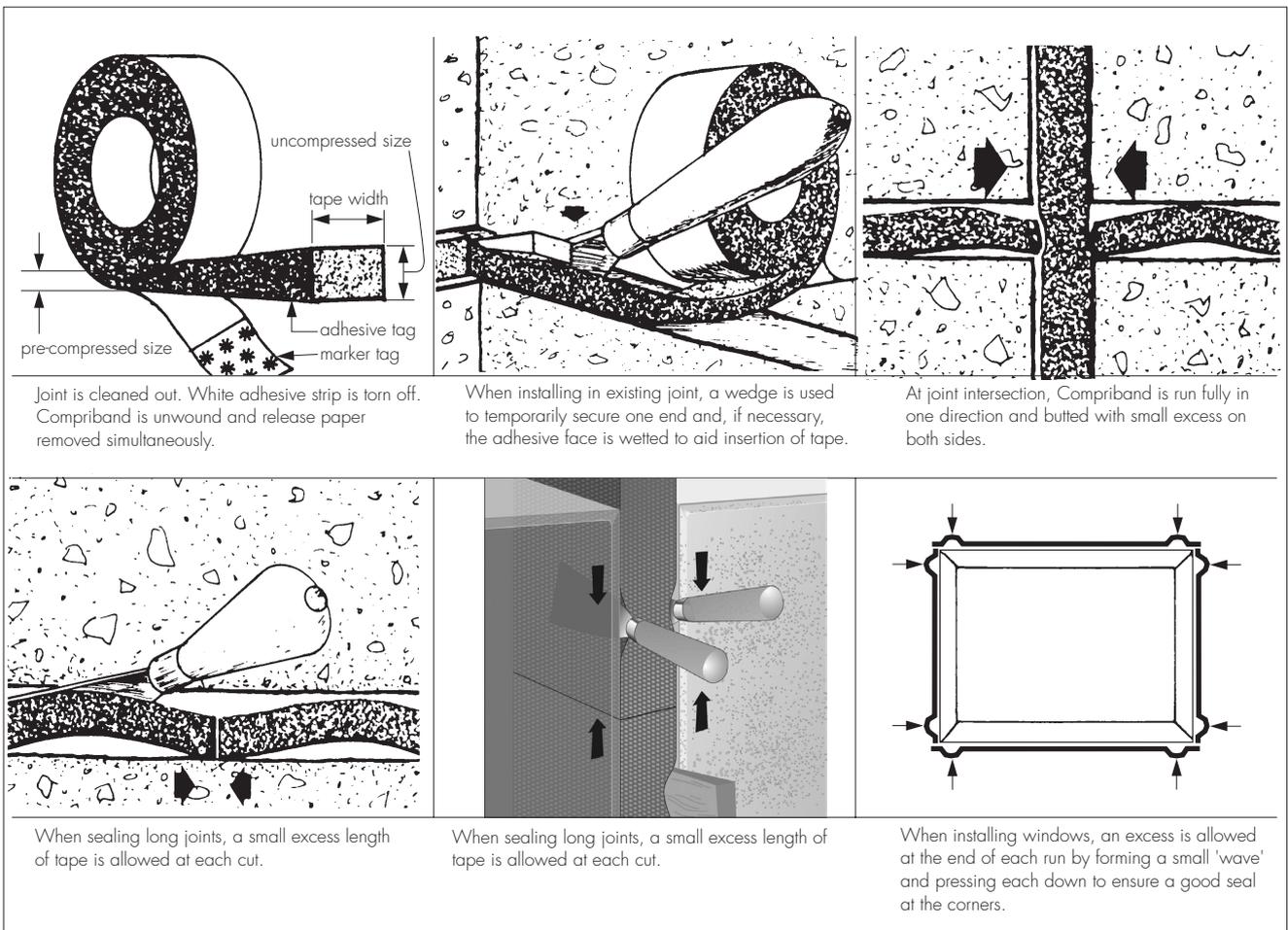


Figure 3 General practices



13 Tests

13.1 Tests were conducted and the results assessed to determine:

- density of foam
- density of foam with impregnate
- percentage of impregnated material
- tensile strength
- elongation at break
- compatibility with building materials
- cold bend ability
- compression deflection
- resistance to driving rain (water leakage)
- resistance to root penetration
- resistance to oil and water-based wood preservatives
- resistance to fungal attack
- resistance to alkali
- resistance to heat ageing
- resistance to artificial weathering
- resistance to freeze/thaw cycling
- resistance to fatigue cycling.

13.2 An assessment was made of:

- heat loss and condensation risk in accordance with the Accredited Construction Details (version 1.0) (England and Wales and Northern Ireland) and the Accredited Construction Details (Scotland)
- weather resistance of the system when installed in accordance with the manufacturer's instructions.

13.3 Samples taken from existing sites 10 years after installation were evaluated and subjected to many of the tests listed in section 13.1. The samples were found to have properties comparable to those of the new material.

14 Investigations

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.

Bibliography

BS EN ISO 9001 : 2008 *Quality management system — Requirements*

15 Conditions

15.1 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.

15.2 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.

15.3 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.

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

15.5 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.

15.6 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.