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Regulation: 12

Comment:

Building standards — conversions

All comments given for these products under Regulation 9, also apply to this Regulation with reference to clause O.12.1⁽¹⁾⁽²⁾ and Schedule 6⁽¹⁾⁽²⁾.

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

3 The Building Regulations (Northern Ireland) 2000



In the opinion of the BBA, Compriband V and VSA Joint Sealing Strips, 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 products are acceptable materials. See section 9 of this Certificate.

Regulation: C4

Resistance to ground moisture and weather

Comment:

The products can contribute to enabling a structure to satisfy the requirements of this Regulation. See section 8.1 of this Certificate.

4 Construction (Design and Management) Regulations 1994 (as amended)

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

In the opinion of the BBA there is no information in this Certificate which relates to the obligations of the client, planning supervisor, designer and contractors under these Regulations.

Technical Specification

5 Description

5.1 Compriband V and VSA Joint Sealing Strips are manufactured from blocks of soft polyurethane foam cut into sheets to the required dimensions. These are evenly impregnated with bitumen. The sheets are compressed to approximately 18% of the fully expanded thickness, formed into rolls and cut to the required tape width. The VSA grade has an adhesive layer and release paper applied prior to compression of the foam.

5.2 Dimensions of the strips are given in Table 1. All thicknesses can be supplied in any width up to 500 mm.

Table 1 Strip dimensions (standard)

Fully expanded thickness (mm)	Roll length (m)	Suitable joint width for watertight seal ⁽¹⁾ (mm)	Minimum joint depth ⁽²⁾ (mm)
10	8	2	10
15	6	3	10
20	6	4	10
25	4	5	15
30	4	6	15
40	4	8	20
50	4	10	25
60	3	12	30
80	3	16	40
100	3	20	50
120	3	24	60

(1) Joint width defines expanded strip thickness. For watertight seal compression should be 20% of fully expanded thickness.

(2) Joint depth defines tape width.

5.3 Compriband Primer is used to treat appropriate surfaces, in line with manufacturer's instructions, prior to application to improve the adhesion of Compriband.

5.4 When fitted in a joint the strips re-expand to fill and seal the joint. To provide a watertight seal the optimum final compression is 20% of the fully expanded thickness and a weathertight seal at 25%. For other uses at other compression ratios, see the Certificate holder's technical literature.

5.5 When on the roll, the adhesive layer on Compriband VSA is protected by a silicone release paper.

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

6 Delivery and site handling

6.1 Strips are supplied in pre-compressed rolls in a shrink-wrapped polyethylene packaging. Strips are delivered in cartons (the contents vary according to size of strips), interleaved with waxed paper, bearing the manufacturer's name, a detailed description of the contents and an adhesive label bearing the BBA identification mark incorporating the number of this Certificate.

6.2 Rolls should be stored, whenever possible, at room temperature. Rolls should be kept in original packaging and excessive weight should not be placed on the cartons during storage.

Design Data

7 General

Compriband V and VSA Joint Sealing Strips are 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.

8 Weathertightness



8.1 To achieve optimum resistance to water penetration, the strips should be at 20% of their fully expanded thickness. However, the strips have a satisfactory weathertightness up to 25% of their fully expanded thickness, and, when used in a protected location or as a secondary seal, the strips achieve a satisfactory weathertightness up to 30% of their fully expanded thickness.

8.2 Where strips are required to withstand a head of water, the advice of the manufacturer should be sought.

9 Durability



On the basis of data from accelerated laboratory tests, a useful life of at least 20 years is anticipated.

Installation

10 General

10.1 Installation must be carried out in accordance with the manufacturer's instructions. The strips may be installed in all conditions likely to occur in practice; however, care should be taken when used at lower ambient temperatures (see section 10.3).

10.2 Joints must be clean and free from debris, eg dirt, mortar residue, likely to obstruct adhesion. The inner surfaces of the joints to be filled should 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.

10.3 The strips will start to re-expand as soon as they are 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 strips should be stored in a cool environment prior to use (see Table 2).

Table 2 Approximate times to full re-expansion

Temperature (°C)	Recovery time (hours) to:		
	60% compression	40% compression	20% compression
15	20	31	44
20	3.00	3.75	5.50
25	1.60	2.30	3.40
30	0.40	0.52	0.65

10.4 Compriband Primer is applied using a paintbrush in a thin, even coat. The primer should be allowed to dry until tacky and all solvent has evaporated prior to application of strip. Primer may be applied to damp surfaces but not saturated surfaces.

11 Practices

11.1 The dimensions of the joint to be filled will govern the size of strip used, but the depth of the joint must not be less than the width of the strip.

11.2 Compriband VSA should be used when sealing between prefabricated units during construction, the seal must be bonded to the unit already in position. The adjoining unit can then be fitted.

11.3 Joints should be designed and the strip positioned so that differential movement between panels does not tend to force the product out of the joint.

11.4 The strips can be cut easily using scissors, shears, a guillotine, or a hot knife.

11.5 The strips should be jointed by scarfing, apart from very small sections where overlapping can be used. Scarf joints should be made so that the angle of the ends is not more than 45° and so that pressure is applied to the mating faces.

11.6 The silicone release paper or film interleaf must be removed and the strip positioned in the joint before significant expansion occurs.

11.7 Care must be taken not to stretch the material at any point, especially at intersections. The strips should be cut overlength at corners to ensure that it can expand without restriction.

Technical Investigations

The following is a summary of the technical investigations carried out on Compriband V and VSA Joint Sealing Strips.

12 Tests

Samples of the strips were obtained by the BBA from the manufacturer for the purpose of testing. The results of the tests carried out, which show typical values for the materials, are summarised in Tables 3 and 4.

Table 3 Physical properties

Test (units)	Method ⁽¹⁾	Mean result
Density of foam (kgm ⁻³)	BS 4443-1 : Method 2	38.7
Tensile strength (N 50 mm ⁻¹)	BS 4443-1 : Method 3A (500 mm min ⁻¹)	63.1
heat aged ⁽²⁾		74.6
aged in alkali ⁽³⁾		65.4
aged in acid ⁽⁴⁾		71.9
UV aged ⁽⁵⁾		49.6
Elongation at break (%)	BS 4443-1 : Method 3A (500 mm min ⁻¹)	82
unaged		102
heat aged ⁽²⁾		97
aged in alkali ⁽³⁾		107
aged in acid ⁽⁴⁾		81
UV aged ⁽⁵⁾		
Compression set (%)	BS 4443-1 : Method 6B	4.79
Tear strength (N)	BS 4443-7 : Method 17 (100 mm min ⁻¹)	11.2
Heat reversion (%)	ad hoc ⁽⁶⁾	-1.66

(1) The test document is detailed in the *Bibliography*. Numbers/letters refer to the sections/parts of the document.

(2) Heat aged 56 days at 60°C.

(3) 28 days in ammonium hydroxide.

(4) 28 days in sulphur dioxide solution.

(5) UV aged to ASTM G 53-93 using UVB lamps, 4 hours UV at 45°C, 4 hours condensation at 50°C for 1000 light hours.

(6) Carried out in general accordance with BS 7412 : 1991, sample length 250 mm, gauge length 200 mm.

Table 4 Service performance

Test (units)	Method ⁽¹⁾	Mean result
Compression stress-strain (kPa)	BS 4443-1 : Method 5A	4.3
25%		4.6
40%		5.4
50%		9.8
65%		
Resistance to peel (N)	ad hoc ⁽²⁾ (50 mm min ⁻¹)	12.5
unaged		19.6
heat aged ⁽³⁾		8.7
water soak ⁽⁴⁾		
Wind-driven rain	ad hoc ⁽⁵⁾	satisfactory
Low temperature flexibility (°C)	MOAT 27 : 5.4.2	<-30

(1) The test documents are detailed in the *Bibliography*. Numbers/letters refer to the sections/parts of the various documents.

(2) Samples placed on unprimed concrete, held compressed to 20% thickness for four days prior to conditioning.

(3) Heat aged 56 days at 60°C.

(4) Water soak 28 days at 23°C.

(5) Specimens were held compressed at 75% of their nominal thickness in a slotted PVC-U panel. Panels were fixed in test chamber and water spray applied for 24 hours on one side. The joint was checked for moisture leakage during the time period of the test.

13 Investigations

13.1 A factory visit was carried out to assess the manufacturing process and the methods used for quality control.

13.2 A user survey was performed, using data provided, to examine the product's performance in the United Kingdom. The survey covered usage over the period of 20 years and showed that the product's performance was satisfactory.

Bibliography

BS 4443-1 : 1988 *Methods of test for flexible cellular materials — Methods 1 to 6*

BS 4443-7 : 1992 *Methods of test for flexible cellular materials — Method 17. Determination of tear strength of flexible cellular material with an integral skin — Method 18. Determination of compression set under humid conditions*

BS 7412 : 1991 *Specification for plastics windows made from PVC-U extruded hollow profiles*

ASTM G 53-93 *Operating light and water exposure apparatus (fluorescent UV – condensation type) for exposure of non metallic compounds*

MOAT No 27 : 1983 *General Directive for the Assessment of Roof Waterproofing Systems*

Conditions of Certification

14 Conditions

14.1 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.

14.2 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.

14.3 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.

14.4 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.

14.5 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, Compriband V and VSA Joint Sealing Strips are fit for their intended use provided they are installed, used and maintained as set out in this Certificate. Certificate No 95/3189 is accordingly awarded to illbruck Sealant Systems UK Ltd.

On behalf of the British Board of Agrément

Date of Second issue: 2nd August 2005

Chief Executive

*Original Certificate issued on 10th October 1995. This revised version includes change of Certificate holder's name, addition of reference to CDM Regulations, reference to revised Building Regulations and Standards and new Conditions of Certification.