



BRANZ Appraised
Appraisal No. 1100 [2019]

BOSTIK SEAL N' FLEX FAÇADE

Appraisal No. 1100 [2019]



BRANZ Appraisals

Technical Assessments of
products for building and
construction.



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Product

- 1.1 Bostik Seal N' Flex Façade is a weathersealing sealant for exterior use and a general-purpose gap-filling sealant for exterior and interior use.

Scope

- 2.1 Bostik Seal N' Flex Façade has been appraised for use as a sealant in building within the following scope:
- the scope limitations of NZBC E2/AS1 Paragraph 1.1.
- 2.2 Bostik Seal N' Flex Façade has also been appraised for use as a sealant in buildings subject to specific design within the following scope:
- in joints with a minimum width and depth of 5 mm; and,
 - in joints with a maximum width of 35 mm; and,
 - with substrates of:
 - timber [unpainted and unstained] – treated or untreated softwoods and hardwoods, plywood, hardboard, treated or untreated particleboard; or,
 - fibre cement; or,
 - plastics – polyester, acrylic, unplasticized or plasticized PVC; or,
 - metals – stainless steel, mild steel, galvanised steel, enamel coated steel, powder coated [polyester or epoxy] aluminium, anodised aluminium, mill finished aluminium, copper, brass, zinc; or,
 - concrete and masonry – standard concrete, glass fibre reinforced concrete, concrete and clay blocks, marble, granite, or natural stone tiles; or,
 - glass and ceramics – glazing, tiles.

Note: Bostik Seal N' Flex Façade can be used on other substrates but these have not been assessed and are outside the scope of this Appraisal. Bostik New Zealand Limited must be consulted when proposing the sealing of material not specifically covered by this Appraisal.

Building Regulations

New Zealand Building Code (NZBC)

3.1 In the opinion of BRANZ, Bostik Seal N' Flex Façade, if designed, used, installed and maintained in accordance with the statements and conditions of this Appraisal, will meet or contribute to meeting the following provisions of the NZBC:

Clause B2 DURABILITY: Performance B2.3.1 (b), 15 years and B2.3.1 (c), 5 years. Bostik Seal N' Flex Façade meets these requirements. See Paragraphs 8.1 - 8.4.

Clause E2 EXTERNAL MOISTURE: Performance E2.3.2. When used as part of the cladding system, Bostik Seal N' Flex Façade will contribute to meeting this requirement. See Paragraphs 12.1 - 12.3.

Clause E3 INTERNAL MOISTURE: Performance E3.3.3, E3.3.4, E3.3.5 and E3.3.6. When used as part of the substrate lining or finishing system, Bostik Seal N' Flex Façade will contribute to meeting these requirements. See Paragraph 13.1.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. Bostik Seal N' Flex Façade meets this requirement. See Paragraph 17.1.

Technical Specification

4.1 Products and accessories supplied by Bostik New Zealand Limited are as follows:

- Bostik Seal N' Flex Façade Sealant - Is a one component, high performance facade joint sealant based on hybrid [SPUR] technology. It is available in white, grey and black and supplied in 300 ml cartridges and 600 ml sausages.
- Bostik Prep P - A film forming primer for concrete and other porous materials. Also suitable for specific metal substrates.
- Bostik No. 3 Solvent - A solvent based cleaner for removing uncured materials and degreasing surfaces prior to the application of sealant.

Handling and Storage

5.1 The handling and storage of Bostik Seal N' Flex Façade on site is the responsibility of the installer. Bostik Seal N' Flex Façade has a shelf life of 15 months from the date of production if stored in unopened packaging under dry, cool conditions at temperatures of between 5°C and 25°C. The product must be stored out of direct sunlight.

Technical Literature

- 6.1 Refer to the Appraisals listing on the BRANZ website for details of the current Technical Literature for Bostik Seal N' Flex Façade. The Technical Literature must be read in conjunction with this Appraisal. All aspects of design, use, installation and maintenance contained in the Technical Literature and within the scope of this Appraisal must be followed.
- 6.2 In particular, the detail of limitations in the Technical Literature for use should be referred to.
- 6.3 Some installation instructions are also provided on the packaging. Note that the packaging labels also refer to uses outside the scope of this Appraisal.

Design Information

General

7.1 Bostik Seal N' Flex Façade is designed to be used as an expansion joint and gap-filling sealant in building construction joints for the exclusion of moisture. It may be used in both interior and exterior locations, and along with its high elasticity and good adhesion, is suitable for use with a wide range of substrates.

- 7.2 Once cured, the sealant can be painted over with a water-based paint system. Bostik New Zealand Limited must be consulted for recommended painting systems. Once cured, Bostik Seal N Flex Façade can be painted with waterbased paint, however overcoating with a rigid coat may inhibit joint movement capabilities and is not recommended.
- 7.3 The design of weathertight joints and detailing for all applications must be in accordance with good design principles. In most situations, joint design should see the sealant used as a first line of defence, in conjunction with flashings [second line of defence] which drain to the building exterior. Other good design principles include the optimum width to depth ratio, correct sealant profile, and use of a bond breaker system. Refer to BRANZ Bulletin Nos. 584 and 601 for further information.
- 7.4 Bostik New Zealand Limited recommends all moving joints should be designed to an optimum width to depth ratio of 2:1. This ratio is subject to the following overriding minimum sealant depths:
- 5 mm minimum bonding depth against metals, glass and other non-porous surfaces, providing that joint faces are in good condition.
 - 8 mm minimum bonding depth against masonry or other porous surfaces, or any non-porous surfaces where joint faces are in poor condition.
 - Shear joints shall be a minimum joint width to depth ratio of 1:2 up to a maximum of 1:1.
- 7.5 A bond breaker is required in all joints, and with shallow joints the bond breaker may be a self-adhesive polyethylene tape. In deeper joints, a closed cell polyethylene backer rod must be used to act as the bond breaker, and at the same time set the joint depth and support the sealant.
- 7.6 The performance of Bostik Seal N' Flex Façade makes it a suitable sealant for weather sealing exterior wall constructions. It is important however that the sealant/bond breaker rain screens are backed by a waterstop or an air seal so that a free-draining enclosed joint cavity is formed. This is particularly important for walls that extend over one storey in height. In weather sealing applications, the bottom of vertical joints must be open to allow water drainage. Horizontal joints between thin sheet materials, e.g. plywood or fibre cement, should be weather sealed with Z flashings and not a sealant. Horizontal joints in other materials must be rebated and the seal formed at or near the top of the rebate. All joints must be designed to drain to the exterior of the building.
- 7.7 Good adhesion can be gained on most of the specified substrates without the use of primers. However, on some surfaces adhesion may be improved by the use of a primer. For optimum adhesion and in areas of critical, high performance applications such as multi storey building work, high stress joints or extreme weather exposure, the use of substrate primers and cleaners is required. Bostik New Zealand Limited must be consulted where doubt arises. Surface priming or activation must be undertaken in accordance with the instructions of Bostik New Zealand Limited.
- 7.8 Bostik New Zealand Limited must be consulted when proposing the sealing of material not specifically covered by this Appraisal.

Durability

- 8.1 Assessment of durability to meet the NZBC is based on difficulty of access and replacement of the sealant, and the ability to detect failure of the sealant both during normal use and maintenance of the building. Therefore durability requirements for the sealant will vary according to the situations in which it is used [e.g. exterior and interior use, exposed or covered].
- 8.2 Bostik Seal N' Flex Façade meets code compliance with NZBC Clause B2.3.1 [b], 15 years for exterior use, and code compliance with NZBC Clause B2.3.1 [c], 5 years for interior use.

Serviceable Life

- 8.3 When used and applied in accordance with the Technical Literature and this Appraisal, it is expected that weathertightness or gap-filling seals undertaken with Bostik Seal N' Flex Façade will remain serviceable for 15 years or more in exterior environments.
- 8.4 In dry interior environments where the product is inaccessible and completely sheltered from exposure to chemicals, solvents, temperature extremes and excessive movement, a serviceable life of up to 50 years or more may be expected.

Maintenance

- 9.1 In accessible areas, inspections must be carried out annually to check for cracks or gaps between the sealant and substrate. Where this has occurred, the unsound sealant must be raked out, the substrate prepared and the joint filled with fresh sealant.

Prevention of Fire Occurring

- 10.1 Bostik Seal N' Flex Façade is combustible and must not be used to seal around chimneys or flues where they penetrate walls. It must be separated from chimneys and flues in accordance with the requirements of NZBC Acceptable Solutions C/AS 1 and C/AS2 Paragraph 7.5.9.

Control of Internal Fire and Smoke Spread

- 11.1 When used internally on construction that does not require a fire resistance rating, sealants [caulking] are exempt from surface finish requirements by NZBC Acceptable Solution C/AS1, Paragraph 4.3 [e] and NZBC Acceptable Solutions C/AS2 Paragraph 4.17.6 [e]

External Moisture

- 12.1 Bostik Seal N' Flex Façade is an equivalent sealant to those specified in NZBC Acceptable Solution E2/AS1 and may be used as a substitute when a sealant of this type is specified.
- 12.2 Bostik Seal N' Flex Façade can be used with a range of exterior construction methods and materials to meet the requirements of NZBC E2. It can be used, for example, in the control joints of masonry veneer, to weatherproof the joints between fibre cement weatherboards, to seal around pipes and penetrations, to weatherproof joints between flashings and claddings, or act as an air seal around window, door and other penetrations.
- 12.3 It is the responsibility of the designer, builder or contractor to ensure sound joint design principles are followed. Designers, builders or contractors must ensure that second line of defence flashings drain to the building exterior, they are suitable for the particular application under consideration, and that they are installed correctly.

Internal Moisture

- 13.1 Bostik Seal N' Flex Façade can be used to form an impervious joint between sheet lining materials and also a joint between fixtures and lining materials in accordance with NZBC Acceptable Solution E3/AS1, Paragraph 3.2.2 to prevent water splash penetrating behind linings or into concealed spaces.

Airborne and Impact Sound

- 14.1 Bostik Seal N' Flex Façade may be used as a sealant to seal the perimeter of sound insulation elements in accordance with the requirements of Acceptable Solution G6/AS1, such as Figure 4 [Plan Detail D] and Figure 5 [Section Detail C].

Installation Information

Installation Skill Level Requirements

- 15.1 Bostik Seal N' Flex Façade is for use by general tradespersons and handypersons in straightforward applications. However, for more technically difficult applications, especially on larger commercial and industrial type buildings, application should be undertaken only by those experienced in the application of sealants to expansion and construction joints. All installations must be in accordance with the instructions given in the Technical Literature and this Appraisal.

General

- 16.1 Before the application of primers and sealant, substrate surfaces must be clean, dry and free from any surface contaminants such as dirt, dust, oil or existing coatings and paints.
- 16.2 Primers are not to be used as a substitution for surface cleaning and preparation. Primers must be applied in a uniform manner to ensure an even film thickness of primer is achieved. Primers must be fully cured before the application of Bostik Seal N' Flex Façade. Cure rates will slow down as temperatures decrease.

- 16.3 Sealant application must be carried out when the sealant and substrate temperature is within the range of 5°C to 40°C.
- 16.4 Installation of the sealant can be undertaken using a hand or pneumatically operated caulking gun at an angle to eliminate the inclusion of air pockets. The sealant should be tooled off to achieve a smooth finish and to compress it, promoting adhesion to the joint walls.

Health and Safety

- 17.1 Safe use and handling procedures for Bostik Seal N' Flex Façade are provided on the packaging. Additional information on the product is available in the Material Safety Data Sheet available from Bostik New Zealand Limited.

Basis of Appraisal

The following is a summary of the technical investigations carried out:

Tests

- 18.1 The following tests have been carried out on Bostik Seal N' Flex Façade: paintability, adhesion to a number of substrates in line with the requirements of US Federal Specification TT-S-00230C, natural weathering tests for up to 11 years and accelerated weatherometer [UV] aging tests for up to 7000 hours.

Other Investigations

- 19.1 The New Zealand use of Bostik Seal N' Flex Façade including weathersealing and adhesion performance, durability and non-hazardous nature of the materials used has been reviewed by BRANZ.
- 19.2 A product data sheet and a Material Safety Data Sheet for Bostik Seal N' Flex Façade have been obtained by BRANZ and found to be satisfactory.
- 19.3 The practicability of installation of Bostik Seal N' Flex Façade has been assessed by BRANZ and found to be satisfactory.

Quality

- 20.1 The manufacture of the product has not been examined by BRANZ but details of quality and composition of the materials used were obtained and found to be satisfactory.
- 20.2 Quality of supply of the product to the market is the responsibility of Bostik New Zealand Limited.
- 20.3 Quality of installation of the product on site is the responsibility of the sealant installer.
- 20.4 The quality of installation of the substrates in accordance with the substrate manufacturers' instructions is the responsibility of the substrate installer.
- 20.5 Building designers are responsible for the design of the building, and for the incorporation of the sealant into their design in accordance with the instructions of Bostik New Zealand Limited.

Sources of Information

- BRANZ Bulletin No. 584 Sealed joint Design - Claddings.
- BRANZ Bulletin No. 601 Sealants for Cladding Joints.
- Ministry of Business, Innovation and Employment Record of amendments - Acceptable Solutions, Verification Methods and handbooks.
- The Building Regulations 1992.



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1 December 2019

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In the opinion of BRANZ, **Bostik Seal N' Flex Façade** is fit for purpose and will comply with the Building Code to the extent specified in this Appraisal provided it is used, designed, installed and maintained as set out in this Appraisal.

The Appraisal is issued only to **Bostik New Zealand Limited**, and is valid until further notice, subject to the Conditions of Appraisal.

Conditions of Appraisal

1. This Appraisal:
 - a) relates only to the product as described herein;
 - b) must be read, considered and used in full together with the Technical Literature;
 - c) does not address any Legislation, Regulations, Codes or Standards, not specifically named herein;
 - d) is copyright of BRANZ.
2. **Bostik New Zealand Limited:**
 - a) continues to have the product reviewed by BRANZ;
 - b) shall notify BRANZ of any changes in product specification or quality assurance measures prior to the product being marketed;
 - c) abides by the BRANZ Appraisals Services Terms and Conditions;
 - d) warrants that the product and the manufacturing process for the product are maintained at or above the standards, levels and quality assessed and found satisfactory by BRANZ pursuant to BRANZ's Appraisal of the product.
3. BRANZ makes no representation or warranty as to:
 - a) the nature of individual examples of, batches of, or individual installations of the product, including methods and workmanship;
 - b) the presence or absence of any patent or similar rights subsisting in the product or any other product;
 - c) any guarantee or warranty offered by **Bostik New Zealand Limited**.
4. Any reference in this Appraisal to any other publication shall be read as a reference to the version of the publication specified in this Appraisal.
5. BRANZ provides no certification, guarantee, indemnity or warranty, to **Bostik New Zealand Limited** or any third party.

For BRANZ

Chelydra Percy

Chief Executive

Date of Issue:

1 December 2019