



BRANZ Appraised

Appraisal No. 892 [2015]

SABRESEAL NC AND SABRESEAL MS SEALANTS

Appraisal No. 892 [2015]



BRANZ Appraisals

Technical Assessments of products
for building and construction.



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Product

- 1.1 SabreSeal NC and SabreSeal MS Sealants are waterproof, elastic, UV resistant joint sealants for interior and exterior applications.

Scope

- 2.1 SabreSeal NC and SabreSeal MS Sealants have been appraised for use as exterior and interior sealants in buildings within the following scope:

- with a minimum joint depth of 5 mm and joint width between 5 mm and 30 mm; and,
- with substrates of:
 - timber [unpainted and unstained] - particleboard, fibreboard, untreated pine, boric treated pine, tanalised pine, New Zealand natives or untreated Cedar or Douglas Fir; or,
 - plastics - PVC, melamine sheet, fibreglass [gelcoat side only], polyurethane coatings, epoxy and polyester coatings or epoxy mortars; or,
 - metals - stainless steel, copper, brass, zinc anneal, aluminium-zinc, zinc bronze, lead, tin, galvanised steel, mild steel, cast iron or aluminium [milled, anodised or powder coated]; or,
 - mineral - concrete, mortar, plaster, blockwork, brickwork, fibre cement, unglazed tiles, earthenware [clay], glazed ceramic tiles, stoneware [e.g. Hinuera stone and Oamaru stone], marble*, natural stone* or granite*; or,
 - glass [SabreSeal MS is not to be used with structural glazing] and ceramics; or,
 - butyl rubber products; or,
 - stoved enamel.

Note: Substrates or materials other than those specified above have not been assessed and are outside the scope of this Appraisal. Maxilam New Zealand Ltd must be consulted when proposing the sealing of material not specifically covered by this Appraisal.

* These materials may stain when in contact with SabreSeal NC and SabreSeal MS Sealants. Refer to Maxilam New Zealand Ltd for further information.



Building Regulations

New Zealand Building Code (NZBC)

- 3.1 In the opinion of BRANZ, SabreSeal NC and SabreSeal MS Sealants 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. SabreSeal NC and SabreSeal MS Sealants meet these requirements. See Paragraphs 8.1 – 8.4.

Clause E2 EXTERNAL MOISTURE: Performance E2.3.2. When used as part of the cladding system, SabreSeal NC and SabreSeal MS Sealants 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, SabreSeal NC and SabreSeal MS Sealants will contribute to meeting these requirements. See Paragraph 13.1.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. SabreSeal NC and SabreSeal MS Sealants meet this requirement and will not present a health hazard to people.

- 3.2** This is an Appraisal of an **Acceptable Solution** in terms of New Zealand Building Code compliance as follows:
- sealant complying with Type F, Class 25LM of ISO 11600 in accordance with NZBC Acceptable Solution E2/AS1.
- 3.3** This is an Appraisal of an **Alternative Solution** in terms of New Zealand Building Code compliance as follows:
- assisting with the weathertightness performance of the building envelope in accordance with Paragraph 2.1 of this Appraisal; and,
 - as a general sealant for interior wet areas.

Technical Specification

- 4.1** The sealants supplied by Maxilam New Zealand Ltd are as follows:

SabreSeal NC Sealant:

- A low modulus, neutral cure RTV silicone. It is available in white, black and clear and is supplied in 300 ml cartridges. Please note SabreSeal NC is non-paintable.

SabreSeal MS Sealant:

- A one part, moisture cured, solvent free, silicone/polyurethane hybrid sealant. It is available in white and black and is supplied in 300 ml cartridges and 600 ml sausages. Please note SabreSeal MS is not compatible with alkyd based paints.

Handling and Storage

- 5.1** The handling and storage of SabreSeal NC and SabreSeal MS Sealants on site is the responsibility of the installer. SabreSeal MS Sealant has a shelf life of 12 months and SabreSeal NC Sealant has a shelf life of 18 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 products 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 SabreSeal NC and SabreSeal MS Sealants. 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** Some installation instructions are also provided on the packaging. Note that the packaging labels may also refer to uses outside the scope of this Appraisal.

Design Information

General

- 7.1 SabreSeal NC and SabreSeal MS Sealants are designed to be used as gap-filling sealants in building construction joints for the exclusion of moisture. They may be used in both interior and exterior locations, and along with their high elasticity and good adhesion, they are suitable for use with a wide range of substrates. Compatibility tests on some porous stones is required as staining can occur in some instances. Refer to Maxilam New Zealand Ltd for further advice.
- 7.2 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 sealants 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 No. 440 and 441 for further information.
- 7.3 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 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.
- 7.4 The performance of SabreSeal NC and SabreSeal MS Sealants makes them suitable sealants for weathersealing exterior wall constructions. It is important however that the sealant/bond breaker rain screens are backed by a waterstop or 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 weathersealing 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 weathersealed 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.
- 7.5 For optimum adhesion and in 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. Maxilam New Zealand Ltd must be consulted where doubt arises. Any surface priming or activation must be undertaken in accordance with the instructions of Maxilam New Zealand Ltd.
- 7.6 Maxilam New Zealand Ltd 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 sealants both during normal use and maintenance of the building. Therefore durability requirements for the sealants will vary according to the situations in which they are used (e.g. exterior and interior use, exposed or covered).
- 8.2 SabreSeal NC and SabreSeal MS Sealants meet 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 SabreSeal NC and SabreSeal MS Sealants 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 Separation or protection must be provided to SabreSeal NC and SabreSeal MS Sealants from heat sources such as fire places, heating appliances, flues and chimneys. Part 7 of NZBC Acceptable Solutions C/AS1 - C/AS6 and NZBC Verification Method C/VM1 provide methods for separation and protection of combustible materials from heat sources.

Control of Internal Fire 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 Part 4, Paragraph 4.3 [e] and C/AS2 - C/AS6 Paragraph 4.17.6 [e].

External Moisture

- 12.1 SabreSeal NC and SabreSeal MS Sealants comply with Type F, Class 25 LM of ISO 11600 and therefore may be used whenever a sealant of this type is specified in NZBC Acceptable Solution E2/AS1.
- 12.2 SabreSeal NC and SabreSeal MS Sealants can be used with a range of exterior construction methods and materials to meet the requirements of NZBC Clause E2. They 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, or to weatherproof joints between flashings and claddings. SabreSeal NC and SabreSeal MS Sealants can be used as an air seal around window, door and other penetrations, in accordance with NZBC Acceptable Solution E2/AS1 Paragraph 9.1.6 c]ii].
- 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 SabreSeal NC and SabreSeal MS Sealants can be used to form impervious joints 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.

Installation Information

Installation Skill Level Requirements

- 14.1 SabreSeal NC and SabreSeal MS Sealants are for use by general tradespersons and handypersons in straight-forward 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 within the Technical Literature and this Appraisal.

General

- 15.1 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.
- 15.2 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 SabreSeal NC and SabreSeal MS Sealants. Cure rates will slow down as temperatures decrease.
- 15.3 Sealant application must be carried out when the sealant and substrate temperature is within the range of 5°C to 30°C.
- 15.4 Installation of the sealants can be undertaken using a manual or pneumatically operated caulking gun at an angle to eliminate the inclusion of air pockets. The sealants should be tooled off to achieve a smooth finish and to compress them, promoting adhesion to the joint walls.

Health and Safety

- 16.1 Safe use and handling procedures for SabreSeal NC and SabreSeal MS Sealants are provided on the packaging. Additional information on the products is available in Material Safety Data Sheets available from Maxilam New Zealand Ltd.

Basis of Appraisal

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

Tests

- 17.1 SabreSeal NC and SabreSeal MS Sealants have been tested to EN 15651 - 1 and meet the requirements of ISO 11600 for Type F, Class 25LM sealants. BRANZ has completed QUV-A exposure on the sealants with satisfactory results.

Other Investigations

- 18.1 Technical data sheets and Material Safety Data Sheets for the SabreSeal NC and SabreSeal MS Sealants have been obtained by BRANZ and found to be satisfactory.
- 18.2 A durability opinion has been given by BRANZ technical experts.

Quality

- 19.1 The manufacture of the products has not been examined by BRANZ, but details of the quality and composition of the materials used were obtained and found to be satisfactory.
- 19.2 Quality of supply to the market is the responsibility of Maxilam New Zealand Ltd.
- 19.3 Quality of installation of the products on site is the responsibility of the sealant installer.
- 19.4 The quality of installation of the substrates is the responsibility of the substrate installer in accordance with the substrate manufacturers instructions.
- 19.5 Building designers are responsible for the design of the joints, and for the incorporation of the sealant into their design in accordance with the instructions of Maxilam New Zealand Ltd.
- 19.6 Building owners are responsible for the maintenance of SabreSeal NC and SabreSeal MS Sealants in accordance with the instructions of Maxilam New Zealand Ltd.

Sources of Information

- BRANZ Bulletin No. 440 Sealed joints in external claddings - 1. Joint design.
- BRANZ Bulletin No. 441 Sealed joints in external claddings - 2. Sealants.
- Acceptable Solutions and Verification Methods for New Zealand Building Code External Moisture Clause E2, Ministry of Business, Innovation and Employment, Third Edition July 2005 [Amendment 6, 14 February 2014].
- Ministry of Business, Innovation and Employment Record of Amendments for Compliance Documents and Handbooks.
- The Building Regulations 1992.



In the opinion of BRANZ, **SabreSeal NC and SabreSeal MS Sealants** 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 **Maxilam New Zealand Ltd**, 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. **Maxilam New Zealand Ltd:**
 - 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 **Maxilam New Zealand Ltd**.
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 **Maxilam New Zealand Ltd** or any third party.

For BRANZ



Chelydra Percy

Chief Executive

Date of Issue:

20 July 2015