



CRC Industries NZ, Auckland NZ

I. Product Description

ADOS MS Sealant is a high performance, one-component neutral curing adhesive sealant based on MS Polymers. It has excellent primerless adhesion to all materials commonly used in the demanding building, construction and engineering industries. It is ideal where silicone sealants are not suitable.

ADOS MS Sealant is formulated for durable bonding, sealing and waterproofing gaps in dilation joints. This innovative product cures quickly in ambient temperatures and retains excellent bond strength, elasticity and tear resistance over the years. It skins over in a short time resisting dust and dirt pickup and can be applied in thick layers without shrinking or bubbling.

ADOS MS Sealant will not stain and is compatible with commonly used paint systems. It will not crack or show signs of aging when exposed to adverse weather conditions and harsh UV radiation. It does not contain solvents, isocyanates and silicones.

II. Features & Benefits

- **Excellent adhesion strength** – To a wide range of substrates commonly used in the building, construction and engineering industries
- **Waterproofs, bonds and seals** – Wide variety of applications, one product does it all.
- **Paintable** – Cured product can be painted with most solvent and water based paints and varnishes
- **Extreme flexibility** – Excellent mechanical properties over a wide temperature range for use in dilation joints
- **Will not crack** – No cracks and no signs of aging
- **Interior and exterior use**
- **Low VOC, low odour** – Contains no solvents or isocyanates
- **UV Resistant** - Resistant to adverse weather conditions and UV exposure
- **Durability** – Excellent bond strength, tear resistance and elasticity is maintained over time, even years after application.
- **Non-slump** – Suitable for vertical joints
- **Extreme low shrinkage** – Less than 1%, allows application in thick layers
- **Non-bubbling** – The surface stays smooth and intact
- **Non-staining**
- **Primerless one-component product** – Convenient and time saving on construction sites
- **Cures fast** – For increased productivity
- **Skins over in a short time** – To resist dirt and dust pickup
- **Easy handling** – Can be extruded from cartridges with a low force even in low temperatures
- **Totally chemically neutral**
- **Good chemical resistance** – To water, mild solvents, mineral oils, fat, low concentration anorganic acids and bases
- **Easy clean up** – Just wipe up any excess uncured product with a wet cloth
- **Use on most substrates** – PVC, concrete, brick, timber, glass, aluminium, iron, steel, stainless steel, copper, ceramic, plywood, many of the newly developed materials for construction, fiberglass, various plastics
- **Contains no solvents or isocyanates**

III. Application and Directions

Preparation for use on dilation joints:

- The surface of the dilation joint must be hard, clean, dust and grease free. Remove all separated and badly attached pieces.
- For a clean finish, mask edges of joints with masking tape.
- For the optimal elastic characteristics of the sealant, a correct width/depth ratio is important 2:1 with a maximum of 1:1. The sealant must not grip the bottom of the joint, but only its sides. This can be achieved by using underlying materials onto which the sealant has no adhesion (foamed polyethylene, polyurethane).
- The minimum joint width is 6mm, the maximum 20mm.



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Application:

- Cut the cartridge at the top and screw on the nozzle which has to be cut according to the width of the joint.
- Apply sealant as evenly as possible.
- During work interruption release the handle on the gun and pull the piston back.
- When finished, level the sealant with an appropriate instrument or a well soaped finger.
- Remove masking tape before the sealant starts to harden.

Clean Up:

- Any excess uncured product can be cleaned with a wet cloth
- Fresh sealant and tools can be cleaned with methylated spirits.

The following table shows how many linear metres of joints can be sealed with one 290 ml cartridge relative to the depth and width of the joint:

Joint depth (mm)	Joint width (mm)					
	6	8	10	12	15	20
6	8.3	6.2	5.0	4.2		
8		4.7	3.7	3.1	2.5	
10			3.0	2.5	2.0	1.5
12				2.1	1.7	1.2
15					1.3	1.0
20						0.75

IV. Typical Properties and Characteristics**Physical Properties:**

Type	Adhesive sealant
Composition	MS polymer
Curing mechanism	Moisture curing – Non-acid
Colour	Available in white, clear, black, grey
Odour	None
VOC	Low
Viscosity	Paste
Specific gravity	1460 ± 10 kg/m ³
Skin formation time (23°C / 50% rel. humidity)	20-30 minutes
Cure time (23°C / 50% rel. humidity)	2-3 mm/day
Application temperature	5°C to 30°C



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Performance Characteristics:

Hardness Shore A (ISO 868)	15-20
Change in volume (ISO 10563)	< 1%
Tensile strength (ISO 8339)	0.40-0.60 MPa
Module E 100% (ISO 8339)	0.20-0.30 MPa
Elongation at break (ISO 8339)	600-700%
Tensile Strength (ISO 37 rod 1)	1.00-1.40 MPa
Elongation at break (ISO 37 rod)	500-700%
Service temperature	-40°C to +90°C
Maximum joint depth	20 mm
Maximum joint width	20 mm
Good chemical resistance	To water, mild solvents, mineral oils, fat, low concentration anorganic acids and bases

V. Package Description**Part Number Size**

8361	400g cartridge	White
8362	300g cartridge	Clear
8363	400g cartridge	Black
8364	400g cartridge	Grey

VI. Special Precautions**General:**

Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Use in a well-ventilated area. Avoid contact with incompatible materials. When handling, DO NOT eat, drink or smoke. Dispose of empty containers safely. All unused product should be disposed of in conformance with local and HSNO regulations, do not contaminate water supply.

First Aid:

Swallowed – Rinse mouth with water.
 Eye – Wash with running water. For discomfort seek medical advice.
 Skin – Wash with water and soap.
 Inhaled – Fresh air. Rest, keep warm.

Refer to Material Safety Data Sheet for more details.

TECHNICAL DATA SHEET Version 11/2012

PRODUCT WARRANTY: CRC offers a conditional warranty of this product for the period of 2 years from the date of manufacture.

DISCLAIMER: All information on this data sheet is based on testing by CRC Industries NZ. All products should be tested for suitability on a particular application prior to actual use. CRC Industries makes no representations or warranties of any kind concerning this data.



BRANZ Appraised

Appraisal No. 924 [2016]

ADOS MS SEALANT



Appraisal No. 924 [2016]

BRANZ Appraisals

Technical Assessments of products for building and construction.



CRC Industries New Zealand

PO Box 204267
Highbrook
Manukau 2161
Tel: 09 272 2700
Fax: 09 274 9696
Web: www.crc.co.nz



BRANZ

BRANZ

1222 Moonshine Rd,
RD1, Porirua 5381
Private Bag 50 908
Porirua 5240,
New Zealand
Tel: 04 237 1170
branz.co.nz



Product

- 1.1 Ados MS Sealant is a MS polymer based, one-component, waterproof, elastic, UV resistant joint sealant for interior and exterior applications.

Scope

- 2.1 Ados MS Sealant has been appraised for use as an exterior sealant in buildings within the following scope:
 - the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1.
- 2.2 Ados MS Sealant has also been appraised for use as an internal and external sealant in buildings subject to specific design 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, boron 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 sheeting, unglazed tiles, earthenware [clay], glazed ceramic tiles, stoneware [e.g. Hinuera stone and Oamaru stone], marble* or granite*; or,
 - standard concrete, glass fibre reinforced concrete, concrete and clay blocks, tiles, natural stone* or bricks; or,
 - glass 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. CRC Industries New Zealand must be consulted when proposing the sealing of material not specifically covered by this Appraisal.

* These materials may stain when in contact with Ados MS Sealant. Refer to CRC Industries New Zealand for further information.

Building Regulations

New Zealand Building Code (NZBC)

3.1 In the opinion of BRANZ, Ados MS Sealant 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. Ados MS Sealant 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, Ados MS Sealant 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, Ados MS Sealant will contribute to meeting these requirements. See Paragraph 13.1.

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

Technical Specification

4.1 Product supplied by CRC Industries New Zealand is as follows:

- **Ados MS Sealant** – is a one-component, waterproof, elastic, UV resistant joint sealant based on MS polymer. It is supplied in white, black and grey in 400 gm cartridges.

Handling and Storage

5.1 The handling and storage of Ados MS Sealant on site is the responsibility of the installer. Ados MS Sealant has a shelf life of 12 months from the date of production if stored in unopened packaging under dry, cool conditions at temperatures of between 5°C and 30°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 Ados MS Sealant. 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 also refer to uses outside the scope of this Appraisal.

Design Information

General

7.1 Ados MS Sealant is 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 CRC Industries New Zealand 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 defense, in conjunction with flashings [second line of defense] 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. 441 and 584 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 Ados MS Sealant makes it a suitable sealant 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 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 may be required. CRC Industries New Zealand must be consulted where doubt arises. Any surface priming of porous and non-porous surfaces or surface activation must be undertaken in accordance with the instructions of CRC Industries New Zealand.
- 7.6 CRC Industries New Zealand 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 Ados MS Sealant 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 Ados MS Sealant 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 Ados MS Sealant 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 Ados MS Sealant 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 Ados MS Sealant can be used with a range of exterior construction methods and materials to meet the requirements of NZBC 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, 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 defense 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 Ados MS Sealant 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 Ados MS Sealant is 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 must always be carried out in accordance with the Ados MS Sealant Technical Literature and this Appraisal by, or under the supervision of, a Licensed Building Practitioner [LBP] with the relevant Licence Class.

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 Ados MS Sealant. Cure rates will slow down as temperatures decrease.
- 15.3 Sealant application must be carried out when the sealants and substrate temperature is within the range of 5°C to 30°C.
- 15.4 Installation of the sealant can be undertaken using a manual 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 them, promoting adhesion to the joint walls. Clean-up can be carried out using methylated spirits immediately after application.

Health and Safety

- 16.1 Safe use and handling procedures for Ados MS Sealant is provided on the packaging. Additional information on the product is available in Material Safety Data Sheets available from CRC Industries Ltd.

Basis of Appraisal

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

Tests

- 17.1 Ados MS Sealant has been tested to the requirements of ISO 11600-F-Class 25 LM Building construction - Sealants - Classification and Requirements

Other Investigations

- 18.1 Technical data sheets and Material Safety Data Sheets for the Ados MS Sealant 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 product has not been examined by BRANZ, but details of the quality and composition of the materials used were obtained and found to be satisfactory. Note has been taken of overseas manufacturing quality certification.
- 19.2 Quality of supply to the market is the responsibility of CRC Industries New Zealand.
- 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 manufacturer's 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 CRC Industries New Zealand.
- 19.6 Building owners are responsible for the maintenance of Ados MS Sealant in accordance with the instructions of CRC Industries New Zealand.

Sources of Information

- BRANZ Bulletin No. 441 Sealed joints in external claddings - 2. Sealants.
- BRANZ Bulletin No. 584 Sealed Joint Design - Claddings.
- 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, **Ados MS Sealant** 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 **CRC Industries New Zealand**, 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. **CRC Industries New Zealand**:
 - 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 **CRC Industries New Zealand**.
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 **CRC Industries New Zealand** or any third party.

For BRANZ



Chelydra Percy

Chief Executive

Date of Issue:

01 August 2016