

Technical Data Sheet

AS-4001 / AS-4001S MS Construction Sealant



Physical Properties

Appearance:
Non-sagging paste
(before cure)

Elastic rubber
(after cure)

Standard Colours:
(W10) White
(G10) Grey
(B10) Black

Special Colours:
(Made-to-Order)
(G12) Dark Grey
(G13) Graphene Grey
(G14) Dark Grey
(G15) Concrete Grey
(G16) Trade Grey
(B40) Beige
(W11) Off White
(R10) Redwood
(S10) Sandstone
(B32) Dark Bronze
(T20) Teak

Tack-free time:
20 – 60 minutes

Application temperature:
5 °C to 40 °C

Service temperature:
-20 °C to 90 °C

Storage:
Store in a dry and cool place
with temperature below 30 °C.

Shelf life:
12 months (cartridge)
12 months (sausage)

Packaging:

Content	Quantity/ carton
290 mL cartridges	20
600 mL sausages	20

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Visit product page:
<https://www.alsealmarketing.com/as-4001-ms-construction-sealant/>

Description

ALSEAL MS Construction Sealant is a single-component, high-performance hybrid sealant based on advanced MS Polymer technology. It is formulated to meet the stringent requirements of various joint sealing applications.

Unlike Polyurethane sealants, its weathering resistance property is much better, therefore it has longer service lifetime. Also, its solvent-less and isocyanate-free formulation ensures that the cured sealant will not shrink or have bubbling issues. It is also free of silicone oil, minimising building aesthetic issues caused by oil-staining and dirt-streaking problems often associated with silicone sealants. The adhesion of the sealant on a wide variety of substrates is great, and it is paintable with most types of common industrial paints.

Features

- ◆ ±50 % Movement capability
- ◆ LEED compliant
- ◆ Better weathering resistance than PU sealants
- ◆ Paintable
- ◆ Low static charge – Less dirt streaking
- ◆ Good UV resistance
- ◆ No silicone oil – Non-staining on adjacent substrates
- ◆ No isocyanate – No blistering
- ◆ No solvent – No shrinkage
- ◆ Bonds most substrates without primer

Applications

Recommended for sealing concrete joints like precast wall panel joints, expansion joints, control joints, connection joints, etc. It is also ideal for window frame perimeter sealing especially when the sealant needs to be painted. Other recommended applications include sealing of GRC panel systems, anodized aluminium, masonry, porcelain, coated metal, finished wood, epoxy, cement board, galvanized iron and polyester panels, UPVC, polystyrene, and stainless steel.

Technical Data

Curing system	: Moisture curing
Density	: 1.54 g/mL
Ultimate tensile at break (ASTM D412)	: 1.1 N/mm ²
Elongation (ASTM D412)	: 600 %
Shore A hardness (ASTM C661)	: 33
Joint movement capability (ASTM C719)	: ±50 %
Elastic recovery (ISO 7389)	: > 70 %
Slump (ASTM D2202)	: < 1mm
VOC content (USEPA Test Method 24)	: < 10g/L
Cure depth (24 hours) at 23° C, 50% humidity	: Approx. 3 mm

Approvals/ Specifications

AS-4001 meets the requirements of the following specifications:

- ◆ ASTM C920, Type S, Grade NS, Class 50, Use NT & M
- ◆ Leadership in Energy and Environmental Design (LEED) v4.1 EQ compliant
- ◆ ISO11600 F Class 25 LM
- ◆ Good Environmental Choice Australia (GECA) certified
- ◆ Low VOC - USEPA Method 24 under SCAQMD Rule 1168
- ◆ FDA 21 CFR Part 175.300, Food Contact Safe



AS-4001 MS Construction Sealant

Usage Instructions

Cartridges:

1. Cut/Poke the cartridge's aluminium foil with the nozzle tip.
2. Cut the nozzle into an appropriate diameter at an angle of approximately 45° to 60°.
3. Use a caulking gun and extrude the sealant with a single bead.
4. Tool the sealant bead with a clean and dry tool within the working time for a smooth finishing.

Sausages:

1. Cut the tip of the sausage carefully and slip it into the caulking gun.
2. Cut the nozzle into an appropriate diameter at an angle of approximately 45° to 60°.
3. Place the nozzle into the caulking gun and screw tight.
4. Extrude the sealant with a single bead.
5. Tool the sealant bead with a clean and dry tool within the working time for a smooth finishing.

Caution:

DO NOT paste excess sealant onto the protective film of aluminium composite panel (ACP).

Clean Up

- ◆ Wet sealants can be cleaned up with acetone or mineral spirits.
- ◆ Cured sealants can only be removed mechanically.

Joint Design

- ◆ Joint dimension should be designed by taking into consideration the movement capability of the sealant and the anticipated joint movement
 - ◆ Generally the joint width-to-depth ratio is 2:1 for joint width ≥12 mm, or 1:1 for joint width <12 mm
 - ◆ Joint width: minimum = 6 mm, maximum = 35 mm *
 - ◆ Joint depth: minimum = 6 mm, maximum = 12 mm
- * Sealing joints with larger joint width is possible but sealant may sag in vertical applications.

Coverage

Width	Depth	Coverage (290 ml) *	Coverage (600 ml) *
6 mm	6 mm	7.32 meter	15.15 meter
10 mm	10 mm	2.64 meter	5.45 meter
20 mm	10 mm	1.32 meter	2.73 meter
25 mm	12 mm	0.88 meter	1.82 meter

* The coverage figures shown above are approximate linear meter run based on 10% wastage assumption. Actual coverage may vary.

- ◆ Calculation formula: $X / [(Y \times Z) \times 1.1] = \text{Coverage}$

X = volume of cartridge (or sausage) in ml,

Y = joint width in cm, Z = joint depth in cm,

1.1 = 10% wastage assumption,

Coverage = linear meter run in cm per cartridge

Limitation

Not recommended for the following applications:

- ◆ Below waterline or permanent water immersion.
- ◆ Outdoor sealing/bonding adjacent to glass substrates.
- ◆ Polyethylene, polypropylene, polytetrafluoroethylene (Teflon), neoprene, and bituminous surfaces.
- ◆ Overcoated with
 - Alkyd resin paint - cure inhibition to the paint
 - Chlorinated paint - staining issue
 - Oil based paint - not compatible

Caution

Harmful to aquatic life with long lasting effects. Contains DIBUTYLBIS(PENTANE-2,4-DIONATO-O,O')TIN, N-(3-(TRIMETHOXYSILYL)PROPYL)ETHYLENEDIAMINE. May produce an allergic reaction. Keep out of reach of children. Safety data sheet available on request. For further health and safety information, consult the latest safety data sheet.

Warranty Information

Alseal Marketing provides material warranty for a duration of 5 years if the product is used within its shelf life and in compliance with industrial standard application procedures. We disclaims liability for any consequential or incidental loss or damages caused by incorrect usage. The material warranty only covers the replacement of the product without the other costs incurred, if the failure is proven to be directly related to the product within the warranty period. Material warranty will only be available once customer submits all the necessary documents and information, and an official material warranty letter is issued by Alseal Marketing. Any claim of warranty shall be made directly to Alseal Marketing in writing. Alseal Marketing shall hold no responsibility until site inspection by representatives of Alseal Marketing to confirm the alleged failure has been carried out.



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