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Revision No.	24-02

Technical Data Sheet

AS-4003 / AS-4003S
Fire Rated MS Sealant

Physical Properties

Appearance:
Non-sag thixotropic paste

Colours:
White, Grey

Tack-free time:
20 – 60 minutes

Full cure:
7 days

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 25 °C.

Shelf life:
12 months

Packaging:

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

Description

ALSEAL Fire Rated MS Sealant is a single-component, moisture-curing sealant based on advanced MS Polymer technology that provides movement capability in fire rated joint applications. It is compliant with fire rating specification of BS EN 1366-4:2021. It can be painted over with common industrial paints; sealant bead will not shrink after cured; and the isocyanate-free formulation makes it possible to work on damp surfaces and will not have air bubbling issue. Even without primer, adhesion on various substrates is excellent. It is a green sealant formulated to meet the low VOC regulation.

Applications

Recommended for sealing all building and construction joints and is used to provide fire protection to gap and movement joints. It is used for sealing interior and exterior movement joint where a fire rating of up to 4 hours is required in precast and in-situ concrete, expansion and construction joint, tilt-up construction, brick and blockwork, fibre cement board, plasterboard etc. It is also used as joint sealant and gap filler against dust and water penetration, and sealing joints, voids and irregular holes in fire walls, partitions and other structure.

Features

- 4 hours fire rating
- ASTM C920 compliant
- ±25 % movement capability
- Good UV resistance
- Low static charge – Less dirt streaking
- No isocyanate – No blistering
- No solvent – No shrinkage
- Bonds most substrates without primer

Technical Data

Curing system	: Moisture curing
Specific Gravity	: 1.62 g/ml
Elongation at break (ASTM D412)	: 200%
Tensile Strength (ASTM D412)	: ⩾ 1.0 N/mm²
Shore A hardness (ASTM C661)	: ⩾ 25
Joint movement capability (ASTM C719)	: ±25 %
Cure Depth (24 hours) at 23°C, 50% humidity	: Approx. 3mm

Usage Instructions

1. Surfaces must be clean, dry and free of dirt, grease, oil or water.
2. Surfaces should be cleaned with alcohol, M.E.K. or other suitable solvent. Do not use soap or detergent.
3. For a neat finishing, apply masking tape and remove it before sealant skins over.
4. Cut the tip off and puncture the internal foil seal with the nozzle. Cut the nozzle at 45° angle to desired bead-width and apply the sealant to substrate with a cartridge gun.
5. Tool the sealant within 20 minutes of extrusion before it skins. Tack-free in 30 minutes.
6. Uncured sealant can be cleaned up with mineral spirits.
7. Use approved backing material for joints over 10mm deep.

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APPLICABLE TEST / STANDARD

- BS EN 1366-4:2021 Fire resistance tests for service installations - Linear joint seals
- AS 1530.4:2014 Methods for fire tests on building materials, components and structures - Part 4: Fire-resistance test for elements of construction
- Low VOC – USEPA Method 24 under SCAQMD Rule 1168

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** x **Z**) x 1.1] = ***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
- Used in trafficable joints greater than 10 mm width. For trafficable joint above 10 mm width, a steel cover plate is required.

Caution

Keep out of reach of children. Contains aminosilane. May produce an allergic reaction. Safety data sheet available on request. For further health and safety information, consult the latest safety data sheet.

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