MS-601

MS ADVANCED POLYMER SEALANT

x'traseal®

TECHNICAL DATA SHEET

REV: 12

Date: 28 February 2025

DESCRIPTION

x'traseal® MS-601 is based upon **hybrid silyl modified polyether technology**. It is suitable in wide range of industrial applications and it has excellent primerless adhesion to various types of substrates of dissimilar porosity and surface textures. It also can be over painted with most of the types of paints. MS-601 is a technology that combines the unique features of silicone and polyurethane sealants. It is a moisture cure system adhesive sealant and "none" bubbling when apply in high humidity or to moist substrates. It is not suitable for structural glazing.

FEATURES

- Comply to ISO 11600, Type-F Class 20 HM
- Comply to ASTM C920 - Class 25
- SIRIM QAS International Malaysia Certified
- High mechanical bonding strength
- Non-bleeding and crack resistant
- No visible stain even on porous substrate
- Free of isocyanate, solvent, acid, and silicone oil
- Excellent UV radiation and weather resistance
- Can be applied on damp surfaces
- Odourless and fast curing
- Environment friendly
- Fungus is not easily grow on sealant
- Suitable for indoor and outdoor use

USES

MS-601 is specially developed as a universal sealant for sealing building connection and expansion joint on most building materials such as concrete, brickwork, aluminium, stainless / mild or galvanized steel, door or metal frames, and ceramics. It's also suitable for sealing and bonding in automotive industry, cold storage & clean room.

Due to a large variety of different coatings and substrates, we recommend preliminary compatibility tests prior to application to achieve desirable results.

JOINT DESIGN

The specified sealant bead size should be calculated to comply with the compression and extension capabilities of the sealant in relation to the anticipated joint width die to expansion and contraction.
MS-601 has a movement accommodation factor (MAF) of 25%. The theoretical minimum joint width may be calculated

$$W = \frac{M}{MAF/100} + M$$

M = expected maximum working movement of joint
MAF = movement accommodation factor of sealant

A minimum of 6mm substrate sealant bond is necessary to ensure adequate adhesion and accommodate movement. Joint depth should not less than 6mm and not greater than 12mm. The optimal ratio of sealant width to depth is 2:1. Backer material should be installed to prevent 3 side adhesions and to control sealant depth.

Suitable joint width* vs depth:

6mm x 6mm	20mm x 10mm
12mm x 6mm	25mm x 12mm
16mm x 8mm	30mm x 12mm

*Bigger joint width may encounter at the job site condition but have to take precautions step as sealant may sag on vertical application.

MOHM CHEMICAL SDN. BHD. (REG NO 276851-U)
No. 32, Jalan Temenggong, Off Jalan Tampoi, 81100 Johor Bahru, Johor,
Malaysia. Tel : +607 333 1222 Fax : +607 332 0545 / 333 7919
Website: www.xtraseal.com Email: info@mochem.com

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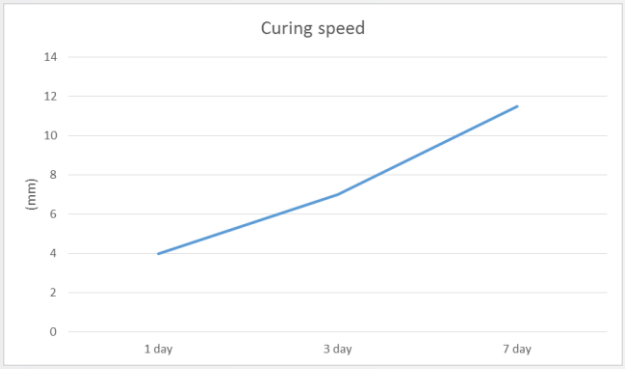
APPLICATION

- Substrates must be clean, dry and free from grease. Remove all dirt, oil, grease, detergents and loose material.
- The joint edges can be masked with tape to prevent contamination of adjacent substrates. The tape should be removed carefully after tooling.
- Cut tip off cartridge. Cut nozzle to desired size at 45°angle. Screw nozzle onto cartridge. Place cartridge into caulking gun.
- Extrude the sealant firmly into joint to ensure complete contact with joint faces.
- Tool as required within the tooling time to achieve smooth surface.

CURING TIME

MS-601 will skin forming in approximately 15 minutes and it will cure to a depth of 11.5 mm in 7 days. Longer curing time may be necessary in dry and low humidity area.



PAINTABILITY

MS-601 is paintable with water based paints, however due to large number of paints and varnishes available we strongly suggest a compatibility test before application.

Paints based on alkyd resins may have extended drying time. Chlorinated paint may cause staining issue. Oil based paint may not compatible.

Note: MS-601 has larger movement capability than a normal paint film. Cracking of paint film may occur with movement in joint.

CHEMICAL RESISTANCE

Good resistance to water, diluted inorganic acids and alkalis.
Poor resistance to concentrated acids and alkaline solutions, organic solvents, and halogenated hydrocarbons.

CLEAN UP

Excess sealant can be removed with mineral spirit and cleaning solvent before cured. After curing, MS-601 may only be removed mechanically.

LIMITATIONS

MS-601 is not suitable for the following applications:

- PE, PP, PTFE, plastics containing softeners, and bituminous substrates
- Structural glazing
- Outdoor sealing / bonding adjacent to glass substrates
- Totally confined spaces where there is no atmospheric humidity, which is needed for proper curing
- Water immersion application (water ponding)

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- Heavy trafficable surface / joints
- Exposure to aggressive solvents or chemicals
- Food contact

PACKAGING

290 ml cartridges / 24 per carton
600 ml sausages / 20 per carton

COLOR

White, grey and black, other colors upon request.

SHELF LIFE

9 months for cartridge packaging & 12 months for sausage packaging (unopened) in a cool and dry storage place at temperatures between +5°c and +30°c.

Quantity estimation

Number of 600ml sausage

$$= \frac{JOINT\ WIDTH\ (MM)\ X\ JOINT\ DEPTH\ (MM)\ X\ JOINT\ LENGTH\ (M)\ X\ 1.15}{600}$$

Number of 290ml cartridge

$$= \frac{JOINT\ WIDTH\ (MM)\ X\ JOINT\ DEPTH\ (MM)\ X\ JOINT\ LENGTH\ (M)\ X\ 1.15}{290}$$

* *With 15% wastage estimation*

Specification

Properties	Result	Method
Curing system	Neutral	-
Appearance	Non-sagging paste	Visual
Smell	Almost odorless	Visual
Slump / flow (vertical and horizontal @ 5°c and 50°c	0 (no failure)	ISO 7390
Specific gravity	1.43 +/- 0.02 (white & grey) 1.39+/- 0.02 (black)	ASTM D1475
Hardness (Shore A)	32 approx.	ASTM D2240
Staining and color change	No staining and no color change	ASTM C510
Elongation at break	1000 % approx.	ASTM D412
Tensile at break	1.40 MPa	ASTM D412
Secant modulus @ 23°c at 100% elongation	0.40 MPa	ASTM D412
Lap shear strength (AL. To AL.)	1.06 MPa	ASTM C961
Application temperature	5°c to 40°c	-
Service temperature	-40°c to 90°c	-

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CAUTION

Read and understand safety data sheet of this product before handling or using. These are available on request and via the x'traseal website.

This information is provided in good faith and is believed accurate based on a review of current composition and information supplied by vendors. No warranty is expressed or implied. Liability is expressly disclaimed.

LIMITED WARRANTY

Mohm Chemical Sdn Bhd provides a 5-year material warranty for its sealants products, contingent upon usage within the product's specified shelf life and in compliance with standard industry application procedures. Mohm Chemical specifically disclaims any liability for indirect or incidental damages arising from improper use. The warranty solely covers the replacement of the product and does not cover any other costs incurred during the warranty process. Valid warranty coverage commences only after Mohm Chemical receives all requisite documentation and issues an official material warranty letter. All warranty claims must be filed in writing directly to Mohm Chemical. Responsibility for the product failure is not assumed by the company until an inspection has been performed by Mohm Chemical's representatives to confirm the failure.

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