



# MS-603

MS ADVANCED POLYMER SEALANT



# x'traseal®

## TECHNICAL DATA SHEET

REV: 08

Date: 25 April 2024

### DESCRIPTION

**x'traseal® MS-603** is based upon **hybrid silyl modified polyether technology**. It is an odorless, one part adhesive sealant suitable for all kind of industrial applications even in adverse conditions. It has high bond strength and primerless adhesion on most type of substrates or moist surfaces. It can be painted with most kind of paints and has superior weatherability in all climates. It has a wide temperature range and will not form bubble within sealant even in a high humidity condition. It is an ideal product for all in one indoor and outdoor bonding and sealing purposes.

### FEATURES

- ◆ Conform to ASTM C920 – CLASS 25
- ◆ Good mechanical strength
- ◆ Non-bleeding and crack resistant
- ◆ No visible stain even on porous substrate
- ◆ Excellent UV radiation and weather resistance
- ◆ Permanently flexible & non-shrinkage
- ◆ Free of isocyanate, solvent, acid and silicone oil
- ◆ No bubble formation within sealant
- ◆ Primerless adhesion on most substrates
- ◆ Can be applied on damp surface
- ◆ Fungus is not easily grow on sealant

### USES

MS-603 is specially developed as a universal sealant for sealing building connection and expansion joint on most building materials such as concrete, brickwork, aluminum, 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 due to expansion and contraction.

MS-603 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 adhesion 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



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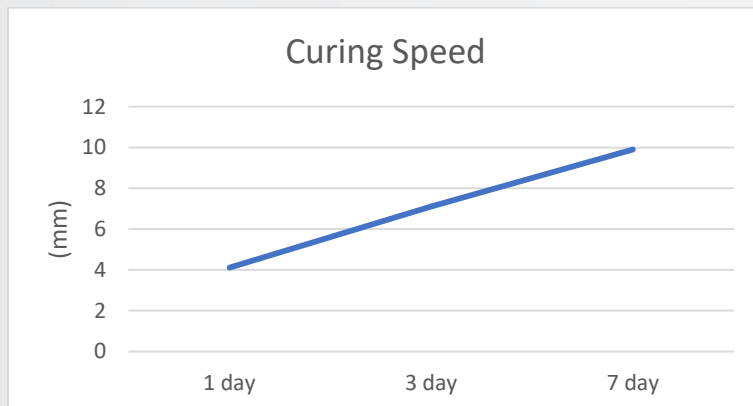
\*Bigger joint width may encounter at the job site condition but have to take precautions step as sealant may sag on vertical application.

### 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-603 will skin forming in approximately 15 minutes and it will cure to a depth of 10 mm in 7 days. Longer curing time may be necessary in dry and low humidity area.



### PAINTABILITY

MS-603 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.

**Note: MS-603 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-603 may only be removed mechanically.

### LIMITATIONS

MS-603 is not suitable for the following applications:

- PE, PP, PTFE, plastics containing softeners, and bituminous substrates
- Structural glazing
- Totally confined spaces where there is no atmospheric humidity, which is needed for proper curing



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- Under water applications
- 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  
=  $\frac{\text{JOINT WIDTH (MM)} \times \text{JOINT DEPTH (MM)} \times \text{JOINT LENGTH (M)} \times 1.15}{600}$

Number of 290ml cartridge  
=  $\frac{\text{JOINT WIDTH (MM)} \times \text{JOINT DEPTH (MM)} \times \text{JOINT LENGTH (M)} \times 1.15}{290}$

\* With 15% wastage estimation

### SPECIFICATION

Properties	Value	Method
Curing System	Neutral	-
Appearance	Non-sagging paste	Visual
Smell	Odourless	Visual
Specific Gravity	1.58 +/- 0.02 (white & grey) 1.56 +/- 0.02 (black)	ASTM D1475
Hardness (shore A)	30	ASTM D2240
Elongation at Break	800% approx.	ASTM D412
Tensile at Break	0.75 mPa	ASTM D412
Secant Modulus @ 23°C at 100% Elongation	0.38 mPa	ASTM D412
Application Temp.	5°C to 40°C	-
Service Temp.	-40°C to 100°C	-
Lap Shear Strength (AL. To AL.)	0.80 mPa	ASTM C961



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### CAUTION

Read and understand material safety data sheet of this product before handling or using.

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