

 <p>A member of NIPPON PAINT</p>	VITAL TECHNICAL SDN. BHD.	 	
	Technical Data Sheet		
	VT-620 / VT-620S LM MS Sealant		

Issuance date: 14/02/11

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Revision No.: 26-01

VT-620 / VT-620S LM MS Sealant



Low Modulus One-Component MS Sealant

BASE

One-component
MS Polymer

PHYSICAL STATE

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/ SKIN-FORM TIME

20 – 60 minutes
(at 25 °C & 50% R.H.)

PACKAGING

290 mL/cartridge
(20 cartridges/carton)
600 mL/sausage
(20 sausages/carton)

SHELF LIFE

12 months

STORAGE

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

APPLICATION TEMPERATURE

5 °C – 40 °C

SERVICE TEMPERATURE

-30 °C – 90 °C

DESCRIPTION



VT-620 LM MS Sealant is a general-purpose sealant based on advanced MS Polymer technology. It is a single-component elastomeric joint sealant with excellent adhesion property on various substrates like concrete. After curing, the sealant is permanently elastic and has a movement capability of $\pm 50\%$.

It is able to comply with the the stringent requirements of ASTM C920 as well as contribute to the Leadership in Energy and Environmental Design (LEED) v4.1 credit. Unlike polyurethane sealants, VT-620 is solvent-free and isocyanate-free; ensuring 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.

TECHNICAL DATA

Curing system	: Moisture curing	
Specific gravity	: 1.54 g/mL	
Ultimate tensile strength	: 1.1 N/mm ²	ASTM D412
Slump	: <1mm	ASTM D2202
Elongation at break	: 600 %	ASTM D412
Shore A hardness	: 33	ASTM C661
Movement capability	: $\pm 50\%$	ASTM C719
Elastic recovery	: >70 %	ISO 7389
Low VOC compliance	: Yes	SCAQMD Rule #1168
VOC content	: < 10g/L	USEPA Method 24
	: 0.08%	USEPA Method 310
Cure depth (24 hours) at 23 °C, 50% humidity	: Approx. 3 mm	

FEATURES

- $\pm 50\%$ Movement capability
- LEED compliant
- Better weathering resistance than PU sealants
- Paintable
- Low static charge – Less dirt streaking
- Isocyanate-free – No air bubbling
- Solvent-free – No shrinkage
- Primerless bonding to most surfaces

APPLICABLE TEST / STANDARD

- VT-620 meets the requirements of:
- ASTM C920, Type S, Grade NS, Class 50, Use NT, A & M
 - Leadership in Energy and Environmental Design (LEED) v4.1 EQ compliant
 - ISO11600 F Class 25 LM
 - FDA 21 CFR Part 175.300, Food Contact Safe
 - Low VOC - USEPA Method 24 & USEPA Method 310
 - SIRIM Product Certification Licence PC013997 (ASTM C920:2018)
 - RoHS I & RoHS II

APPLICATION

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 and polyester panels, UPVC, polystyrene, and stainless steel.

PREPARATION

- Substrate surface must be clean, free of dirt, grease, oil, or standing water.
- For a neat finishing, use masking tapes and remove it within the working time.
- 602 Primer is recommended for porous substrates such as concrete for excellent adhesion.
- For sealant designs with depths of over 10 mm, use approved backing materials.

APPLICATION DIRECTION

Cartridges:

1. 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 before the sealant skins 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. Tool the sealant bead with a clean and dry tool before the sealant skins for a smooth finishing.



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LM MS Sealant

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 (or sausage)

LIMITATIONS

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

Keep out of reach of children. Safety data sheet available on request. For further health and safety information, consult the latest safety data sheet.

LEGAL NOTES

Every endeavour has been made to ensure that the information given herein is true and reliable but it is given only for the guidance of our customers. The company cannot accept any responsibility for the loss or damage that may result from the use of the information, due to the possibility of variations of processing or working conditions and of workmanship outside our control. Users are advised to confirm suitability of this product by their own tests.

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