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|  | VITAL TECHNICAL SDN. BHD. |   |
| | Technical Data Sheet | |
| | VT-620 / VT-620S LM MS Sealant | |

Issuance date: 14/02/11

Revision date: 06/09/2024

Revision No.: 24-01

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 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 & 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 Test - ASTM D 412 : 2006
 - 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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VT-620

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

Contains aminosilane. May produce an allergic reaction. Harmful to aquatic life with long lasting effects. 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

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