

	VITAL TECHNICAL SDN. BHD.	 
	Technical Data Sheet	
	VT-210 / VT-210S High Performance Sealant	

Issuance date: 31/03/08

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Revision No.: 21-01

VT-210 / VT-210S High Performance Sealant

100% Neutral Silicone Sealant



BASE

Silicone polymer

PHYSICAL STATE

Non-sagging paste

(Before cure)

Elastic rubber

(After cure)

COLOURS

Translucent

White

Grey

Black

Aluminium

Dark grey

Dark bronze

TACK-FREE / SKIN-FORM TIME

10 – 30 minutes

(at 25 °C & 50% R.H.)

PACKAGING

300 mL/cartridge

(24 cartridges/carton)

600 g/sausage

(20 sausages/carton)

20 kg/ pail

SHELF LIFE

12 months (cartridge)

12 months (sausage)

STORAGE

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

APPLICATION TEMPERATURE

-20 °C – 50 °C

SERVICE TEMPERATURE

-40 °C – 150 °C

DESCRIPTION

VT-210 High Performance Sealant is a silicone sealant with excellent resistance to weathering, UV radiation, vibration, moisture, ozone, temperature extremes, airborne pollutants, and many cleaning detergents and solvents. It is a single-component elastomeric sealant that is permanently elastic upon curing and has a movement capability of $\pm 50\%$.



Specially formulated to achieve superior performance and environmental friendly APEO-, formaldehyde- and phthalate- free), VT-210 is able to comply with the stringent requirements of Singapore Green Building Product Labelling Scheme (SGBPLS) as well as the ASTM C920.

VT-210 also conforms to MS-1583: Part 1: 2003 – Suitability of Non-Metallic Product for use in contact in water intended for human consumption with regard to their effect on the quality of water. Additionally, VT-210 Grey meets the requirements for AS/NZS 4020:2005, testing of products for use in contact with drinking water.

TECHNICAL DATA

Curing system	: Moisture curing, neutral	
Specific gravity	: 1.02 g/mL	
Slump	: <1 mm	ASTM D2202
Maximum tensile strength	: 1.3 N/mm ²	ASTM D412
Elongation at break	: 370 %	ASTM D412
Movement capability	: $\pm 50\%$	ASTM C719
	: $\pm 25\%$	ISO 11600
Shore A hardness	: 25	ASTM C661
Low VOC compliance	: Yes	SCAQMD Rule 1168
VOC content	: 43.68 g/L	USEPA Method 24
	: 0.86 %	USEPA Method 310

FEATURES

- 100% neutral silicone
- Certified Green Building Standard
- Food Contact Safe
- $\pm 50\%$ movement capability
- Excellent weathering resistance
- Permanently flexible
- Indoor and outdoor use

APPLICABLE TESTS / STANDARDS

- VT-210 meets the requirements of:
- ASTM C920 & ASTM C719, Type S, Grade NS, Class 50, Use NT, M, A & G
 - ISO 11600, F Class 25 LM
 - Singapore Green Building Product Labelling Scheme (SGBPLS)
 - Low VOC - USEPA Method 24 under SCAQMD Rule 1168 & USEPA Method 310
 - FDA 21 CFR Part 175.300 (Food Contact Safe)
 - AS/NZS 4020:2005, Testing of Products for Use in Contact With Drinking Water. (VT-210 Grey)
 - Sirim Test - ASTM D412: 2016 & MS1583-Part 1-2003
 - RoHS I, RoHS II, RoHS III & SVHC

APPLICATION

- Well-suited for a strong weatherproof seal on most common building materials such as glass, aluminium, galvanized and zinc-coated steel, painted surfaces, brick, concrete and mirror bonding.
- Ideal for sealing metal lap joints in roofing, guttering and cladding applications.

PREPARATION

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

APPLICATION DIRECTION

Cartridges:

- Cut the cartridge tip carefully.
- Cut the nozzle into an appropriate diameter at an angle of approximately 45° to 60°.
- Use a caulking gun and extrude the sealant with a single bead.
- Tool the sealant bead with a clean and dry tool within the working time for a smooth finishing.



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High Performance Sealant

APPLICATION

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.
5. Tool the sealant bead with a clean and dry tool within the working time for a smooth finishing

CLEAN UP

- Wet sealants can be cleaned up with acetone or mineral spirits.
- Cured sealants can only be removed mechanically

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.
- Generally calculation of the width sealant bead should be computed on the basis of a maximum $\pm 50\%$ movement capability
- Minimum joint depth should not be less than 6 mm to accommodate movement.
- Sealant design joint width-to-depth ratio should be 2:1.

COVERAGE

Width	Depth	Coverage (300 ml) *
6 mm	6 mm	7.58 meter
10 mm	10 mm	2.73 meter
20 mm	10 mm	1.36 meter
25 mm	12 mm	0.91 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 following applications:

- Structural glazing applications.
- Below waterline or permanent water immersion.
- Traffic areas subject to abrasion.
- Polycarbonate and polyacrylate, if under tension.
- Applications that requires the sealant to be painted.
- Neoprene rubber.

CAUTION

Product releases methylethylketoxime during application and curing. May cause an allergic skin reaction. Avoid breathing vapours. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves. IF ON SKIN: Wash with soap and water. If skin irritation or a rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. 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.

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.

LIMITED WARRANTY INFORMATION

Vital Technical provides material warranty for a duration of 10 years if the product is used within its shelf life and in compliance with industrial standard application procedures. Vital Technical disclaims liability for any consequential or incidental loss or damages caused by incorrect usage. The material warranty only covers the replacement of the product without the other costs incurred, if the failure is proven to be directly related to the product within the warranty period. Material warranty will only be available once customer submits all the necessary documents and information, and an official material warranty letter is issued by Vital Technical. Any claim of warranty shall be made directly to Vital Technical in writing. Vital Technical shall hold no responsibility until site inspection by representatives of Vital Technical to confirm the alleged failure has been carried out.