

**VITAL TECHNICAL SDN. BHD.**

Technical Data Sheet

**VT-211 / VT-211S
Weatherproofing Sealant**

Issuance date: 31/03/2008

Revision date: 27/02/2023

Revision No.: 23-01

VT-211 / VT-211S Weatherproofing Sealant

100% Neutral Silicone Sealant

**BASE**

Silicone polymer

PHYSICAL STATE

Non-sagging paste

(Before cure)

Elastic rubber

(After cure)

STANDARD COLOURS**VT-211**

(B10) Matte black

(G10) Matte grey

(W10) Matte white

VT-211T

(T10) Translucent

SPECIAL COLOURS

(Made-to-Order)

VT-211

(G12) Dark grey

(G13) Graphene Grey

TACK-FREE /**SKIN-FORM TIME**

10 – 30 minutes

(at 25 °C & 50% R.H.)

PACKAGING

300 mL/cartridge

(24 cartridges/carton)

800 g/sausage

(20 sausages/carton)

600 g/sausage (VT-211ST)

(20 sausages/carton)

25 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

Up to 150 °C

Description

VT-211 Weatherproofing Sealant is a non-slumping high performance, 100% neutral cure silicone sealant formulated with calcium carbonate filler system. It has 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 feature low VOC emission and content, VT-211 is able to comply with the stringent requirements of ASTM C920 as well as contributing to the Leadership in Energy and Environmental Design (LEED) v4.1 credit.

TECHNICAL DATA

	VT-211	VT-211T
Curing system	: Moisture curing, neutral	
Specific gravity	: 1.33 g/mL	: 1.02 g/mL
Slump (ASTM D2202)	: <1 mm	: <1 mm
Maximum tensile strength (ASTM D412)	: 1.3 N/mm ²	: 1.3 N/mm ²
Elongation at break (ASTM D412)	: 360 %	: 370 %
Movement capability (ASTM C719)	: $\pm 50\%$: $\pm 50\%$
Shore A hardness (ASTM C661)	: 33	: 25
Adhesion-in-peel (ASTM C794)	: >35 N	: >35 N
Low VOC compliance (SCAQMD Rule 1168)	: Yes	
VOC content (USEPA Method 24)	: 45.54 g/L	

Features

- 100% neutral silicone
- $\pm 50\%$ movement capability
- Certified Green Sealant
- APEO-, formaldehyde- and phthalate- free
- Weatherproof seal
- Permanently flexible
- Indoor and outdoor use
- Matte finish

APPLICABLE TEST / STANDARD

VT-211 meets the requirements of:

- ASTM C920 and ASTM C719, Type S, Grade NS, Class 50, Use NT, M, A & G
- Leadership in Energy and Environmental Design (LEED) v4.1 EQ compliant
- Low VOC - USEPA Method 24 under SCAQMD Rule 1168
- Sirim Test - ASTM D412: 2016

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 and concrete.
- Widely used to seal external aluminium composite panels.

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 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.

Sausages:

- Cut the tip of the sausage carefully and slip it into the caulking gun.
- Cut the nozzle into an appropriate diameter at an angle of approximately 45° to 60°.
- Place the nozzle into the caulking gun and screw tight.
- 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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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 lineal 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 = lineal 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. If medical advice is needed, have product container or label at hand. Avoid breathing dust/fume/gas/mist/vapours/spray. Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. Keep out of reach of children. 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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