

BERGQUIST GAP FILLER TGF 4500CVO

November 2020

PRODUCT DESCRIPTION

BERGQUIST GAP FILLER TGF 4500CVO provides the following product characteristics:

| | |
|--|--|
| Technology | 2K Silicone |
| Appearance (Part A) | White |
| Appearance (Part B) | Pink |
| Appearance (cured) | Pink |
| Components | Two components - requires mixing |
| Mix Ratio by weight: Part A: Part B | 1 : 1 |
| Mix Ratio by volume: Part A: Part B | 1 : 1 |
| Product Benefits | <ul style="list-style-type: none">• Thermal conductivity: 4.5 W/mK• Extended working time for manufacturing flexibility• Controlled Volatile Silicones• High dispense throughput• Optimized viscosity for automated dispensing processes |
| Cure | Room temperature or heat cure |
| Operating Temperature | -60 to 200°C |
| Application | Thermal material, Liquid gap filler |
| Typical Applications | <ul style="list-style-type: none">• Power inverter• Surface mount power switching• EV charger• Use between heat generating semiconductor packages and heat sink |

BERGQUIST GAP FILLER TGF 4500CVO is a two-part, high performance, thermally conductive, liquid gap filling material. The mixed material will cure at room temperature. Cure can be accelerated with the addition of heat.

BERGQUIST GAP FILLER TGF 4500CVO has controlled volatile outgassing silicones for sensitive applications and high dispensing rate in customer application. This liquid-dispensed material offers infinite thickness variation and impart little and reduced stress on components during assembly. As cured, BERGQUIST GAP FILLER TGF 4500CVO offers a soft, thermally conductive, form-in-place elastomer to fill voids and gaps in the customer assembly.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Part A Properties

Viscosity, mPa·s (cP):

| | |
|---|---------|
| High shear rate, 1,500 s ⁻¹ , ASTM D5099 | 20,000 |
| Low shear rate, 1.0 s ⁻¹ , DIN 53019 | 522,000 |

Shelf Life @ 25°C, days 180

Part B Properties

Viscosity, mPa·s (cP):

| | |
|---|---------|
| High shear rate, 1,500 s ⁻¹ , ASTM D5099 | 11,000 |
| Low shear rate, 1.0 s ⁻¹ , DIN 53019 | 361,000 |

Shelf Life @ 25°C, days 180

Mixed Properties

Density, ASTM D792, g/cc 3.2

Work Life, ASTM D4473:

| | |
|-----------------|----|
| @ 25°C, hours | 21 |
| @ 50°C, minutes | 60 |
| @ 85°C, minutes | 3 |

TYPICAL CURING PERFORMANCE**Cure Schedule (Room Temperature cure)**

48 hours @ 25°C

Alternate Cure Schedule

4 hours @ 50°C or

30 minutes @ 85°C

The above cure profile(s) are guideline recommendation(s). These conditions (time and temperature) may vary based on customers' experience and specific application requirements, as well as customer curing equipment, oven loading and actual oven temperatures.

TYPICAL PROPERTIES OF CURED MATERIAL**Physical Properties**

| | |
|--|------|
| Hardness, Shore 00, ASTM D2240 | 70 |
| Heat Capacity, ASTM E1269, J/g-K | 0.8 |
| Siloxane Content, ΣD4-D10, ASTM F2466, ppm | <300 |
| Flammability, UL 94 | V-0 |

Electrical Properties

| | |
|---|--------------------|
| Volume Resistivity, ASTM D257, ohm-m | 1×10 ¹¹ |
| Dielectric Strength, ASTM D149, V/mm | 10,000 |
| Dielectric Constant, ASTM D150 @ 1,000 Hz | 8.1 |

Thermal Properties

| | |
|--|------|
| Thermal Conductivity, ASTM D5470, W/(m-K) | 4.5 |
| Thermal Impedance @ 40 mil, °C-in ² /W: | |
| 10% Deflection | 0.45 |
| 20% Deflection | 0.38 |
| 30% Deflection | 0.32 |

GENERAL INFORMATION

Please consult the Safety Data Sheet (SDS) for safe handling information of this product.

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials.

CONFIGURATIONS AVAILABLE

| | |
|-----------------|-----------------------------|
| Cartridges Kits | 50cc, 200cc, 400cc, 1,200cc |
| Pail Kits | 6 gallons |

Not for product specifications

The technical data contained herein are intended as reference only. Please contact your local quality department for assistance and recommendations on specifications for this product.

Storage

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

Optimal Storage: 25°C. Storage above 25°C can adversely affect product properties.

Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel Corporation cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Henkel Representative.

Conversions

(°C x 1.8) + 32 = °F
 kV/mm x 25.4 = V/mil
 mm / 25.4 = inches
 N x 0.225 = lb/F
 N/mm x 5.71 = lb/in
 psi x 145 = N/mm²
 MPa = N/mm²
 N·m x 8.851 = lb·in
 N·m x 0.738 = lb·ft
 N·mm x 0.142 = oz·in
 mPa·s = cP

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