Technical Data Sheet

BERGQUIST GAP FILLER TGF 4500CVO

September 2023

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	• 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 200ºC
Application	Thermal material, Liquid gap filler
Typical Applications	• 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, ºC-in²/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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