

BERGQUIST GAP FILLER TGF 1450

January 2019

PRODUCT DESCRIPTION

A two-part, high performance, thermally conductive liquid gap filling material.

Technology	Silicone
Appearance (cured)	Blue
Appearance - Part A	Blue
Appearance - Part B	Light blue
Cure	Heat cure or Room temperature
Application	Thermal management, TIM (Thermal Interface Material)
Mix Ratio by weight: Part A: Part B	1 : 1
Mix Ratio by volume: Part A: Part B	1 : 1
Operating Temperature Range	-60 to 175°C
UL Flammability Rating	UL 94 V-0

FEATURES AND BENEFITS

- Thermal Conductivity: 1.5 W/m-K
- Ultra-conforming with excellent wet-out for near zero interface stress
- No cure by-products
- Low density for weight sensitive application
- Excellent low and high temperature mechanical and chemical stability
- Shear thinning viscosity for ease of dispensing

BERGQUIST GAP FILLER TGF 1450 is a high performance, thermally conductive liquid gap filling material which features high shear thinning characteristics for optimized consistency and control during dispensing. This material features a low-density design which reduces final assembly weight.

The mixed system will cure at room temperature and can be accelerated with the addition of heat. BERGQUIST GAP FILLER TGF 1450 offers infinite thickness variations with little or no stress to the sensitive components during or following assembly. As cured, BERGQUIST GAP FILLER TGF 1450 will provide a soft, thermally conductive, form-in place elastomer that is ideal for fragile assemblies, capable of filling unique and intricate air voids and gaps.

TYPICAL APPLICATIONS

- Automotive electronics (HEV, NEV, batteries)
- Lighting

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Capillary, ASTM D5099, Pa·s*:	
High shear, Shear Rate 3,000 s ⁻¹	30
Viscosity, Parallel Plate, ASTM D2196, Pa·s*:	
Low shear, Shear Rate 1 s ⁻¹	200
Flow viscosity measured on Parallel Plate rheometer.	
*Part A and B measured separately.	
Density, ASTM D792, g/cc	1.85
Pot life @ 25°C, ASTM D4473, minutes	60

TYPICAL CURE SCHEDULE

Cure Schedule

- 5 hours @ 25°C, ASTM D4473
- 10 minutes @ 100°C, ASTM D4473

Alternate Cure Schedule

- 5 hours @ 25°C, ASTM D4473
- 30 minutes @ 100°C, ASTM D4473

TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties

Hardness, Shore 00, 30 second delay, ASTM D2240	40
Heat Capacity, ASTM D1269, J/g-K	1.0

Electrical Properties

Dielectric Strength, ASTM D149, V/mil	275
Dielectric Constant, ASTM D150, 1,000Hz	6.4
Volume Resistivity, ASTM D257, ohm-meter	1×10 ¹⁰

Thermal Properties

Thermal Conductivity, ASTM D5470, W/(m-K)	1.5
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GENERAL INFORMATION

For safe handling information on this product, consult the Safety Data Sheet, (SDS).

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.

The above cure profiles are guideline recommendations. Cure conditions (time and temperature) may vary based on customers' experience and their application requirements, as well as customer curing equipment, oven loading and actual oven temperatures.

CONFIGURATIONS AVAILABLE

BERGQUIST GAP FILLER TGF 1450 is available with or without glass beads. Glass beads are available for order in kits or pail formats

BERGQUIST GAP FILLER TGF 1450 is supplied in:

- With or without glass beads, available for order in kits or pail formats

THAWING:

1. Allow container to reach room temperature before use.
2. DO NOT open the container before contents reach 25°C temperature. Any moisture that collects on the thawed container should be removed prior to opening the container.
3. DO NOT re-refrigerate. Once warmed to room temperature, the adhesive should not be re-refrigerated.

STORAGE

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

Optimal Storage: 5 to 25°C for a 6 month shelf life. 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 Technical Service Center or Customer Service Representative.

Conversions

$$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$$

$$\text{kV/mm} \times 25.4 = \text{V/mil}$$

$$\text{mm} / 25.4 = \text{inches}$$

$$\text{N} \times 0.225 = \text{lb}$$

$$\text{N/mm} \times 5.71 = \text{lb/in}$$

$$\text{psi} \times 145 = \text{N/mm}^2$$

$$\text{MPa} = \text{N/mm}^2$$

$$\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$$

$$\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$$

$$\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$$

$$\text{mPa}\cdot\text{s} = \text{cP}$$

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The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.

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Reference 1

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

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