



BERGQUIST GAP FILLER TGF 3000SF

September 2021

PRODUCT DESCRIPTION

BERGQUIST GAP FILLER TGF 3000SF provides the following product characteristics:

Technology	Silicone free
Appearance - Part A	Blue
Appearance - Part B	White
Appearance (cured)	Blue
Cure	Room temperature or Heat cure
Application	Thermal management, Gap Filler (2K)
Mix Ratio by weight: Part A: Part B	1 : 1
Mix Ratio by volume: Part A: Part B	1 : 1
Operating Temperature Range	-40 to 100°C

FEATURES AND BENEFITS

- Thermal Conductivity: 3.0 W/m-K
- Dispensable liquid, 2K Silicone free Gap Filler
- Room temperature cure - no oven required
- Extremely high dispense rate: Equipment dependent
- Low compression stress during assembly

BERGQUIST GAP FILLER TGF 3000SF is a non-silicone, 2-part room temperature curable gap filler suitable for use in high throughput assembly applications. With a 3.0 W/m-K thermal performance, it provides an excellent silicone-free solution required in the assembly of high performance power devices.

TYPICAL APPLICATIONS

- Power storage devices and charging equipment
- Silicone sensitive applications
- Processes requiring high dispense rate
- Applications requiring high thermal transfer and low compressive stress

TYPICAL UNCURED PROPERTIES

BERGQUIST GAP FILLER TGF 3000SF Part A

Viscosity, mPa·s (cP):

High shear rate, 1,500 s ⁻¹ , ASTM D5099	13,000
Low shear rate, 1.0 s ⁻¹ , DIN 5319	500,000
Density, ASTM D792, g/cc	3.0
Shelf Life @ 25°C, days	180

BERGQUIST GAP FILLER TGF 3000SF Part B

Viscosity, mPa·s (cP):

High shear rate, 1,500 s ⁻¹ , ASTM D5099	22,000
Low shear rate, 1.0 s ⁻¹ , DIN 53019	500,000
Density, ASTM D792, g/cc	3.0
Shelf Life @ 25°C, days	180

Mixed Properties

Work Life, ASTM D4473:

@ 25 °C, hours	>12
@ 80°C, hours	>6

TYPICAL CURE SCHEDULE

Cure Schedule

72 hours @ 25°C, ASTM D4473
3 hours @ 85°C, ASTM D4473

The above cure profiles are guideline recommendations. Cure 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, 6.35 mm thick sample, 7 days post cure	70
Heat Capacity, ASTM E1269, J/g-K	0.9
Siloxane Content, 2D4-D10, ASTM F2466, ppm	ND



Electrical Properties

Sample tested are fully cured. Sample baked 3 hours @ 85°C; Room temperature for 72 hours; Cure 24 hours @ 85°C; Room temperature for 24 hours prior to measurement.

Dielectric Constant, ASTM D150 @ 1,000 Hz	9
Dielectric Strength, ASTM D149, V/mil	250
Volume Resistivity, ASTM D257, ohm-meter	1×10 ⁸

Thermal Properties

Thermal Conductivity, ASTM D5470, W/(m-K)	3.0
---	-----

GENERAL INFORMATION

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

CONFIGURATIONS AVAILABLE

BERGQUIST GAP FILLER TGF 3000SF is available in the following configurations:

Cartridges	200cc, 400cc, 1200cc
Pail Kits	7 gallons

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 for a 180-day shelf life, in sealed containers with moisture barrier packaging.

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.

Not for product specifications

The technical data contained herein are intended as reference only. Please contact your local Henkel representative for assistance and recommendations on the specifications of this product.

Conversions

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$
 $\text{kV/mm} \times 25.4 = \text{V/mil}$
 $\text{mm} / 25.4 = \text{inches}$
 $\text{N} \times 0.225 = \text{lb/F}$
 $\text{N/mm} \times 5.71 = \text{lb/in}$
 $\text{psi} \times 145 = \text{N/mm}^2$
 $\text{MPa} = \text{N/mm}^2$
 $\text{N} \cdot \text{m} \times 8.851 = \text{lb} \cdot \text{in}$
 $\text{N} \cdot \text{m} \times 0.738 = \text{lb} \cdot \text{ft}$
 $\text{N} \cdot \text{mm} \times 0.142 = \text{oz} \cdot \text{in}$
 $\text{mPa} \cdot \text{s} = \text{cP}$

Disclaimer

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. Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Belgium NV, Henkel Electronic Materials NV, Henkel Nederland BV, Henkel Technologies France SAS and Henkel France SA please additionally note the following:

In case Henkel would be nevertheless held liable, on whatever legal ground, Henkel's liability will in no event exceed the amount of the concerned delivery.

In case products are delivered by Henkel Colombiana, S.A.S. the following disclaimer is applicable:

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. 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.

Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Corporation, or Henkel Canada Corporation, the following disclaimer is applicable:

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Henkel Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

Trademark usage

Except as otherwise noted, all trademarks in this document are trademarks of Henkel Corporation in the U.S. and elsewhere. ® denotes a trademark registered in the U.S. Patent and Trademark Office.

Reference 2