



BERGQUIST LIQUI FORM TLF 3500CGEL

June 2020

PRODUCT DESCRIPTION

Thermally Conductive, One-Part, Curable Gel Material.

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|----------------------------------------------------------|------------------------------------------------------|
| Technology | Silicone |
| Appearance | Gray paste |
| Cure | Room Temperature or Heat Cure |
| Application | Thermal management, TIM (Thermal Interface Material) |
| Application Method | Dispense from cartridge |
| Operating Temperature Range, Continuous or others | -60 to 200°C |
| UL Flammability Rating | UL 94 V-0 |

FEATURES AND BENEFITS

- Thermal Conductivity: 3.5 W/m-K
- 1K curable application gel for enhanced processing and excellent temperature, mechanical, and chemical stability
- Optimized shear thinning rheology for enhanced 1K dispense rate
- Excellent form stability (stays in place)
- Ultra-conforming, with excellent wet-out for low stress interface applications

BERGQUIST LIQUI FORM TLF 3500CGEL is a one part, high performance, thermally conductivity curable gel designed for demanding high reliability applications. The material will cure from within the application, at room temperature. Cure can be accelerated with the addition of heat.

As cured, BERGQUIST LIQUI FORM TLF 3500CGEL provides a soft, thermally conductive, form-in place elastomer that is ideal for fragile assemblies, capable of filling unique and intricate air voids and gaps. It is designed for applications where highly reliable vertical gap stability is required. BERGQUIST LIQUI FORM TLF 3500CGEL requires no mixing. This material's unique formulation assures a balanced mix of high thermal conductivity, good dispensing efficiency and high thermal reliability.

TYPICAL APPLICATIONS

- Automotive electronics (HEV, NEV, batteries, ECU)
- Telecommunications
- Devices requiring low assembly pressure
- Computer and peripherals
- Between heat-generating semiconductors and a heat sink

TYPICAL PROPERTIES OF UNCURED MATERIAL

| | |
|--------------------------|-----|
| Density, ASTM D792, g/cc | 3.2 |
| Shelf Life @ -20°C, days | 270 |

TYPICAL CURE SCHEDULE

Recommended Cure

- 60 minutes @ 100°C or
- 30 minutes @ 150°C

For room temperature cure, please contact your Henkel representative for curing guidelines.

The above cure profile is a guideline recommendation. These 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

| | |
|------------------------------------------------------------------|-----|
| Dispense Rate, grams/ minute ⁽¹⁾ | 50 |
| Low Shear Viscosity, ASTM D2196, Pa·s: @ 1.0 s ⁻¹ | 560 |
| High Shear Viscosity, ASTM D2196, Pa·s: @ 100 s ⁻¹ | 220 |
| Heat Capacity, ASTM D2169, J/g·°C | 0.7 |
| Hardness, Shore 00, ASTM D2240 | 60 |

Electrical Properties

| | |
|------------------------------------------|-----|
| Dielectric Strength, ASTM D149, kV/mm | 10 |
| Dielectric Constant, ASTM D150 @ 1,000Hz | 8.2 |



Volume Resistivity @ 500 Volts, ASTM D257, 2.80×10^{11} ohm-meter

Thermal Properties

Thermal Conductivity, ASTM D5470, W/(m-K) 3.5

(1) 30cc syringe, 90 psi (621 kPa), 0.100" orifice no attachment

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.

CONFIGURATIONS AVAILABLE

BERGQUIST LIQUI FORM TLF 3500CGEL is available with glass beads optional. Glass beads are available in 7 mil configuration.

BERGQUIST LIQUI FORM TLF 3500CGEL is supplied in:

| | |
|------------|---------------------|
| Cartridges | 150cc, 300cc, 600cc |
| Pail | 1 gallon, 4.3gallon |

STORAGE

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

Optimal Storage: -20°C for a 270 days shelf life, in sealed containers with moisture barrier packaging.

Conversions

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

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