



# BERGQUIST LIQUI FORM TLF 3800LVO

July 2019

**PRODUCT DESCRIPTION**

Thermally Conductive, One-Part, Liquid Formable Gel Material.

|                                    |                                                      |
|------------------------------------|------------------------------------------------------|
| <b>Technology</b>                  | Silicone                                             |
| <b>Appearance</b>                  | Gray paste                                           |
| <b>Cure</b>                        | Pre-cure gel                                         |
| <b>Application</b>                 | Thermal management, TIM (Thermal Interface Material) |
| <b>Operating Temperature Range</b> | -60 to 200°C                                         |
| <b>UL Flammability Rating</b>      | UL 94 V-0                                            |

**FEATURES AND BENEFITS**

- Thermal Conductivity: 3.8 W/m-K
- Dispensable pre-cured gel
- Low volatility for silicone sensitive applications
- Stable viscosity in storage and in the application
- Excellent chemical stability and mechanical stability

BERGQUIST LIQUI FORM TLF 3800LVO is a high conductivity gel thermal interface material designed for demanding applications that require a balance between dispensability and low component stress during assembly and application.

BERGQUIST LIQUI FORM TLF 3800LVO is a one-part, highly conformable gel with thixotropic properties. The material is precured and requires no curing, mixing or refrigeration. Its unique formulation assures excellent thermal performance, low applied stress and reliable long-term performance.

BERGQUIST LIQUI FORM TLF 3800LVO is thixotropic and has a natural tack ensuring it forms around the component and stays in place in the application.

**TYPICAL APPLICATIONS**

- Handheld devices
- Bare die to heat spreader lid
- Filling various gaps between heat-generating devices to heat sink and housing
- Devices requiring low assembly pressure
- High value assemblies with rework
- BGA, PGA, PPGA

**TYPICAL PROPERTIES OF UNCURED MATERIAL**

|                          |     |
|--------------------------|-----|
| Density, ASTM D792, g/cc | 3.1 |
| Shelf Life @ 25°C, days  | 365 |

**TYPICAL PROPERTIES OF CURED MATERIAL****Physical Properties**

|                                                                  |       |
|------------------------------------------------------------------|-------|
| Dispense Rate, grams/minute <sup>(1)</sup>                       | 25    |
| Siloxane Content, ΣD4-D10, ASTM F2466, ppm                       | <100  |
| Heat Capacity, ASTM D2169, J/g-°C                                | 0.74  |
| Low Shear Viscosity, ASTM D2196, Pa-s:<br>@ 1.0 s <sup>-1</sup>  | 1,200 |
| High Shear Viscosity, ASTM D5099, Pa-s:<br>@ 100 s <sup>-1</sup> | 300   |

**Electrical Properties**

|                                          |                    |
|------------------------------------------|--------------------|
| Dielectric Strength, ASTM D149, V/mm     | 10,000             |
| Dielectric Constant, ASTM D150 @ 1,000Hz | 8                  |
| Volume Resistivity, ASTM D257, ohm-meter | 1×10 <sup>10</sup> |

**Thermal Properties**

|                                           |     |
|-------------------------------------------|-----|
| Thermal Conductivity, ASTM D5470, W/(m-K) | 3.8 |
|-------------------------------------------|-----|

(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 3800LVO is available with or without glass beads. Glass beads are available in 7 and 10 mil configurations.

BERGQUIST LIQUI FORM TLF 3800LVO is supplied in:

|            |                           |
|------------|---------------------------|
| Cartridges | 30cc, 150cc, 300cc, 600cc |
| Pail       | 1 gallon, 4.3gallon       |



**THAWING:**

1. If refrigerated, 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.

**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 365 day 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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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 2