



# 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, $\Sigma$ D4-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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