

## BERGQUIST® LIQUI FORM TLF 10000

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## PRODUCT DESCRIPTION

BERGQUIST® LIQUI FORM TLF 10000 is a thermally conductive, one-part liquid formable gel material.

Technology	Silicone
Appearance	Red gel
Application	Thermal management, Gel (1K)
Application method	Dispensing
Operating temperature range	-60°C to 200°C
Product benefits	<ul style="list-style-type: none"> <li>Excellent thermal cycling performance</li> <li>High gap stability</li> <li>Minimal resin bleed</li> <li>Low thermal impedance</li> <li>Excellent dispense properties</li> <li>Low stress</li> <li>Bondline thickness control</li> </ul>

## Features and benefits

- Thermal conductivity: 10 W/m-K
- Disposable pre-cured gel
- Stable viscosity in storage and in applications
- Excellent chemical stability and mechanical stability

BERGQUIST® LIQUI FORM TLF 10000 thermally conductive gel interface material is designed to meet the demanding requirements in certain telecom and other demanding applications. Its unique formulation assures a balanced mix of high thermal conductivity, excellent dispensing efficiency, and high thermal stability.

This material is specially designed to provide effective electronic component cooling capability for 5G base station and remote antenna assembly where a highly reliable vertical gap stability is required. It is most effective for gaps as narrow as  $\leq 2.5\text{mm}$ . BERGQUIST® LIQUI FORM TLF 10000 is pre-cured, requiring no mixing or refrigeration.

## Typical applications

- RRU/AAU/BBU in wireless in telecom wireless infrastructure
- Filling various gaps between heat-generating devices to heat sink
- Devices requiring low assembly pressure
- High value assemblies where rework is required

## TYPICAL PROPERTIES

Density, ASTM D792, g/cc	3.1
Shelf life @ 25°C, days	270

## Physical Properties

Viscosity, Pa·s	
Low shear rate 1.0 s <sup>-1</sup>	1,492
High shear rate 100 s <sup>-1</sup>	349
Dispense rate, EFD 30cc syringe, 90psi <sup>(1)</sup> , grams/minute <sup>(1)</sup>	22
Outgassing, % % total mass loss, STME E595, %	0.5
Flammability rating, UL 94	UL 94 V-0

## Electrical properties

Volume resistivity, 500 V DC, ASTM D257, ohm-meter	$9.0 \times 10^{11}$
Dielectric strength, ASTM D149, V/mm	7,084
Dielectric constant, @ 1 MHz	8.4

## Thermal properties

Thermal conductivity, ASTM D5470, W/mK	10
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(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).

## CONFIGURATIONS AVAILABLE

BERGQUIST® LIQUI FORM TLF 10000 is supplied in:

Cartridges	150cc
Pail	1 gallon

## Storage:

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

**Optimal Storage:** 25 °C ( $\pm 3$ ), 50% RH ( $\pm 10$ ) for a 270 days shelf life in sealed containers with moisture barrier packaging.

## 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 the specifications of this product.

## Approval and certificate

Please contact a Henkel representative for related approval or certificate of this product.



**Data ranges**

The data contained herein may be reported as a typical value. Values are based on actual test data and are verified on a periodic basis.

Temperature/Humidity Ranges: 23°C / 50% RH = 23±2°C / 50±5% RH

**Conversions**

(°C x 1.8) + 32 = °F  
 kV/mm x 25.4 = V/mil  
 mm / 25.4 = inches  
 µm / 25.4 = mil  
 N x 0.225 = lb/in  
 N/mm x 5.71 = lb/in  
 N/mm<sup>2</sup> x 145 = psi  
 MPa x 145 = psi  
 N·m x 8.851 = lb·in  
 N·m x 0.738 = lb·ft  
 N·mm x 0.142 = oz·in  
 mPa·s = cP

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