Technical Data Sheet

BERGQUIST® LIQUI FORM TLF 6500CGEL-SF

Preliminary March 2025

Product description

BERGQUIST® LIQUI FORM TLF 6500CGEL-SF provides the following product characteristics:

Technology	Silicone free
Appearance	Gray paste
Cure	Moisture cure
Application	Thermal management TIM (Thermal Interface Material)
Application method	Dispense from cartridge or pails
Operating temperature range, continuous or others ºC	-40 to 135

BERGQUIST® LIQUI FORM TLF 6500CGEL-SF is thermally conductive, one-part, curable gel sil-free material.

BERGQUIST® LIQUI FORM TLF 6500CGEL-SF is a one part,high performance, thermally conductivity, silicone-free, room temperature curable gel designed for demanding high reliability applications. Curing (skin formation) can be accelerated with heat. As cured, BERGQUIST® LIQUI FORM TLF 6500CGEL-SF 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 ideal for applications where highly reliable vertical gap stability is required. BERGQUIST® LIQUI FORM TLF 6500CGEL-SF requires no mixing or refrigerated storage. This material's unique silicone-free formulation assures a balanced mix of high thermal conductivity, good dispensing efficiency and high performance reliability.

Typical applications

- Automotive electronics (ADAS, EV, ECU)
- Telecommunications
- Devices requiring low assembly pressure
- Computer peripherals
- Between heat-generating semi conductors and a heat sink

Features and benefits

- Thermal conductivity: 6.5 W/(m·k)
- 1K curable application gel for enhanced processing and excellent temperature, mechanical, and chemical stability
- Silicone-free formulation
- Optimized shear thinning rheology for enhanced 1K dispense rate
- Excellent form stability (stays in place)
- Ultra-conforming, with excellent wet-out and low assembly stress
- Suitable for low stress interface applications

Typical properties of uncured material

EFD dispense rate, grams/minute	65
Viscosity, Pa-s:	
Low shear rate 1.0 s^{-1}, DIN 53019	650
High shear rate 1,500 s^{-1}, ASTM D5099	85
Density, ASTM D792, g/cc	3.2
Shelf life @ 25°C, days	
<150cc cartridges and smaller packaging formats	90
≥150cc cartridges and larger packaging formats	180

Typical cure schedule

Recommended cure
24 hours @ 25°C, 50% RH

Curing (skin formation) can be accelerated with heat. Please contact your Henkel representative for application note.

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.

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Typical properties of cured material

Physical properties

Siloxane content, ΣD4-D10, ASTM F2466, ppm	N/D
Heat capacity, ASTM E1269, J/g-ºC	0.8
Hardness, Shore 00:	
2 hours @ 100(2)°C	77
2 weeks @ 25°C, 50% RH	85

Electrical properties

Dielectric Strength , ASTM D149, kV/mm	12.5
Dielectric constant, ASTM D150 @ 1,000 Hz	9.5
Volume resistivity, ASTM D257, ohm-meter	2.0×10^{7}

(2) Henkel custom testing. See app note for details

Thermal properties

Thermal conductivity, ASTM D5470, W/(m·k)	6.5

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 the specifications of this product.

Configurations available
BERGQUIST® LIQUI FORM TLF 6500CGEL-SF is available with glass beads optional. BERGQUIST® LIQUI FORM TLF 6500CGEL-SF is supplied in:

Cartridges	50cc (sampling only), 600cc
Pail kits	2.1 gallon (25 kg)

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

Store in sealed, unopened containers with moisture barrier packaging as shipped from Henkel. Ensure material is at ambient conditions prior to dispensing.

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
N/mm x 5.71 = lb/in
N/mm² 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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Reference 1