Technical Data Sheet

LIQUI FORM TLF LF 3500

Known as LIQUI-FORM 3500
November 2018

PRODUCT DESCRIPTION

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

Technology	Silicone
Appearance	Gray
Cure	Heat cure or Room temperature cure
Application	Thermal management, TIM (Thermal Interface Material)
Operating Temperature Range	-60 to 200ºC
UL Flammability Rating	UL 94 V-0

FEATURES AND BENEFITS

- Thermal Conductivity: 3.5 W/m-K
- Dispensable pre-cured gel
- Stable viscosity in storage and in the application
- Excellent chemical stability and mechanical stability

LIQUI FORM TLF LF 3500 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 also in the application.

LIQUI FORM TLF LF 3500 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.

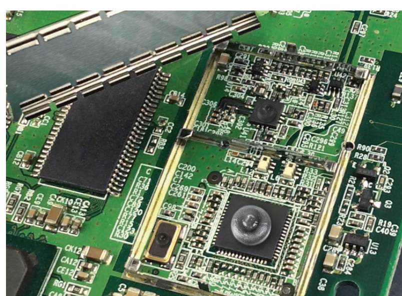
LIQUI FORM TLF LF 3500 is thixotropic and has a natural tack ensuring it forms around the component and stays in place in the application.

TYPICAL APPLICATIONS

- Handheld devices
- Bare die to heat spreader lid
- Filling various gaps between heat-generating devices to heat sinks and housings
- 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 @ 25ºC , months	6



TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties

Dispense Rate, grams/ minute [1]	40
Volumetric Expansion, @ 25 to 275ºC, ASTM E228 modified, ppm/°C	200

Electrical Properties

Dielectric Strength, ASTM D149, V/mm	10,000
Dielectric Constant, ASTM D150 @ 1,000Hz	8.1
Volume Resistivity, ASTM D257, ohm-meter	1×10^{11}

Outgassing Properties

Total Mass Loss, %, ASTM E595	0.14

Thermal Properties

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

Thermal Performance vs. Pressure

Thermal Impedance, ASTM D5470, ºC-in²/W [2]	
@ 10 psi	0.07
@ 25 psi	0.07
@ 50 psi	0.06

(1) 30cc syringe, 90 psi (621 kPa), 0.100" orifice no attachment
(2) The ASTM D5470 test fixture was utilized. The recorded values include the interfacial thermal resistance. The values are provided for reference only. Actual application performance is directly related to the surface roughness, flatness and pressure applied

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.

The above cure profiles are guideline recommendations. Cure conditions (time and temperature) may vary based on customers' experience and their application requirements, as well as customer curing equipment, oven loading and actual oven temperatures.