Technical Data Sheet

BERGQUIST BOND PLY TBP 720LMS

Known as BERGQUIST BOND-PLY LMS 1000
October 2018

PRODUCT DESCRIPTION

Low Modulus Silicone, Heat Cured, Laminating Adhesive.

Technology	Acrylic
Appearance	Light brown
Total Thickness	0.2032 mm
Application	Thermal management, Thermally conductive adhesive

BERGQUIST BOND PLY TBP 720LMS is a thermally conductive fiber reinforced heat curable laminating adhesive film. The product consists of a high performance, thermally conductive, low modulus silicone compound coated on a fiberglass weave and double lined with protective films.

The low modulus silicone design effectively absorbs mechanical stresses induced by assembly-level CTE mismatch or Shock and Vibration while providing exceptional thermal performance (vs PSA technologies) and long-term integrity.

BERGQUIST BOND PLY TBP 720LMS is typically used for fastening power components and printed circuit assemblies to heat sinks.

SHELF LIFE

BERGQUIST BOND PLY TBP 720LMS is a heat-cured material and should be stored in temperature controlled conditions. A recommended storage temperature range of 10°C should be used to maintain optimum characteristics for 90 days.

Short term (not to exceed 1 week) transportation and handling of BERGQUIST BOND PLY TBP 720LMS at room temperature, will not affect the 90 day shelf life.

TYPICAL PROPERTIES

Physical Properties

Tensile Strength, post cured, ASTM D412, psi	1,400

Adhesion Properties

Lap Shear Strength, RD 3015 Anodized Alum, psi	300

Electrical Properties

Dielectric Breakdown Voltage , post cured, ASTM D149, kVAC (1)	7.5

Thermal Properties

Thermal Conductivity , post cured, ASTM D5470, W/(m-K) (2)	0.72

Thermal Impedance vs. Lamination Pressure

Lamination Pressure, RD 2010 (3)	
TO-220 Thermal Performance (ºC/W):	
@ 20 psi	2.4
@ 75 psi	2.4

I) The ASTM D5470 test fixture was used. The recorded value includes interfacial thermal resistance. These values are provided for reference only. Actual application performance is directly related to the surface roughness, flatness and pressure applied.

2) The ASTM D5470 (Bergquist Modified) test procedure was used on post-cured Bond-Ply LMS 1000 material. The recorded value includes interfacial thermal resistance. These values are given for customer reference only.

3) TO-220 Thermal Performance testing, per The Bergquist RD2010 specification for Laminates, was completed on pre-laminated TO-220 assemblies. Lamination was completed at the pressure levels referenced above. Actual pressure during performance testing was limited to the inherent weight distribution of the TO-220 component. No additional pressure was 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.

DIRECTIONS FOR USE

1. Insure cleanliness of both interface surfaces.
2. Remove one liner (either side) from the material.
3. Hand-apply material to the heatsink interface in a manner that minimizes entrapped air.
4. Remove the remaining liner and place power component or device in desired position.
5. Place assembly into a press or clamp to attain moderate pressure (20 - 75 psi).
6. With pressure applied, heat the assembly to a minimum interface temperature of 145°C. Dwell for 10 minutes and cool to room temperature.

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APPLICATION CLEANLINESS (BONDING)

Industry standard cleaning practices (Wash & De-Ionized Water Rinse) should be followed to ensure repeatable bonding from assembly to assembly. Utilizing standard practices, Bergquist has demonstrated exceptional metal to metal bonding characteristics on untreated and anodized aluminum as well as metal to FR-4 for PC board attachment.

CONFIGURATIONS AVAILABLE

BERGQUIST BOND PLY TBP 720LMS are supplied in:

- Also available in 11 mil (0.279 mm) thickness

Conversions

(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
N x 0.225 = lb/F
N/mm x 5.71 = lb/in
psi x 145 = N/mm²
MPa = N/mm²
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

Disclaimer

Note:
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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