BERGQUIST

Technical Data Sheet

Liqui-Bond® EA 1805 (Two-Part)

September 2014

PRODUCT DESCRIPTION

Thermally Conductive, Two-Part, Liquid Epoxy Adhesive

FEATURES AND BENEFITS

- Room temperature cure
- Room temperature storage
- Thermal Conductivity: 1.8 W/m-K
- Eliminates need for mechanical fasteners
- Maintains structural bond in severe-environment applications
- Excellent chemical and mechanical stability

Liqui-Bond® EA 1805 is a two-component, epoxy based, liquid-dispensable adhesive. Liqui-Bond® EA 1805 has a thermal conductivity of 1.8 W/mK.

Liqui-Bond® EA 1805 will be supplied in a two-component format, and refrigeration is not required.

Liqui-Bond® EA 1805 has a high bond strength with room temperature cure that can be accelerated with additional heat. The high bond strength eliminates the need for fasteners and maintains structural bond in severe environments. Recommended usage is filling any surface irregularities between heat sources and heat spreaders of similar CTE. Liqui-Bond® EA 1805 is thixotropic and will remain in place during dispensing, and the material will flow easily under minimal pressure resulting in thin bondlines and very low stress placed on fragile components during assembly.

Note: To build a part number, visit our website at www.bergquistcompany.com.

TYPICAL PROPERTIES OF LIQUI-BOND EA 1805

PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD
Color / Part A	Gray	Gray	Visual
Color / Part B	Pale Yellow	Pale Yellow	Visual
Viscosity / Part A, High Shear (Pa-s) (1)	60	60	ASTM D2196
Viscosity / Part B, High Shear (Pa-s) (1)	62	62	ASTM D2196
Density (g/cc)	2.7	2.7	ASTM D792
Mix Ratio By Volume	1:1	1:1	—
Shelf Life @ 25°C (months)	6	6	—
PROPERTY AS CURED			
Hardness (Shore D) (2)	90	90	ASTM D2240
Continuous Use Temp (°F) / (°C)	-40 to 257	-40 to 125	—
Shear Strength (psi) / (MPa) (3)	450	3.1	ASTM D1002
ELECTRICAL AS CURED			
Dielectric Strength (V/mil) / (V/mm)	250	10,000	ASTM D149
Dielectric Constant (1000 Hz)	7.5	7.5	ASTM D150
Volume Resistivity (Ohm-meter)	10^{14}	10^{14}	ASTM D257
Flame Rating	V-O	V-O	U.L. 94
THERMAL AS CURED			
Thermal Conductivity (W/m-K)	1.8	1.8	ASTM D5470
CURE SCHEDULE			
Cure @ 25°C (hours)	10	10	—
Cure @ 125°C (min) (4)	10	10	—

1) Capillary Viscosity, 200/sec, Part A and B measured separately.
2) Thirty second delay value Shore D hardness scale.
3) Al to Al, cured at room temperature
4) 90% cure cycle - time after cure temperature is achieved at the interface. Ramp time is application dependent.

TYPICAL APPLICATIONS INCLUDE

- LED lighting
- Power supplies
- Discrete component to heat spreader
- Automotive lighting
- White goods

CONFIGURATIONS AVAILABLE

- Supplied in cartridge or kit form

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