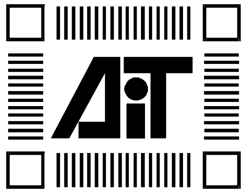

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PRIMA-BOND
ME7159

Stress-Free, Ultra High Thermally Conductive Reworkable Epoxy Paste Adhesive

IDEAL FOR:

High Power Die Attach
Substrate and Component Reworkability
Mismatched CTE's

DESCRIPTION:

ME7159 is a reworkable, diamond filled, electrically insulating and thermally conductive epoxy paste adhesive. It exhibits outstanding flexibility for bonding materials with highly mismatched CTE's (i.e., alumina to aluminum, silicon to copper). The ultra high thermal conductivity of this diamond filled material makes it useful for bonding high-powered, large area die and components.

It can be readily reworked at 80-100ºC.

TYPICAL PROPERTIES*

Property	Value
Electrical Resistivity (150ºC/ 60 min)	>1x10^{14} ohm-cm
Dielectric Strength (Volts/mil)	>750
Glass Transition Temp.(ºC)	-25 ±10%
Current Carrying Capabilities	N/A
Lap-Shear Strength	>1000 psi >6.9 N/mm²
Device Push-off Strength	>1800 psi >12.4 N/mm²
Hardness (Type)	80-100 (A) 33-63 (D) ±10
Cured Density (gm/cc)	2.3 ±10%
Thermal Conductivity	80 Btu-in/hr-ft²-ºF ±10% 11.4 W/m-ºC ±10%
Linear Thermal Expansion Coeff. (ppm/ºC)	120 ±15%
Maximum Continuous Operation Temp. (ºC)	<150
Pot Life	
Avg. Viscosity(0.5 rpm, 25ºC) (Brookfield DV-1,spindle CP51)	295,000 cp ±20%
Thixotropic Index	

* Properties given are typical values and not intended for use in preparing specifications. The user is advised to evaluate the product in the manner the product is intended to be used in manufacturing and in the final product.

AVAILABILITY:

ME7159 is available in syringes for automatic needle dispense applications or in jars. Both viscosity and thixotropic index can be modified to your specific needs.

APPLICATION PROCEDURES:

(1) Thaw at ambient for 30 minutes before using.

(2) Dispense adhesive onto clean substrate.

(3) Pre-bake adhesive at 60ºC from 30 to 60 minutes or 80ºC for 30 minutes to achieve optimum bonding. Pre-bake not needed in all applications.**

(4) Cure according to one of the recommended schedules.

CURE SCHEDULES:

Temperature	Time	Pressure
80ºC	8 hr	
100ºC	4 hr	
125ºC	2 hr	
150ºC	1 hr	

** For higher temperature curing, above 125ºC and/or bonding area of over 1cm x 1cm, it is recommended that the dispensed adhesive be pre-baked, open-faced without parts at 60ºC for 60 to 120 minutes or 80ºC for 45-90 minutes before parts are mounted and cured.

Version 2.1 by adding back the zero degree storage temperature for 3 months in the shelf life section of this datasheet. All other sections remain the same.

SHELF LIFE:

Storage temperature	Shelf Life
-40ºC	1 year
<0ºC	3 months
Pot Life	5 days @ <25ºC

CAUTION: This product may cause skin irritation. Avoid skin contact. If contact does occur, wash immediately with soap and water. Please refer SDS for more details.

The information contained herein is believed to be reliable. All recommendations or suggestions are made without guarantee inasmuch as conditions and methods of commercial use are beyond our control. Properties given are typical values and not intended for use in preparing specifications. The user is advised to evaluate the product in the manner the product is to be used in manufacturing and in the final product. Under no circumstance shall AI Technology be liable for accidental, consequential or other damages arising from the use or handling of this product.

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