Ablestik™

ABLEBOND® 84-1LMIT

HIGH THERMAL CONDUCTIVITY CHIP ATTACH ADHESIVE

TYPICAL PROPERTIES		TEST METHOD
Viscosity @ 25°C:	50,000 cps	PT-42
Filler:	Silver	
Work Life @ 25°C:	2 weeks	PT-54
Cure Condition:	1 hour @ 150°C	
Cure Option:	2 hours @ 125°C	
Die Shear Strength (80 mil² IC)		MT-4
Au to Au @ 25°C:	6,000 psi	
Volume Resistivity:	0.00007 ohm-cm	PT-46
Ionic Data		CT-13
Chloride:	30 ppm	
Sodium:	10 ppm	
Potassium:	2 ppm	
Water Extract		CT-6
Conductivity:	10 µmhos/cm	
pH:	5.5	
Glass Transition Temperature (Tg):	103°C	MT-9
Coefficient of Thermal Expansion		
Below Tg:	52 ppm/°C	MT-9
Above Tg:	20 ppm/°C	
Weight Loss @ 300°C:	0.19%	PT-20
Thermal Conductivity @ 121°C:	2.5 BTU $ft^{-1}hr^{-1}{}^{\circ}F^{-1}$	
Storage Life @ –40°C:	1 year	PT-40
		PT-13

The figures shown above are typical values only. If you need to write a specification, please request our current Standard Release Specification.

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DESCRIPTION

Ablebond® 84-1LMIT electrically conductive epoxy adhesive exhibits a thermal conductivity three times higher than other silver filled epoxies.

This high purity, low outgassing adhesive meets the supplier requirements of Method 5011 when cured 2 hours at 150°C. See reverse side for results when tested to Method 5011.

Ablebond 84-1LMIT adhesive is solvent-free, making it suitable for application by syringe dispensing or screen printing (200-mesh). For applications using a finer mesh screen, please refer to Ablebond 84–1LMIT1 adhesive.

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Ablebond® 84-1LMIT

PROPERTIES	TEST RESULTS	MIL-STD-883C, METHOD 5011 SUPPLIER REQUIREMENTS
Pot Life:	2 weeks	1 hour (minimum)
Shelf Life:	1 year @ –40°C	For 1 component systems, 1 year @ –40°C
TGA Weight Loss @ 300°C:	0.19%	1.0%
Ionic Impurities		
Conductivity of Water Extract:	10 µmhos/cm	45 µmhos/cm
pH:	5.5	4.0 - pH - 9.0
Chloride:	30 ppm	300 ppm
Sodium:	10 ppm	50 ppm
Potassium:	2 ppm	50 ppm
Bond Strength[1]		
@ 25°C:	5000 psi	870 psi
@ 25°C after 1000 hours @ 150°C:	3600 psi	870 psi
Thermal Conductivity:	4.3 Watt/m°K (2.5 BTU $ft^{-1}hr^{-1}°F^{-1}$)	1.5 Watt/m°K (0.87 BTU $ft^{-1}hr^{-1}°F^{-1}$)
Volume Resistivity		
@ 25°C:	0.00007 ohm-cm	0.0005 ohm-cm
@ 60°C:	0.00008 ohm-cm	0.0005 ohm-cm
@ 150°C:	0.00009 ohm-cm	0.0005 ohm-cm
@ 25°C after 1000 hours @ 150°C:	0.00005 ohm-cm	0.0005 ohm-cm
Coefficient of Linear Thermal Expansion		
Below Tg:	52 ppm/°C	65 x 10^{-6} in/in/°C
Above Tg:	200 ppm/°C	300 x 10^{-6} in/in/°C

[1] **NOTE: A 2-hour cure at 150°C is necessary to meet the die shear requirement at 150°C as listed in Method 5011.**

INSTRUCTIONS

Apply adhesive as required. Assemble bonds. Cure at the recommended cure cycle(s).

AVAILABILITY

This adhesive is available in a variety of package sizes, ranging from 1cc to 1 pound.

STORAGE LIFE

Ablebond 84-1LMIT adhesive may be stored up to 1 year at –40°C.

CAUTION This product may cause skin irritation in sensitive persons. Avoid skin contact. If contact does occur, wash area immediately with soap and water. Please refer to Material Safety Data Sheet (OSHA) for more details.

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