LEWVAC Quality Components For Vacuum Technology

INTRODUCTION

LewVac A-H21D[†] is a two component, high Tg, silver-filled epoxy adhesive designed for chip bonding in microelectronic and optoelectronic applications.

ADVANTAGES & APPLICATION NOTES

• Extended pot-life and can be cured at relatively low temperatures such as 80°C.

• Designed to be used in the 300°C range for applications such as wire bonding operations and eutectic lid-sealing processes.

· Contains no solvents or thinners. NASA approved, low outgassing epoxy

• Also suggested for hybrid - aerospace circuits found in Rf / Microwave devices like cockpits and satellites.

• Paste-like rheology allows for application by commercial dispensing equipment, stamping, screen printing, or by hand with spatula or toothpick.

• Compatible with Au-plated ceramic substrates found in traditional and custom hybrids.

Number Of Components	Two
Mix Ratio By Weight:	10:1
Specific Gravity Part A Part B	2.45 2.14
Pot Life	15 Hours
Shelf Life @ Room Temperature	1 Year
Minimum Bond Line Cure Schedule* @ 150°C @ 120°C @ 80°C	5 Minutes 15 Minutes 90 Minutes

Note: Container(s) should be kept closed when not in use. For filled systems, mix the contents of each container (A&B) thouroughly before mixing the two together.

TYPICAL PROPERTIES: (To be used as a guide only, not as a specification. Data below is not guaranteed. Different batches, conditions and applications yield differing results; Cure condition: 150°C/1 hour. * denotes test on lot acceptance basis)

THERMAL PROPERTIES		
Thermal Conductivity	1.0 W/mK	
ELECTRICAL PROPERTIES		
Volume Resistivity @23°C*	≤0.0009 Ohm-cm	
OUTGASSING PROPERTIES		
TML %	0.19	
CVCM %	0.00	

PHYSICAL PROPERTIES		
Colour*	Part A - Silver Part B - Silver	
Consistency*	Smooth paste	
Viscosity: (20rpm/@ 23°C)*	14,000-20,400cPs	
Thixotropic Index	2.62	
Glass Transition Temp: (Tg) (Dynamic cure 20-200°C /ISO 25 Min; Ramp -10 - 200°C @ 20°C/Min)	>100°C	
Coefficient of Thermal Expansion (CTE): Below Tg Above Tg	26x10 ⁻⁶ in/in/°C 124x10 ⁻⁶ in/in/°C	
Shore D Hardness:	60	
Lap Shear Strength @ 23°C	1,504psi	
Die Sheer Strength @ 23°C	>5kg/1,700psi	
Degradation Temperature: (TGA)	457°C	
Weight Loss: @200°C @250°C @300°C	0.20% 0.21% 0.35%	
Operating Temp: Continuous Intermittant	-55°C to 250°C -55°C to 350°C	
Storage Modulus @23°C	712,559psi	
lons: Cl ⁻ Na ⁺ NH₄ ⁺ K ⁺	64ppm 72ppm 121ppm	
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[†] Manufactured by - Epoxy Technology, Inc., USA.

LDS910001/4 Page 1 of 1