

INTRODUCTION

LewVac A-H27D[†] is a two component, silver-filled epoxy adhesive designed for semiconductor and hybrid-microelectronic packaging applications.

ADVANTAGES & APPLICATION NOTES

- Rheology provides a smooth paste with excellent handling characteristics and a reasonable pot life. It can be machine-dispensed, screen printed, stamped, or applied by hand using spatula, toothpick, or many other applicators.
- Suggested for the following:
- Semiconductor applications such as Au-plated chips, Si, GaAs, Cu or Ag based lead-frames and die-paddles, JEDEC plastic IC packaging using transfer molded encapsulation processes.
- Hybrid micro-electronics; active and passive SMDs on ceramic substrates, Au and Ag-Pd contact pads, chip caps and resistors, inductors, quartz crystals, oscillators, making or repairing conductive traces on the PCB, EMI/RF shielding of the package, near-hermetic sealing, component or package grounding. Packages like DIP, or TO-can format.
- PCB level; COB die attach, substrates can be rigid like FR4 and BT, or flex like Kapton.
- NASA approved low outgassing epoxy.
- Designed to withstand TC wire bonding temperatures, or hybrid lid-seal processes exceeding 300°C.

Number Of Components	Two
Mix Ratio By Weight:	10:1
Specific Gravity	
Part A	3.79
Part B	1.22
Pot Life	85 Hours
Shelf Life @ Room Temperature	1 Year
Minimum Bond Line Cure Schedule* @ 150°C	1 Hour

Note: Container(s) should be kept closed when not in use. For filled systems, mix the contents of part A thoroughly 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	1.2 W/mK
ELECTRICAL PROPERTIES	
Volume Resistivity @23°C*	≤0.0005 Ohm-cm
OUTGASSING PROPERTIES	
TML %	0.52
CVCM %	0.09

PHYSICAL PROPERTIES	
Colour*	Part A - Silver Part B - Amber
Consistency*	Smooth paste
Viscosity: (20rpm/@ 23°C)*	2,500-4,000cPs
Thixotropic Index	1.3
Glass Transition Temp: (Tg) (Dynamic cure 20-200°C /ISO 25 Min; Ramp -10 - 200°C @ 20°C/Min)	>80°C
Coefficient of Thermal Expansion (CTE): Below Tg Above Tg	29x10 ⁻⁶ in/in/°C 116x10 ⁻⁶ in/in/°C
Shore D Hardness:	55
Lap Shear Strength @ 23°C	1,288psi
Die Sheer Strength @ 23°C	>15kg/5,100psi
Degradation Temperature: (TGA)	413°C
Weight Loss: @200°C @250°C @300°C	0.49% 0.50% 0.63%
Operating Temp: Continuous Intermittant	-55°C to 225°C -55°C to 325°C
Storage Modulus @23°C	539,400psi
Ions: Cl ⁻ Na ⁺ NH ₄ ⁺ K ⁺	8ppm 25ppm 7ppm 10ppm
Particle Size*	≤45 Microns

[†] Manufactured by - Epoxy Technology, Inc., USA.