

INTRODUCTION

LewVac A-H77[†] is a two component, thermally conductive, electrically insulating epoxy system designed for lid sealing hybrids found in hermetic packaging of microelectronics. Lids can be ceramic, glass, aluminium or kovar. Package types can be plastic, metal cases or ceramic.

ADVANTAGES & APPLICATION NOTES

- High temperature epoxy. Coatings on metals have been subjected to temperatures as high as 260°C without bond failure; can also resist >300°C processes found in ceramic or hermetic packaging.
- Rheology provides a soft, smooth, flowing paste with excellent handling characteristics; low viscosity allows it to be poured or cast into shape for potting applications; compatible with automated dispense equipment, screen printing, or stamping techniques.
- Available in smaller particle size, if needed. Also available in higher viscosity for better non-flow properties. Contact techserv@epotek.com for your best match.
- Excellent solvent and chemical resistance - ideal for harsh environments found in aircraft, under-hood automotive, medical, and petrochemical refineries such as down-hole applications.
- Can provide near hermetic seals in the packaging of MEMs devices, like pressure sensors or accelerometers, packaged in TO-cans.
- NASA approved low outgassing epoxy.
- Suggested for ultra-high vacuum applications.
- It can also be used for sealing of optical filter windows found in scientific OEM or sensor devices.

Number Of Components	Two
Mix Ratio By Weight:	100:15
Specific Gravity	
Part A	2.70
Part B	1.22
Pot Life	6 Hours
Shelf Life @ Room Temperature	1 Year
Minimum Bond Line Cure Schedule* @ 150°C	1 Hour
2-Step Cure	
100°C	1 Hour
120°C	2 Hours (post cure)

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	0.66 W/mK
ELECTRICAL PROPERTIES	
Dielectric Constant (1KHz)	5.64
Dissipation Factor (1KHz)	0.006
Volume Resistivity @23°C	≥1x10 ¹³
OUTGASSING PROPERTIES	
TML %	0.22
CVCM %	0.00

PHYSICAL PROPERTIES	
Colour*	Part A - Grey Part B - Amber
Consistency*	Smooth pourable paste
Viscosity: (20rpm/@ 23°C)*	6000-12000cPs
Thixotropic Index	1.4
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	30x10 ⁻⁶ in/in/°C 130x10 ⁻⁶ in/in/°C
Shore D Hardness:	90
Lap Shear Strength @ 23°C	1,523psi
Die Sheer Strength @ 23°C	>5kg/1,700psi
Degradation Temperature: (TGA)	405°C
Weight Loss: @200°C @250°C @300°C	0.15% 0.38% 1.47%
Operating Temp: Continuous Intermittant	-55°C to 250°C -55°C to 350°C
Storage Modulus @23°C	950,693psi
Particle Size*	≤50 Microns

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