

Number of Components:	Two	Minimum Bond Line Cure Schedule*:	
Mix Ratio By Weight:	10:1	150°C	1 Hour
Specific Gravity:			
Part A	3.79		
Part B	1.22		
Pot Life:	8 Hours		
Shelf Life:	One year at room temperature		

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. *Please see Applications Note available on our website.

Product Description:

EPO-TEK[®] H27D is a two component, silver-filled epoxy adhesive designed for semiconductor and hybrid-microelectronic packaging applications.

EPO-TEK[®] H27D 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.
- Passes NASA low outgassing standard ASTM E595 with proper cure - <http://outgassing.nasa.gov/>
- Designed to withstand TC wire bonding temperatures, or hybrid lid-seal processes exceeding 300°C.

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)

Physical Properties:	
*Color: Part A: Silver Part B: Amber	Weight Loss:
*Consistency: Smooth paste	@ 200°C: 0.49%
*Viscosity (@ 100 RPM/23°C): 2,500 – 4,000 cPs	@ 250°C: 0.50%
Thixotropic Index: 1.3	@ 300°C: 0.63%
*Glass Transition Temp.(Tg): ≥ 80°C (Dynamic Cure 20—200°C /ISO 25 Min; Ramp -10—200°C @ 20°C/Min)	Operating Temp:
Coefficient of Thermal Expansion (CTE):	Continuous: - 55°C to 225°C
Below Tg: 29 x 10 ⁻⁶ in/in/°C	Intermittent: - 55°C to 325°C
Above Tg: 116 x 10 ⁻⁶ in/in/°C	Storage Modulus @ 23°C: 539,400 psi
Shore D Hardness: 55	Ions: Cl ⁻ 8 ppm
Lap Shear Strength @ 23°C: 1,288 psi	Na ⁺ 25 ppm
Die Shear Strength @ 23°C: ≥ 15 Kg / 5,100 psi	NH ₄ ⁺ 7 ppm
Degradation Temp. (TGA): 413°C	K ⁺ 10 ppm
	*Particle Size: ≤ 45 Microns
Electrical Properties:	
*Volume Resistivity @ 23°C: ≤ 0.0005 Ohm-cm	
Thermal Properties:	
Thermal Conductivity: 1.2 W/mK	

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