EPO-TEK® H77 Black

Technical Data Sheet

For Reference Only

Thermally Conductive Epoxy

Number of Components: Two
Mix Ratio By Weight: 100:15
Specific Gravity:
- Part A 2.53
- Part B 1.22

Pot Life: 6 Hours
Shelf Life: One year at room temperature

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 parts together. *Please see Applications Note available on our website.*

Product Description:

EPO-TEK® H77 Black is a two component, thermally conductive, electrically insulating epoxy system designed for lid-sealing of hybrids found in hermetic packaging of micro-electronics. Lids can be ceramic, glass, aluminum or kovar. Package types can be plastic, metal cases or ceramic.

EPO-TEK® H77-BLACK Advantages & Application Notes:

- Very high temperature epoxy. Coatings on metals have been subjected to temperatures as high as 260°C without bond failure. It can also resist >300°C processes found in ceramic or hermetic packaging.
- Rheology provides a soft, smooth, flowing paste with excellent handling characteristics. Its low viscosity nature allows it to be poured or cast into shape for potting applications. It is compatible with automated dispense equipment, screen printing or stamping techniques.
- Excellent solvent and chemical resistance. Excellent for harsh chemical environments found in aircraft, under-hood automotive, medical and petrochemical refineries like down-hole applications.
- It provides near hermetic seals in the packaging of MEMs devices, such as pressure sensors or accelerometers, packaged in TO-cans.
- Suggested for ultra-high vacuum applications.
- It can be also be used for sealing of optical filter windows found in scientific OEM or sensor devices.

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: Black **Part B:** Amber	**Die Shear Strength @ 23°C:** ≥ 5 Kg / 1,700 psi
***Consistency:** Smooth pourable paste	**Degradation Temp. (TGA):** 405°C
***Viscosity (@ 20 RPM/23°C):** 6,000 – 12,000 cPs	**Weight Loss:**
Thixotropic Index: 1.72	**@ 200°C:** 0.15%
***Glass Transition Temp.(Tg):** ≥ 75°C (Dynamic Cure 20—200°C /ISO 25 Min; Ramp -40—200°C @ 20°C/Min)	**@ 250°C:** 0.38%
	@ 300°C: 1.47%
Coefficient of Thermal Expansion (CTE):	**Operating Temp:**
Below Tg: 38 x 10^{-6} in/in/°C	**Continuous:** - 55°C to 250°C
Above Tg: 156 x 10^{-6} in/in/°C	**Intermittent:** - 55°C to 350°C
Shore D Hardness: 90	**Storage Modulus @ 23°C:** 904,655 psi
Lap Shear Strength @ 23°C: 1,523 psi	***Particle Size:** ≤ 50 Microns
Thermal Properties:	
Thermal Conductivity: 0.66 W/mK	
Electrical Properties:	
Dielectric Constant (1KHz): 5.91	**Volume Resistivity @ 23°C:** ≥ 2.8 x 10^{13} Ohm-cm
Dissipation Factor (1KHz): 0.008	

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