

Number of Components: Single  
 Mix Ratio By Weight: N/A  
 Specific Gravity: 1.68  
 Part A  
 Part B  
 Pot Life\*: 28 Days  
 Shelf Life: One year at -40°C

Minimum Bond Line Cure Schedule\*\*:  
 180°C 1 Hour

Note: Container(s) should be kept closed when not in use. For filled systems, mix contents of container thoroughly.

\*Complies with MIL-STD-883, Method 5011 Section 3.4.3

\*\*Please see Applications Note available on our website. Material should be brought to room temperature before opening the container.

### Product Description:

EPO-TEK<sup>®</sup> H65-175MP is a single component, alumina-filled epoxy for military hybrid die and component attach. It can also be used for semiconductor and high temperature ceramic and vacuum packaging.

### EPO-TEK<sup>®</sup> H65-175MP Advantages & Application Notes:

- Viscosity is suitable for automatic syringe dispensers, although it can be applied by screen printing or manual hand operations.
- Performs exceptionally well as a die-attach for small chips such as GaAs, LEDs and diodes, as well as SMDs.
- Capable of resisting 260°C green reflow process, low outgassing in hermetic lid-seal processes near 300°C, and organic burn-in up to 150°C/1000 hours storage.
- Certified to MIL-STD 883/Test Method 5011 –yields low levels of water extractable monovalent ions such as Chlorides.
- Capable of JEDEC Level II die-attach packaging on die-paddles and lead-frames.
- Widely used epoxy; popular choice for non-silver-filled die-attach epoxies; opto-packaging, hybrids, and many types of substrates including kovar, ceramic and BT.
- Available in many different viscosity ranges – contact Technical Services at [techserv@epotek.com](mailto:techserv@epotek.com) for best recommendation
- Can be used as non conductive staking epoxy, in conjunction with EPO-TEK<sup>®</sup> H35-175MP for attaching SMDs to the hybrid circuit.

**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: 180 °C/1 hour ; \* denotes test on lot acceptance basis)

Physical Properties:	
*Color: White	Weight Loss:
*Consistency: Smooth paste	*@ 200°C: 0.10%
*Viscosity (@ 2.5 RPM/23°C): 80,000 – 120,000 cPs	@ 250°C: 0.16%
Thixotropic Index: 1.87	@ 300°C: 0.30%
*Glass Transition Temp.(Tg): ≥ 100°C (Dynamic Cure 20—300°C /ISO 25 Min; Ramp -10—200°C @ 20°C/Min)	Operating Temp:
Coefficient of Thermal Expansion (CTE):	Continuous: - 55°C to 200°C
Below Tg: 38 x 10 <sup>-6</sup> in/in/°C	Intermittent: - 55°C to 300°C
Above Tg: 136 x 10 <sup>-6</sup> in/in/°C	Storage Modulus @ 23°C: 816,394 psi
Shore D Hardness: 95	*Ions: Cl <sup>-</sup> < 200 ppm
Lap Shear Strength @ 23°C: > 2,000 psi	Na <sup>+</sup> < 50 ppm
*Die Shear Strength @ 23°C: ≥ 20 Kg / 6,800 psi	NH <sub>4</sub> <sup>+</sup> 38 ppm
Degradation Temp. (TGA): 397°C	K <sup>+</sup> < 50 ppm
	*Particle Size: ≤ 20 Microns
Thermal Properties:	
Thermal Conductivity: 0.794 W/mK	
Electrical Properties:	
Dielectric Constant (1KHz): 5.3	Volume Resistivity @ 23°C: ≥ 1.2 x 10 <sup>14</sup> Ohm-cm
Dissipation Factor (1KHz): 0.011	

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