

Number of Components:	Two	Minimum Bond Line Cure Schedule*:	
Mix Ratio By Weight:	10:1	150°C	5 Minutes
Specific Gravity:		120°C	15 Minutes
Part A	2.45	80°C	90 Minutes
Part B	2.14		
Pot Life:	15 Hours		
Shelf Life:	One year at room temperature		

Note: Container(s) should be kept closed when not in use. For filled systems, mix contents of each container (A & B) thoroughly before mixing the two together. *Please see Applications Note available on our website.

Product Description:

EPO-TEK[®] H21D is a two component, high Tg, silver-filled epoxy adhesive designed for chip bonding in microelectronic and optoelectronic applications.

EPO-TEK[®] H21D Advantages & Application Notes:

- Extended pot-life and can be cured at relatively low temperatures such as 80°C.
- Designed to be used in the 300°C range for applications such as wire bonding operations and eutectic lid-sealing processes.
- "Contains no solvents or thinners. Passes NASA low outgassing standard ASTM E595 with proper cure - <http://outgassing.nasa.gov/>
- Also suggested for hybrid - aerospace circuits found in Rf / Microwave devices like cockpits and satellites.
- Paste-like rheology allows for application by commercial dispensing equipment, stamping, screen printing, or by hand with spatula or toothpick.
- Compatible with Au-plated ceramic substrates found in traditional and custom hybrids.

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: Silver	Weight Loss:
*Consistency: Smooth paste	@ 200°C: 0.20%
*Viscosity (@ 20 RPM/23°C): 14,000 – 20,400 cPs	@ 250°C: 0.21%
Thixotropic Index: 2.62	@ 300°C: 0.35%
*Glass Transition Temp.(Tg): ≥ 100°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 250°C
Below Tg: 26 x 10 ⁻⁶ in/in/°C	Intermittent: - 55°C to 350°C
Above Tg: 124 x 10 ⁻⁶ in/in/°C	Storage Modulus @ 23°C: 712,559 psi
Shore D Hardness: 60	Ions: Cl ⁻ 64 ppm
Lap Shear Strength @ 23°C: 1504 psi	Na ⁺ 72 ppm
Die Shear Strength @ 23°C: ≥ 5 Kg / 1,700 psi	NH ₄ ⁺ 121 ppm
Degradation Temp. (TGA): 457°C	K ⁺
	*Particle Size: ≤ 45 Microns
Electrical Properties:	
*Volume Resistivity @ 23°C: ≤ 0.0009 Ohm-cm	
Thermal Properties:	
Thermal Conductivity: 1.0 W/mK	

Polytec PT GmbH Polymere Technologien
Polytec-Platz 1-7 76337 Waldbronn Tel.: 0049 (0) 7243 604 400 E-Mail: info@polytec-pt.de
www.polytec-pt.de

Epoxyes and Adhesives for Demanding Applications™

This information is based on data and tests believed to be accurate. Epoxy Technology, Inc. makes no warranties (expressed or implied) as to its accuracy and assumes no liability in connection with any use of this product.

Für weitere Auskünfte stehen Ihnen unsere Anwendungstechniker gerne unter Tel. (+49) 07243-604-400 oder per E-mail: info@polytec-pt.de zur Verfügung.

Zur Beachtung:

Vorstehende Angaben können nur allgemeine Hinweise sein. Bei den aufgeführten Eigenschaften und Leistungsmerkmalen handelt es sich um circa-Werte, diese sind nicht Teil der Produktspezifikation. Wegen der außerhalb unseres Einflusses liegenden Verarbeitungs- und Anwendungsbedingungen und der Vielzahl unterschiedlicher Materialien empfehlen wir, in jedem Fall zunächst ausreichende Eigenversuche durchzuführen. Eine Haftung für konkrete Anwendungsergebnisse kann daher aus den Angaben und Hinweisen in diesem Merkblatt nicht abgeleitet werden.

Mit Erscheinen dieser Ausgabe verlieren alle vorhergehenden technischen Merkblätter Ihre Gültigkeit. Sicherheitsrelevante Daten können dem Sicherheitsdatenblatt entnommen werden.

Änderungen vorbehalten / Stand: 06/2010