

Number of Components:	Single	Minimum Bond Line Cure Schedule*:	
Mix Ratio By Weight:	N/A	200°C	1 Hour
Specific Gravity:	2.81	180°C	2 Hours
Part A			
Part B			
Pot Life (closed container):	28 Days	Dry Time:	5 Days
Shelf Life:	One year refrigerated		

*Note: Container(s) should be kept closed when not in use. For filled systems, mix contents thoroughly.
Please see Applications Note available on our website.

Product Description:

EPO-TEK[®] E3081 is a single component, high temperature grade, silver-filled, electrically and thermally conductive adhesive designed for semiconductor die-attach and hybrid microelectronics packaging applications found in military, medical, industrial and aerospace industries.

EPO-TEK[®] E3081 Advantages & Application Notes:

- NASA approved low outgassing adhesive; <http://outgassing.nasa.gov/>.
- Product yields a long pot-life of several days.
- The viscosity and thixotropic nature allow it to be screen printed, or automatic dispensed in mass production, although other techniques can be used.
- Suggested applications:
 - Semiconductor:
 - Low modulus, low stress die attach adhesive for large chips, components, or PCB/substrates exceeding 500 mil x 500 mil.
 - Advanced packaging such as μ BGAs, μ CSP, SiP, and 3D stacked die. Adhesion to Au, lead-frames, Ag-Pd, Cu, Ag and lead-frames.
 - Compatible with substrates such as ceramic, FR4, and BT.
 - Hybrids: Bonding die and SMDs onto the circuit: making electrical interconnects.
 - Thermal Management: A high temperature heat-sink for hostile environments and packages.
- A faster cure version is available: contact techserv@epotek.com for your best recommendation.

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: 200°C/1 Hour ; * denotes test on lot acceptance basis)*

Physical Properties:	
*Color: Silver	Weight Loss:
*Consistency: Smooth paste	@ 200°C: 0.03%
*Viscosity (@ 50 RPM/23°C): 5,000 – 8,000 cPs	@ 250°C: 0.14%
Thixotropic Index: 6.3	@ 300°C: 0.40%
Glass Transition Temp.(Tg): 177°C	Operating Temp:
(Oven Cure Ramp -10—300°C @ 20°C/Min)	Continuous: - 55°C to 225°C
Coefficient of Thermal Expansion (CTE):	Intermittent: - 55°C to 325°C
Below Tg: 27×10^{-6} in/in/°C	Storage Modulus @ 23°C: 277,864 psi
Above Tg: 86×10^{-6} in/in/°C	Ions: Cl ⁻ 55 ppm
Shore D Hardness: 50	Na ⁺ 22 ppm
Lap Shear Strength @ 23°C: 416 psi	NH ₄ ⁺ 3 ppm
Die Shear Strength @ 23°C: ≥ 5 Kg / 1,700 psi	K ⁺ 1 ppm
Degradation Temp. (TGA): 382°C	*Particle Size: ≤ 20 Microns
Electrical Properties:	
*Volume Resistivity @ 23°C: ≤ 0.00009 Ohm-cm	
Thermal Properties:	
Thermal Conductivity: 10.6 W/mK	

Polytec PT GmbH Polymere Technologien
Polytec-Platz 1-7 76337 Waldbronn Tel: 07243 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.

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: 04 /2009