EPO-TEK® EJ2189

Technical Data Sheet
For Reference Only
Electrically Conductive Epoxy

Date:	November 2019		**Recommended Cure: 150°C / 1 Hour**
Rev:	VIII		
No. of Components:	Two		Minimum Alternative Cure(s):
Mix Ratio by Weight:	10 : 1		*May not achieve performance properties listed below*
Specific Gravity:	Part A: 3.43	Part B: 0.94	150°C / 15 Minutes
Pot Life:	4 Hours		100°C / 1 Hour
Shelf Life- Bulk:	One year at room temperature		80°C / 3 Hours
Shelf Life- Syringe:	One year at -40°C		23°C / 3 Days

NOTES:

- Container(s) should be kept closed when not in use.
- Filled systems should be stirred thoroughly before mixing and prior to use.
- Performance properties (rheology, conductivity, others) of the product may vary from those stated on the data sheet when bi-pak/syringe packaging or post-processing of any kind is performed. Epoxy's warranties shall not apply to any products that have been reprocessed or repackaged from Epoxy's delivered status/container into any other containers of any kind, including but not limited to syringes, bi-paks, cartridges, pouches, tubes, capsules, films or other packages.
- Syringe packaging will impact initial viscosity and effective pot life, potentially beyond stated parameters.

Product Description: EPO-TEK® EJ2189 is an electrically conductive, silver-filled epoxy paste. This two component system is designed for low temperature curing from ambient to 80°C, although other heat cures can be used.

Typical Properties: Cure condition: Varies as required Different batches, conditions & applications yield differing results. Data below is not guaranteed. To be used as a guide only, not as a specification. * denotes test on lot acceptance basis

PHYSICAL PROPERTIES:				
* Color (before cure):	Part A: Silver		Part B: Amber	
* Consistency:	Smooth thixotropic paste			
* Viscosity (23°C) @ 1 rpm:	55,000-90,000		cPs	
Thixotropic Index:	5.2			
* Glass Transition Temp:	≥ 30		°C (Dynamic Cure: 20-200°C/ISO 25 Min; Ramp -10-200°C @20°C/Min)	
Coefficient of Thermal Expansion (CTE):				
Below Tg:	53		x 10^{-6} in/in°C	
Above Tg:	107		x 10^{-6} in/in°C	
Shore D Hardness:	60			
Lap Shear @ 23°C:	1,480		psi	
Die Shear @ 23°C:	≥ 9		Kg	3,200 psi
Degradation Temp:	316		°C	
Weight Loss:				
@ 200°C:	0.31		%	
@ 250°C:	0.65		%	
@ 300°C:	1.93		%	
Suggested Operating Temperature:	< 260		°C (Intermittent)	
Storage Modulus:	275,557		psi	
Ion Content:	Cl^-:	169 ppm	Na^+:	15 ppm
	NH_4^+:	40 ppm	K^+:	1 ppm
* Particle Size:	≤ 45		microns	

ELECTRICAL AND THERMAL PROPERTIES:		
Thermal Conductivity:	1.4	W/mK
* Volume Resistivity @ 23°C (150°C/1 Hour):	≤ 0.0005	Ohm-cm
* Volume Resistivity @ 23°C (80°C/3 Hours):	≤ 0.005	Ohm-cm
* Volume Resistivity @ 23°C (25°C/40-60%RH/3 Day cure):	≤ 0.009	Ohm-cm

EPOXY TECHNOLOGY, INC.
14 FORTUNE DRIVE, BILLERICA, MA 01821 (978) 667-3805, FAX (978) 663-9782
www.epotek.com

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EPO-TEK® EJ2189 Advantages & Suggested Application Notes:

- Ease of use: smooth thioxtropic paste allows for automated dispensing, stamping, brushing, or hand applications.
- Suggested applications include: EMI and Rf shielding; ITO interconnects in LCDs; low temperature cryogenic cooling.
- Exhibits superior adhesion to a wide variety of substrates including most metals, ceramics, glass and plastics.
- Hybrid/micro-electronic adhesive including die-attach and substrate attach for Rf and Microwave devices.
- Provides a metallic-like layer after cure.

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