Product Information Sheet

EPO-TEK® 431

Date:	August 2021		**Recommended Cure: 150°C / 1 Hour**
Rev:	VIII		
No. of Components:	Two		Minimum Alternative Cure(s):
Mix Ratio by Weight:	100 : 2		*May not achieve performance properties listed below*
Specific Gravity:	Part A: 3.79	Part B: 1.02	80°C / 30 Minutes
Pot Life:	3 Hours		60°C / 1 Hour
Shelf Life- Bulk:	One year at room temperature		

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: A two component, copper-filled, electrically and thermally conductive epoxy for adhesive bonding in electronics. It may be used at the PCB level for inter-connecting, grounding and EMI RF shielding. Fast curing at relatively low temperatures may be realized. Higher viscosity version of EPO-TEK® 430.

Typical Properties: Cure condition: 150°C / 1 Hour 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: Brown Copper	Part B: Amber	
* Consistency:	Thick paste		
Viscosity (23°C) @ 0.5 rpm:	> 819,200	cPs	
Thixotropic Index:	N/A		
* Glass Transition Temp:	≥ 110	°C (Dynamic Cure: 20-200°C/ISO 25 Min; Ramp -10-200°C @20°C/Min)	
Coefficient of Thermal Expansion (CTE):			
Below Tg:	57	x 10^{-6} in/in°C	
Shore D Hardness:	77		
Lap Shear @ 23°C:	1,344	psi	
Die Shear @ 23°C:	≥ 3.5	Kg	1,245 psi
Degradation Temp:	434	°C	
Weight Loss:			
@ 200°C:	0.76	%	
@ 250°C:	1.65	%	
@ 300°C:	2.80	%	
Suggested Operating Temperature:	< 350	°C (Intermittent)	
Storage Modulus:	699,567	psi	
Ion Content:	Cl^-: 15 ppm	Na^+: 25 ppm	
	NH_4^+: 36 ppm	K^+: 3 ppm	
* Particle Size:	≤ 50	microns	

ELECTRICAL AND THERMAL PROPERTIES:		
Thermal Conductivity:	1.6	W/mK
* Volume Resistivity @ 23°C:	≤ 0.005	Ohm-cm

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