Product Information Sheet

EPO-TEK® 431

Date:	December 2017	
Rev:	VI	
No. of Components:	Two	
Mix Ratio by Weight:	100 : 2	
Specific Gravity:	Part A: 3.79	Part B: 1.02
Pot Life:	3 Hours	
Shelf Life- Bulk:	One year at room temperature	

Recommended Cure: 150°C / 1 Hour

Minimum Alternative Cure(s):
May not achieve performance properties listed below
80°C / 30 Minutes
60°C / 1 Hour

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	$\times 10^{-6}$ 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

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.

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