

# EPO-TEK® 920

Epoxy; Epoxide

Epoxy Technology Inc.

## Message:

A two component, high Tg, electrically insulating, thermally conductive epoxy designed for thermal management applications found in semiconductor, hybrid microelectronics, PCB, and optical industries. It can be an adhesive for mounting heat sinks and substrates, a seal for many types of packages, or a thermal potting compound. It is a NASA approved, low outgassing epoxy.

General Information		
Features	Electrically Insulating	
	Low to No Outgassing	
	Thermally Conductive	
Uses	Adhesives	
	Electrical/Electronic Applications	
	Optical Applications	
	Printed Circuit Boards	
	Seals	
Agency Ratings	EC 1907/2006 (REACH)	
	EU 2003/11/EC	
	EU 2006/122/EC	
RoHS Compliance	RoHS Compliant	
Forms	Paste	
Processing Method	Potting	
Physical	Nominal Value	Unit
Particle Size	< 50.0	µm
Degradation Temperature	343	°C
Die Shear Strength - > 15 kg (23°C)	35.2	MPa
Operating Temperature		
Continuous	-55 to 200	°C
Intermittent	-55 to 300	°C
Storage Modulus (23°C)	5.25	GPa
Thixotropic Index	2.10	
Weight Loss on Heating		
200°C	< 0.050	%
250°C	0.24	%
300°C	0.77	%
Thermal	Nominal Value	Unit
Glass Transition Temperature <sup>1</sup>	> 90.0	°C

CLTE - Flow		
-- <sup>2</sup>	2.4E-5	cm/cm/°C
-- <sup>3</sup>	1.2E-4	cm/cm/°C
Thermal Conductivity	0.97	W/m/K
Thermoset	Nominal Value	Unit
Thermoset Components		
Part A	Mix Ratio by Weight: 100	
Part B	Mix Ratio by Weight: 3.0	
Shelf Life (23°C)	26	wk
Uncured Properties	Nominal Value	Unit
Color		
-- <sup>4</sup>	Amber	
-- <sup>5</sup>	Grey	
Density		
Part B	1.02	g/cm <sup>3</sup>
Part A	2.23	g/cm <sup>3</sup>
Viscosity <sup>6</sup> (23°C)	13 to 20	Pa·s
Curing Time (150°C)	1.0	hr
Pot Life	300	min
Cured Properties	Nominal Value	Unit
Shore Hardness (Shore D)	90	
Lap Shear Strength (23°C)	> 13.8	MPa
Relative Permittivity (1 kHz)	5.19	
Volume Resistivity (23°C)	> 1.0E+14	ohms·cm
Dissipation Factor (1 kHz)	8.0E-3	
NOTE		
1.	Dynamic Cure 20-200°C/ISO 25 Min; Ramp -10-200°C @ 20°C/Min	
2.	Below Tg	
3.	Above Tg	
4.	Part B	
5.	Part A	
6.	20 rpm	

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