

EPO-TEK® 320NC-2

Epoxy; Epoxide

Epoxy Technology Inc.

Message:

A two component, black colored and optically opaque epoxy designed for optical, medical, and opto-electronic packaging of semiconductor devices and components. It is a modification of EPO-TEK ® 320 for increased electrical insulation. It is also more viscous and thixotropic. Can be used for adhesion, sealing, potting and encapsulation.

General Information		
Features	Thixotropic	
Uses	Adhesives	
	Electrical/Electronic Applications	
	Medical/Healthcare Applications	
	Optical Applications	
	Seals	
Agency Ratings	EC 1907/2006 (REACH)	
	EU 2003/11/EC	
	EU 2006/122/EC	
RoHS Compliance	RoHS Compliant	
Forms	Paste	
Processing Method	Encapsulating	
	Potting	
Physical	Nominal Value	Unit
Particle Size	< 20.0	µm
Degradation Temperature	340	°C
Die Shear Strength - > 10 kg (23°C)	23.4	MPa
Operating Temperature		
Continuous	-55 to 175	°C
Intermittent	-55 to 275	°C
Storage Modulus (23°C)	4.72	GPa
Thixotropic Index	3.20	
Weight Loss on Heating		
200°C	0.17	%
250°C	0.35	%
300°C	0.98	%
Thermal	Nominal Value	Unit
Glass Transition Temperature ¹	> 50.0	°C
CLTE - Flow		

-- ²	2.0E-5	cm/cm/°C
-- ³	8.2E-5	cm/cm/°C
Optical	Nominal Value	Unit
Transmittance (300 to 2500 nm)	< 1.0	%
Thermoset	Nominal Value	Unit
Thermoset Components		
Part A	Mix Ratio by Weight: 10	
Part B	Mix Ratio by Weight: 1.0	
Shelf Life (23°C)	52	wk
Uncured Properties	Nominal Value	Unit
Color		
-- ⁴	Black	
-- ⁵	Clear/Transparent	
Density		
Part B	0.868	g/cm ³
Part A	2.42	g/cm ³
Viscosity ⁶ (23°C)	1.5 to 3.0	Pa·s
Curing Time (70°C)	1.0	hr
Pot Life	30	min
Cured Properties	Nominal Value	Unit
Shore Hardness (Shore D)	89	
Lap Shear Strength (23°C)	10.9	MPa
Relative Permittivity (1 kHz)	9.75	
Volume Resistivity (23°C)	> 1.0E+13	ohms·cm
Dissipation Factor (1 kHz)	0.033	
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 A	
5.	Part B	
6.	100 rpm	

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