

EPO-TEK® H77 Black

Epoxy; Epoxide
Epoxy Technology Inc.

Message:
EPO-TEK® H77 Black is a two component, thermally conductive, electrically insulating epoxy system designed for lid-sealing of hybrids found in hermetic packaging of micro-electronics. Lids can be ceramic, glass, aluminum or kovar. Package types can be plastic, metal cases or ceramic.

General Information		
Features	Electrically Insulating	
	Good Chemical Resistance	
	High Heat Resistance	
	Low Viscosity	
	Solvent Resistant	
	Thermally Conductive	
Uses	Aircraft Applications	
	Automotive Under the Hood	
	Electrical/Electronic Applications	
	Medical/Healthcare Applications	
	Seals	
Agency Ratings	EC 1907/2006 (REACH)	
	EU 2003/11/EC	
	EU 2006/122/EC	
RoHS Compliance	RoHS Compliant	
Forms	Paste	
Processing Method	Casting	
	Potting	
Physical	Nominal Value	Unit
Particle Size	< 50.0	µm
Degradation Temperature	405	°C
Die Shear Strength - >5 kg (23°C)	11.7	MPa
Operating Temperature	TGA	
	Continuous	-55 to 250 °C
	Intermittent	-55 to 350 °C
Storage Modulus (23°C)	6.24	GPa
Thixotropic Index	1.72	
Weight Loss on Heating		

200°C	0.15	%	
250°C	0.38	%	
300°C	1.5	%	
Thermal	Nominal Value	Unit	
Glass Transition Temperature ¹	> 75.0	°C	
CLTE - Flow			
-- ²	3.8E-5	cm/cm/°C	
-- ³	1.6E-4	cm/cm/°C	
Thermal Conductivity	0.66	W/m/K	
Thermoset	Nominal Value	Unit	Test Method
Thermoset Components			
Part A	Mix Ratio by Weight: 100		
Part B	Mix Ratio by Weight: 15		
Shelf Life (23°C)	52	wk	
Uncured Properties	Nominal Value	Unit	Test Method
Color			
-- ⁴	Amber		
-- ⁵	Black		
Density			
Part B	1.22	g/cm ³	
Part A	2.52	g/cm ³	
Viscosity ⁶ (23°C)	6.0 to 12	Pa · s	
Curing Time (150°C)	1.0	hr	
Pot Life	360	min	
Cured Properties	Nominal Value	Unit	Test Method
Shore Hardness (Shore D)	90		
Lap Shear Strength (23°C)	10.5	MPa	
Relative Permittivity (1 kHz)	5.91		
Volume Resistivity (23°C)	> 2.8E+13	ohms · cm	
Dissipation Factor (1 kHz)	8.0E-3		
NOTE			
1.	Dynamic Cure 20-200°C/ISO 25 Min; Ramp -40-200°C @ 20°C/Min		
2.	Below Tg		
3.	Above Tg		
4.	Part B		
5.	Part A		
6.	20 rpm		

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