

EPO-TEK® H70E

Epoxy; Epoxide
Epoxy Technology Inc.

Message:
EPO-TEK® H70E is a two component, thermally conductive, electrically insulating epoxy designed for chip bonding in microelectronic and optoelectronics applications.

General Information		
Features	Electrically Insulating	
	Fast Cure	
	Good Adhesion	
	Low to No Outgassing	
	Thermally Conductive	
Uses	Adhesives	
	Bonding	
	Electrical/Electronic Applications	
Agency Ratings	ASTM E 595	
	EC 1907/2006 (REACH)	
	EU 2003/11/EC	
	EU 2006/122/EC	
RoHS Compliance	RoHS Compliant	
Forms	Paste	
Physical	Nominal Value	Unit
Ion Type - Cl-	186	ppm
Particle Size	< 50.0	µm
Degradation Temperature	451	°C
Die Shear Strength - > 10 kg (23°C)	23.4	MPa
Operating Temperature		
Continuous	-55 to 200	°C
Intermittent	-55 to 300	°C
Storage Modulus (23°C)	5.43	GPa
Thixotropic Index	1.17	
Weight Loss on Heating		
200°C	0.24	%
250°C	0.75	%
300°C	1.6	%
Thermal	Nominal Value	Unit

Glass Transition Temperature ¹	> 80.0	°C	
CLTE - Flow			
-- ²	1.5E-5	cm/cm/°C	
-- ³	6.4E-5	cm/cm/°C	
Thermal Conductivity	0.90	W/m/K	
Thermoset	Nominal Value	Unit	Test Method
Thermoset Components			
Part A	Mix Ratio by Weight: 1.0		
Part B	Mix Ratio by Weight: 1.0		
Shelf Life (23°C)	52	wk	
Uncured Properties	Nominal Value	Unit	Test Method
Color			
-- ⁴	Beige		
-- ⁵	Grey		
Density			
Part A	1.50	g/cm ³	
Part B	2.49	g/cm ³	
Viscosity ⁶ (23°C)	4.0 to 7.0	Pa·s	
Curing Time (150°C)	1.0	hr	
Pot Life	3400	min	
Cured Properties	Nominal Value	Unit	Test Method
Shore Hardness (Shore D)	83		
Lap Shear Strength (23°C)	> 13.8	MPa	
Relative Permittivity (1 kHz)	4.22		
Volume Resistivity	> 1.0E+13	ohms·cm	
Dissipation Factor (1 kHz)	4.0E-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.	50 rpm		

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