

# EPO-TEK® H70E-2

Epoxy; Epoxide

Epoxy Technology Inc.

## Message:

EPO TEK® H70E-2 is a two component, thermally conductive electrically insulating epoxy designed for glob-top chip protection in TAB and COB die-attach technologies. It is used to prevent chips from being mechanically damaged during micro-package assembly and handling.

General Information		
Features	Electrically Insulating	
	Fast Cure	
	Good Adhesion	
	Thermally Conductive	
	Thixotropic	
Uses	Adhesives	
	Electrical/Electronic Applications	
Agency Ratings	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-	267	ppm
Particle Size	< 50.0	µm
Degradation Temperature	447	°C
Die Shear Strength - >5 kg (23°C)	11.7	MPa
Operating Temperature		
Continuous	-55 to 200	°C
Intermittent	-55 to 300	°C
Storage Modulus (23°C)	8.37	GPa
Thixotropic Index	1.69	
Weight Loss on Heating		
200°C	0.10	%
250°C	0.30	%
300°C	0.70	%
Thermal	Nominal Value	Unit
Glass Transition Temperature <sup>1</sup>	> 80.0	°C
CLTE - Flow		

-- <sup>2</sup>	2.0E-5	cm/cm/°C	
-- <sup>3</sup>	1.1E-4	cm/cm/°C	
Thermal Conductivity	1.0	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			
-- <sup>4</sup>	Black		
-- <sup>5</sup>	Cream		
Density			
Part A	1.50	g/cm <sup>3</sup>	
Part B	2.29	g/cm <sup>3</sup>	
Viscosity <sup>6</sup> (23°C)	9.0 to 15	Pa·s	
Curing Time (150°C)	1.0	hr	
Pot Life	2900	min	
Cured Properties	Nominal Value	Unit	Test Method
Shore Hardness (Shore D)	65		
Lap Shear Strength (23°C)	> 13.8	MPa	
Relative Permittivity (1 kHz)	5.19		
Volume Resistivity	> 8.0E+12	ohms·cm	
Dissipation Factor (1 kHz)	7.0E-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 A		
5.	Part B		
6.	20 rpm		

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