

# EPO-TEK® 305

Epoxy; Epoxide  
Epoxy Technology Inc.

Message:  
EPO-TEK ® 305 is a two component, semi-rigid, optical grade epoxy for semiconductor packaging of fiber optics, optoelectronics and medical devices. It is an electrically and thermally insulating epoxy.

General Information		
Features	Electrically Insulating	
	Low Viscosity	
	Semi Rigid	
	Thermally Insulating	
Uses	Adhesives	
	Coating Applications	
	Electrical/Electronic Applications	
	Laminates	
	LCD Applications	
	LEDs	
	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	Liquid	
Processing Method	Dip Coating	
	Encapsulating	
	Potting	
Thermal	Nominal Value	Unit
Glass Transition Temperature <sup>1</sup>	> 35.0	°C
CLTE - Flow		
-- <sup>2</sup>	3.1E-5	cm/cm/°C
-- <sup>3</sup>	1.5E-4	cm/cm/°C
Optical	Nominal Value	Unit
Refractive Index <sup>4</sup>	1.476	

Transmittance			
250 nm	> 91.0	%	
300 nm	> 97.0	%	
400 to 1600 nm	> 98.0	%	
Thermoset	Nominal Value	Unit	Test Method
Thermoset Components			
Part A	Mix Ratio by Weight: 10		
Part B	Mix Ratio by Weight: 2.8		
Shelf Life (23°C)	52	wk	
Additional Information	Nominal Value	Unit	Test Method
Degradation Temperature	270	°C	TGA
Die Shear Strength - > 10 kg (23°C)	23.4	MPa	
Operating Temperature			
Continuous	-55 to 100	°C	
Intermittent	-55 to 200	°C	
Storage Modulus (23°C)	692	MPa	
Weight Loss on Heating			
200°C	1.2	%	
250°C	4.0	%	
Uncured Properties	Nominal Value	Unit	Test Method
Color			
-- <sup>5</sup>	Clear/Transparent		
-- <sup>6</sup>	Clear/Transparent		
Density			
Part B	0.868	g/cm <sup>3</sup>	
Part A	1.25	g/cm <sup>3</sup>	
Viscosity <sup>7</sup> (23°C)	0.15 to 0.25	Pa · s	
Curing Time (65°C)	2.0	hr	
Pot Life	60	min	
Cured Properties	Nominal Value	Unit	Test Method
Shore Hardness (Shore D)	66		
Lap Shear Strength (23°C)	13.0	MPa	
Relative Permittivity (1 kHz)	4.46		
Volume Resistivity (23°C)	< 2.0E+13	ohms · cm	
Dissipation Factor (1 kHz)	0.026		
NOTE			
1.	Dynamic Cure 20-200°C/ISO 25 Min; Ramp -10-200°C @ 20°C/Min		
2.	Below Tg		
3.	Above Tg		
4.	589 nm		
5.	Part B		

6.	Part A
7.	100 rpm

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Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519  
Phone: +86 13424755533  
Email: sales@su-jiao.com  
No. 215, Lianhe North Road, Fengxian District, Shanghai, China

