

EPO-TEK® E4110-PFC

Epoxy; Epoxide

Epoxy Technology Inc.

Message:

EPO-TEK® E4110-PFC is a two-component, silver filled, electrically conductive adhesive designed for semiconductor IC packaging and general electronic assembly. It is a thixotropic version of EPO-TEK® E4110, suggested for applications requiring a screen printing process as well as jetting.

General Information		
Filler / Reinforcement	Silver	
Features	Electrically Conductive	
	Thixotropic	
Uses	Adhesives	
	Electrical/Electronic Applications	
	LCD Applications	
	Medical/Healthcare Applications	
	Printed Circuit Boards	
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-	32	ppm
K+	2	ppm
Na+	13	ppm
NH4+	20	ppm
Particle Size	< 20.0	µm
Degradation Temperature	337	°C
		TGA
Die Shear Strength - >5 kg (23°C)	11.7	MPa
Operating Temperature		
Continuous	-55 to 150	°C
Intermittent	-55 to 250	°C
Storage Modulus (23°C)	1.53	GPa
Thixotropic Index	3.30	
Weight Loss on Heating		
200°C	0.37	%

250°C	0.88	%	
300°C	1.4	%	
Thermal	Nominal Value	Unit	
Glass Transition Temperature ¹	> 40.0	°C	
CLTE - Flow			
-- ²	4.8E-5	cm/cm/°C	
-- ³	2.1E-4	cm/cm/°C	
Thermal Conductivity	1.6	W/m/K	
Thermoset	Nominal Value	Unit	Test Method
Thermoset Components			
Part A	Mix Ratio by Weight: 3.0		
Part B	Mix Ratio by Weight: 1.0		
Shelf Life (23°C)	52	wk	
Uncured Properties	Nominal Value	Unit	Test Method
Color			
-- ⁴	Silver		
-- ⁵	Silver		
Density			
Part A	3.25	g/cm ³	
Part B	3.96	g/cm ³	
Viscosity ⁶ (23°C)	50 to 60	Pa·s	
Curing Time (80°C)	3.0	hr	
Pot Life	120 to 180	min	
Cured Properties	Nominal Value	Unit	Test Method
Shore Hardness (Shore D)	68		
Lap Shear Strength (23°C)	8.62	MPa	
Volume Resistivity (23°C)	< 5.0E-4	ohms·cm	
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.	5 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

