

EPO-TEK® H74F

Epoxy; Epoxide

Epoxy Technology Inc.

Message:

A two component, high Tg, thermally conductive, electrically insulating epoxy designed for semiconductor packaging including heat sinking, hermetic sealing, and opto-electronic assemblies. It may be used for flip chip underfill, sealing sensor devices packaged in TO-cans or fiber optic feed-through. It may be considered a finer particle version of EPO-TEK® H74.

General Information		
Features	Electrically Insulating	
	Thermally Conductive	
Uses	Adhesives	
	Electrical/Electronic Applications	
	Seals	
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-	41	ppm
K+	9	ppm
Na+	20	ppm
NH4+	100	ppm
Particle Size	< 20.0	µm
Degradation Temperature	486	°C
Die Shear Strength - > 15 kg (23°C)	35.2	MPa
Operating Temperature		
Continuous	-55 to 250	°C
Intermittent	-55 to 350	°C
Storage Modulus (23°C)	4.40	GPa
Thixotropic Index	1.90	
Weight Loss on Heating		
200°C	0.050	%
250°C	0.050	%
300°C	0.10	%
Thermal	Nominal Value	Unit

Glass Transition Temperature ¹	> 90.0	°C
CLTE - Flow		
-- ²	3.3E-5	cm/cm/°C
-- ³	1.1E-4	cm/cm/°C
Thermal Conductivity	0.52	W/m/K
Thermoset	Nominal Value	Unit
Thermoset Components		
Part A	Mix Ratio by Weight: 100	
Part B	Mix Ratio by Weight: 4.0	
Shelf Life (23°C)	52	wk
Uncured Properties	Nominal Value	Unit
Color		
-- ⁴	Amber	
-- ⁵	Grey	
Density		
Part B	1.02	g/cm³
Part A	2.01	g/cm³
Viscosity ⁶ (23°C)	45 to 75	Pa · s
Curing Time (150°C)	1.0	hr
Pot Life	180	min
Cured Properties	Nominal Value	Unit
Shore Hardness (Shore D)	88	
Lap Shear Strength (23°C)	> 13.8	MPa
Relative Permittivity (1 kHz)	4.90	
Volume Resistivity (23°C)	> 5.0E+13	ohms · cm
Dissipation Factor (1 kHz)	0.012	
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.	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

