

EPO-TEK® H31

Epoxy; Epoxide
Epoxy Technology Inc.

Message:
EPO-TEK® H31 is a single component, silver-filled, electrically conductive epoxy designed for semiconductor die attach applications found in hybrids, JEDEC, and opto-electronic packaging.

General Information		
Filler / Reinforcement	Silver	
Features	Electrically Conductive	
	Electromagnetic Shielding (EMI)	
	Low to No Outgassing	
	Radio Frequency Shielding (RFI)	
	Thixotropic	
Uses	Adhesives	
	Electrical/Electronic Applications	
	LCD Applications	
	LEDs	
	Printed Circuit Boards	
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-	7	ppm
K+	41	ppm
Na+	143	ppm
NH4+	8	ppm
Particle Size	< 45.0	µm
Degradation Temperature	370	°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)	5.69	GPa	
Thixotropic Index	3.00		
Weight Loss on Heating (250°C)	0.060	%	
Thermal	Nominal Value	Unit	
Glass Transition Temperature ¹	> 110	°C	
CLTE - Flow			
-- ²	4.8E-5	cm/cm/°C	
-- ³	2.0E-4	cm/cm/°C	
Thermal Conductivity	1.1	W/m/K	
Thermoset	Nominal Value	Unit	Test Method
Shelf Life (23°C)	13	wk	
Uncured Properties	Nominal Value	Unit	Test Method
Color	Silver		
Density	2.19	g/cm ³	
Viscosity ⁴ (23°C)	15 to 25	Pa·s	
Curing Time (150°C)	1.0	hr	
Pot Life	40000	min	
Cured Properties	Nominal Value	Unit	Test Method
Shore Hardness (Shore D)	84		
Lap Shear Strength (23°C)	9.10	MPa	
Volume Resistivity (23°C)	< 5.0E-4	ohms·cm	
NOTE			
1.	Dynamic Cure 20-200°C/ISO 25 Min; Ramp -10-250°C @ 20°C/Min		
2.	Below Tg		
3.	Above Tg		
4.	5 rpm		

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