

## Halogen Free\* Epoxy Adhesives



### Why are Halogen Free Epoxy Adhesives Important?

- Conforms to environmental regulations regarding chlorine and bromine for high reliability electronic applications.
- Low chloride level ensures high resistance to corrosion or electromigration when exposed to elevated temperatures and moisture.

	Product	Viscosity (cPs)	TI	Cure Time	Pot Life	Tg (°C)	Features	
Optical / Insulating	114-74-2	300 @ 100rpm	N/A	80°C/30min 150°C/1min	6 hrs	96	Low halogen version of 330	High temperature, electrically and thermally insulating epoxy for semiconductor, electronics, fiber optics, and medical applications.
	108-180	20,972 @ 10rpm	2.9	80°C/30min 150°C/1min	3.5 hrs	103	Low halogen version of 353ND-T	Thixotropic adhesive for use in microelectronics and optics.
	OJ2933-LH	115,158 @ 1rpm	3.3	150°C/90sec 170°C/10sec	2 days	116	Long pot life, low halogen version of 353ND-T	Non-flowing epoxy for high volume production components of HDD storage devices.
	112-116	74,138 @ 1rpm	3	80°C/75min 175°C/15sec	24 hrs	101	More flexible version of OJ2933-LH	Fast curing, low stress epoxy for electronics and optics.
Thermally Conductive	TJ1104-LH	80,000-130,000 @ 1rpm	2	140°C/30min 200°C/5min	>7 days	≥100	Low halogen material with long pot life	Black colored, thermally conductive, screen printable for perimeter sealing and die attach. Also suitable for light blocking.
	TJ2183-LH/ TJ1183-LH	25,000-40,000 @ 10rpm	2.6	150°C/1hour	9 days	≥90	Low halogen version of T6116-R3/T7116-R3	Screen print and syringe dispensable for die attach in consumer microelectronics.
	TJ2139-LH	24,207 @ 10rpm	1.8	150°C/1hour	2.5 days	118	Enhanced dispensability version of TJ2183-LH	High strength die attach material with excellent dispensability
	112-141 (TJ2139-LH black)	33,546 @ 10rpm	1.8	150°C/1hour	2.5 days	119	Black colored version of TJ2139-LH	Light blocking adhesive with excellent dispensability for micro-optics.
	118-35 (TJ2135-LH)	24,207 @ 10rpm	2.1	120°C/2hours 150°C/1hour	2 days	119	Intermediate rheology between TJ2183-LH and TJ2139-LH	Die attach adhesive with excellent dispensability.
108-115 (H70E-TI-LH)	2322 @ 100rpm	2	80°C/2hours 150°C/1hour	<2 days	77	Low halogen version of H70E-TI	Thermally conductive adhesive for microelectronic chip bonding and optoelectronic applications.	
UV	113-81 (OG142-112-LH)	1230 @ 100rpm	N/A	100mW/cm <sup>2</sup> for >2 min @ 240-365nm	N/A	129	Low halogen version of OG142-112	Low viscosity epoxy for coatings and bonding applications.
	113-167-1	14,540 @ 20rpm	N/A	100mW/cm <sup>2</sup> for >2 min @ 240-365nm	N/A	100	Low halogen version of OG142	Low WVTR with strong oxygen barrier properties for display applications.

\* Halogen Free Definition - Based on IEC (IEC 61249-2-21) Definition

≤ 900 ppm maximum Chlorine, ≤ 900 ppm maximum Bromine, ≤ 1500 ppm maximum total Halogens



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# Typical Applications Using Halogen Free Adhesives

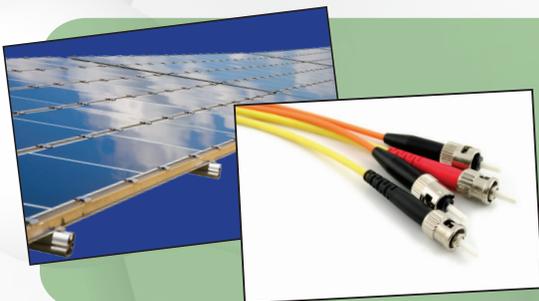
## Hard Disk Drives (HDD)

- Coatings (anti-disk and voice coil)
- Spindle motor sealing
- Pivot bond



## Optics/Photonics

- Camera optics
- LCD gasket and plug sealing
- Thin film and organic solar cell (OPV) sealing



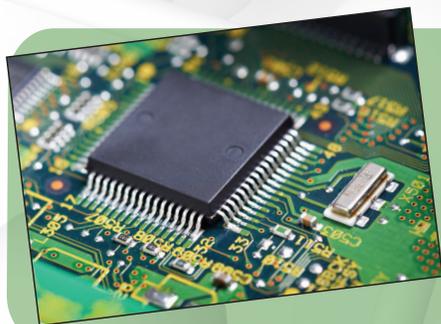
## Electronic Devices

- Displays
- Automotive sensors
- Hearing aid components
- RFID



## MEMS

- Accelerometers
- Gyros
- Optical switches
- Speaker/microphone



Consult our **Application Experts** for selecting the most suitable adhesive: [techserv@epotek.com](mailto:techserv@epotek.com)



DISCLAIMER: Data presented is provided only to be used as a guide. Properties listed are typical, average values, based on tests believed to be accurate. It is recommended that users perform a thorough evaluation for any application based on their specific requirements. Epoxy Technology makes no warranties (expressed or implied) and assumes no responsibility in connection with the use or inability to use these products. Please refer to the product data sheets and safety data sheets (SDS) for more detailed information.

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