

Forms high strength conductive bonds

The 8331 Silver Conductive Epoxy Adhesive is an electronic grade epoxy with good electrical and thermal conductivities. This adhesive bonds very well to a variety of surfaces. It is easy to use and has a convenient 1 to 1 ratio. It cures in five hours at room temperature, but for faster and better results heat cure at elevated temperatures are suggested.

- Excellent electrical and thermal conductivity
- Easy 1:1 mix ratio
- Strong water and chemical resistance to brine, acids, bases, and aliphatic hydrocarbons

Applications & Usages:

The 8331 epoxy has many uses. It is primarily used as a solder replacement for bonding heat-sensitive electronic components. It allows for quick cold soldering repairs, and is effective at bonding heat sinks to other components and PCBs. It also provides excellent EMI/RFI shielding, and is very effective at filling in seems between metal plates.

Its primary applications are repair and assembly of electronics in microelectronics and optoelectronics. It is used in the automobile, aerospace, marine communication, instrumentation, and industrial control equipment industries.

▸ [Frequently Asked Questions on this product](#)

Compatibility:

Adhesion—As seen in the substrate adhesion table, the 8331 epoxy adheres to most materials found on printed circuit assemblies; however, it is not compatible with contaminants like water, oil, and greasy flux residues that may affect adhesion. If contamination is present, clean the printed circuit assembly with electronic cleaner such as MG Chemicals 4050 Safety Wash, 406B Superwash, or 824 Isopropyl Alcohol.

Specifications

Color	Visual	Silver Grey
Density		2.44 g/cm3
Hardness	(Shore D durometer)	70D to 75D
Tensile Strength	ASTM-D-638	6.28 N/mm ² [911 lb/in ²]
Elongation	ASTM-D-638	0.30 %
Shear Strength	ASTM-D-732	1.61 N/mm ² [234 lb/in ²]
Izod Impact	ASTM D 256	1.7 kJ/m ² [0.80 ft·lb/in]
Compression Strength	ASTM-D-695	7.56 N/mm ² [1,090 lb/in ²]
Flexural Strength	ASTM-D-790	17.2 N/mm ² [2,500 lb/in ²]
Outgassing (Total Mass Loss)	ASTM E 595	
	@ 24 h	7.16%
	@ 48 h	6.11%
Solderable		No
Volume Resistivity	Method 5011.5 in MIL-STD-883H	0.0174 Ω · cm
Dielectric Dissipation & Constant	ASTM D 150-98	dissipation, D constant, k'
@1 MHz		0.012 3.01
Thermal Conductivity	ASTM E 1461	in W/m·K (BTU in /(hr ft ² F))
	25°C	0.903 (6.27)
	50°C	0.893 (6.20)
	100°C	0.813 (5.64)

Glass Transition Temperature (Tg)	ASTM D 3418	55.1 °C [131 °F]
CTE prior Tg	ASTM E 831	38.5 ppm/°C
CTE after Tg	ASTM E 831	101.8 ppm/°C
Air Cure @ 24°C (75°F)		5 hours
Heat Cure:		
65°C / 149°F		15 minutes
90°C / 194°F		12 minutes
125°C / 257°F		7 minutes
150°C / 302°F		5 minutes
Working Time @ 22°C		10 minutes
Minimum Operating Temp.		< -55 °C (-67 °F)
Maximum Operating Temp.		150 °C (302 °F)

Cure Time	% TML (Total Mass Loss)	% WVR (Water Vapor Regain)	%CVCM (Collected Volatile Condensable Material)
10 min@65°C + 24 hours@23°C	7.16	0.06	0.1
10 min@65°C + 48 hours@23°C	6.11	0.05	0.05

Color	Silver Grey	
Density	2.34 g/mL	
Mix Ratio by volume (A:B)	1:0:1.0	
Mix Ratio by weight (A:B)	1.2:1.0	
Solids Content (w/w)	93%	
Color	Silver Grey	Silver Grey
Density	2.47 g/mL	2.20 g/mL
Flash Point	N/E	>93 °C [199 °F]
Resistivity of uncured material	Off-scale (no reading)	Off-scale (no reading)

Available Sizes

8331-14G	14 g (0.35 oz)	Two 7g syringes, 3mL each
8331-40G	40 g (1.4 oz)	jar
8331-454G	454 g (1 lb)	1 lb kit