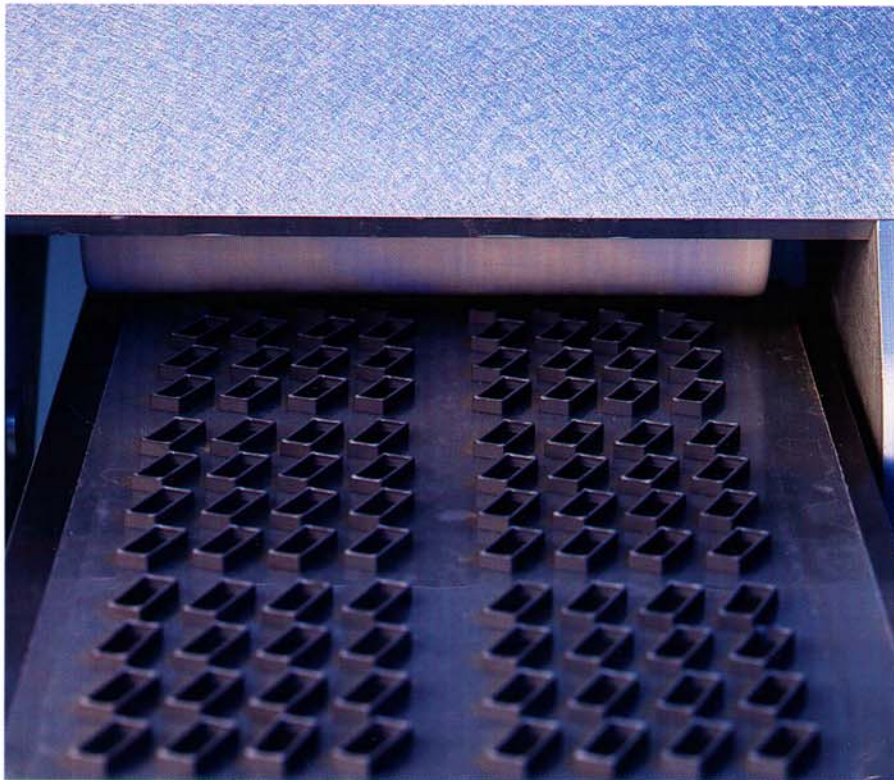


Epoxy Seal Lids

For Electronic Packages



- High Strength
- Moisture Resistance
- Rapid Cure Cycles
- Custom Design Assistance

CoorsTek, a recognized world leader in the manufacture of technical electronic ceramics, introduces ceramic lids with B-staged epoxy.

CoorsTek B-staged epoxy lids are available in two superior grades: Epoxy Seal 216 (ES-216) and Epoxy Seal 923 (ES-923). ES-216 is available for applications where high strength and moisture resistance are required. It displays excellent fillet formation characteristics and, after cure, is highly temperature and moisture resistant. Optimal properties are obtained with a cure cycle of two hours at 160° C.

ES-923 is designed for applications requiring a rapid epoxy cure cycle (10 minutes at 160° C). This accelerated seal cycle results in only a modest reduction in moisture resistance and seal strength from our ES-216 epoxy.

CoorsTek's strength lies in our ability to provide all aspects of your product requirements. From engineering design and support, through ceramic fabrication and epoxy deposition, CoorsTek's vertically integrated manufacturing facilities are prepared to meet your cost and design requirements. Both ES-216 and ES-923 can be applied to a

variety of our ceramic materials and configurations via screen printing, roll coating or dispensing. The tack free, low temperature curable deposit offers a less expensive alternative to brazed or soldered lids.

Trust CoorsTek, a proven leader in technical ceramics for over 80 years, to provide excellent product quality and value, outstanding customer service and engineering support, and timely product delivery. Put our experience and vast resources to test when your components are critical to your success.

COORSTEK
Amazing Solutions.

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Epoxy Material Comparison

Typical Material Characteristics				
Characteristics	Unit	Test	ES-216	ES-923
Cure Cycle*	Temp.(°C)/ Time (min.)	—	160/120	160/10
Mechanical Properties				
Hardness	—	Shore-D	90	90
Lap Shear	psi	ASTM D1002	2800	2600
Moisture Resistance				
200 hrs. @ 85 °C & 85% RH	—	—	Pass	Pass
144 hrs. @ 121 °C & 100% RH	—	—	Pass	Pass
Physical Properties				
Color	—	—	Clear	Yellow
Gross Leak	—	—	Pass	Pass
Thermal Properties				
Coefficient of Thermal Expansion	ppm/°C	MIL STD 883D	50	50
Maximum Operating Temperature-Continuous	°C	—	185	180
Maximum Operating Temperature-Intermittent	°C	—	225	220
Thermal Conductivity	W/m K	MIL STD 883D	0.5	0.5
Temperature Cycling	—	MIL STD 883D	Pass	Pass
Thermal Shock	—	MIL STD 883D	Pass	Pass

The chart above is intended to illustrate typical properties only. Engineering data is representative. Property values vary somewhat with method of manufacture, size, and shape of part. This data is not to be construed as absolute and does not constitute a warranty for which we assume legal responsibility.

*** NOTE:** The cure cycle may be adjusted to suit specific requirements. Please review with CoorsTek Engineering if alternate cure schedule is desired.



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