LINQSOL **EMC-9070**

Black epoxy molding compound

- Designed for high MSL QFN and DFN semiconductor packages
- Halogen-free molding compound with low CTE, shrinkage, and moisture absorption
- Exhibits low stress levels, minimizing warpage

LINQSOL EMC-9070 is a halogen-free, black semiconductor-grade epoxy molding compound with low CTE, mold shrinkage, and moisture absorption. This spherical silica-filled compound (89%) is particularly tailored for quad-flat no-leads (QFN) and dual-flat no-leads (DFN) semiconductor packages, which are both characterized by a low-profile design produced through MAP molding. Notably, EMC-9070 boasts minimal internal stress to mitigate warpage, a critical attribute for such packages. Additionally, its impressively low moisture absorption enhances the moisture sensitivity level (MSL) performance, ensuring optimal protection and reliability post-molding and curing.

Cured properties

Property	Value	Unit
General Properties		
Color	Black	–
Filler content	89	%
Filler sieved size	75	µm
Filler type	Spherical	–
Specific gravity	2.01	–
Spiral flow at 175 °C	127	cm
Chemical Properties		
Ion content Chloride (Cl^-) concentration Sodium (Na^+) concentration	 6.7 4.1	 ppm ppm
Mold shrinkage	≤0.2	%
Moisture absorption (PCT at 121 °C, 96 hours)	0.33	%
Mechanical Properties		
Flexural strength at 25 °C	160	MPa
Flexural modulus at 25 °C	26	GPa
Hot hardness at 175 °C	83	Shore D

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Thermal Properties		
Glass transition temperature	126	°C
Coefficient of thermal expansion, α1	8	ppm/K
Coefficient of thermal expansion, α2	30	ppm/K
Gel time at 175 °C	35	s
UL-94 rating	V-0	–

The data was obtained using samples cured at 175 °C for 120 seconds and then post-mold cured at 175 °C for 5 hours.

Recommended mold parameters

Parameter	Value	Unit
Molding temperature	175	°C
Cure time at 175 °C	2	min
Post mold cure time at 150–175 °C	5	h

Processing Instructions

- Before use, allow **LINQSOL EMC-9070** to reach room temperature for a minimum of 8 hours, ensuring the bag remains unopened to prevent moisture contamination.
- Prior to molding with **EMC-9070** or any new material, the mold should be cleaned thoroughly. For proper mold conditioning, the initial three shots should be cured for 5–10 minutes. After this initial conditioning period, you can reduce the curing time to a level that provides sufficient hot hardness for effective release.

Storage and Handling

LINQSOL EMC-9070 is available in pressed pellets in a wide range of sizes to meet specific customer needs. To ensure product integrity, keep it away from oxidizing materials. For long-term storage, maintain a cold environment. The shelf life at 5 °C is 183 days.

Please note that the provided information is based on available data and typical conditions. For specific applications and detailed test results, refer to the actual test data and conduct appropriate certifications.

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