

LINQSOL™ EMC-5013

Black epoxy molding compound



- Green epoxy molding compound
- Thermally conductive molding compound
- Designed for transistor outline (TO) and fullpack power packages

LINQSOL™ EMC-5013 is a thermally conductive epoxy molding compound specifically developed for the encapsulation of transistor outline (TO) such as TO220F, TO3PF and fullpack power packages. Its low porosity and thermal conductivity of >2 W/m·K satisfies the heat dissipation required by high performance power packages.

LINQSOL™ EMC-5013 has good electrical performance for packages requiring insulative property. Additionally, with a UL 94 V-0 flammability rating and low water absorption, **EMC-5013** guarantees strong performance and outstanding reliability. This product is deliberately formulated without the inclusion of substances prohibited by the European Union RoHS and REACH. Overall, **LINQSOL™ EMC-5013** seamlessly integrates advanced material properties, safety compliance, and superior performance to deliver a reliable solution for semiconductor device encapsulation.

Cured properties

Property	Value	Unit
General Properties		
Resin type	OCN/Low Stress	–
Filler sieving size	180	μm
Specific gravity	2.17	–
Spiral flow at 175°C	60	cm
Bleed Length at 175°C	≤2.0	mm
Chemical Properties		
Ion content		
Chloride (Cl ⁻) concentration	9	ppm
Sodium (Na ⁺) concentration	6	ppm
Water absorption (PCT 24hr)	0.32	%
pH of extract	5.5	–
Electrical conductivity of extract	40	μS · cm ⁻¹
Electrical Properties		
Dielectric constant at 1MHz	4.2	-
Dissipation factor at 1MHz	0.009	-
Volume resistivity at 25°C	7×10 ¹⁵	Ω · cm

Caplinq Europe

Industrieweg 15E,
1566JN Assendelft
The Netherlands
Phone: +31 (20) 893 2224
Email: info@caplinq.com

Caplinq Canada

80 Sirocco Crescent
Ottawa ON, K2S 2C9
Canada
Phone: +1 (613) 482-2215
Email: info@caplinq.com



Caplinq North America

36927 Schoolcraft Rd
Livonia, MI 48150
United states
Phone: +1 (313) 558-8243
Email: info@caplinq.com

Caplinq South East Asia

S-08-07 Persiaran Triangle
B Lepas, Penang 11900
Malaysia
Phone: +60(12)4302223
Email: info@caplinq.com

Property	Value	Unit
Thermal Properties		
Thermal Conductivity	2.3	W/m·K
Glass transition temperature	178	°C
Coefficient of thermal expansion, α_1	20	ppm/°C
Coefficient of thermal expansion, α_2	55	ppm/°C
Gel time at 175 °C	32	sec
Flammability	V-0	UL-94
Mechanical Properties		
Flexural strength	148	MPa
Flexural modulus	20.5	GPa

The technical data presented above is intended for reference purposes only. Actual performance may vary based on specific applications and conditions. Users are advised to conduct their own testing and evaluation to ensure compatibility with their specific requirements.

Recommended mold parameters

Parameter	Value	Unit
Preheating temperature	70–100	°C
Molding temperature	170–190	°C
Transfer pressure	40–90	kg _f /cm ²
Transfer time	17–25	sec
Cure time at 175°C – 190°C	1.5–2.5	min
Post mold cure time at 175°C	6–8	h
Post mold cure time at 180°C	4–6	h

To achieve the best results, test the recommended conditions on the mold. Users should conduct their own testing to ensure it meets their specific needs and application.

Processing Instructions

- Before use, let **LINQSOL EMC-5013** compounds reach room temperature for 24 hours. Keep the bag unopened and stored in a dry location with a relative humidity of ≤50% during thawing to prevent moisture contamination.
- Use the materials within 72 hours after removing the container from cold storage.

Storage and Handling

LINQSOL EMC-5013 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 when stored below 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.

Europe

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Canada

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