

# LORD® JMC-700K PROTECTION COATING

## Technical Data Sheet

LORD® JMC-700K coating is a thermal-cure epoxy resin specially designed for thin film coating of heat sinks and magnets. LORD JMC-700K coating provides electrical insulation, heat resistance, and oil resistance with a single-coat application. This coating can be used in a variety of automotive applications including cooling plates, heat sinks and motor magnets used in electric vehicles, as well as automotive parts and industrial machine applications.

### Features and Benefits

**Good Adhesion:** provides strong adhesion to substrate.

**Broad Temperature Range:** can be used on parts and devices that experience operating temperatures from -40°C to +180°C.

**Environmentally Resistant:** provides excellent resistance to heat, oil and moisture.

Heat Resistance Test 180°C x 1500 hr	Pass
Cycle Test -40°C to +170°C, 1500 cycles	Pass
Oil Resistance Test 150°C x 2000 hr	Pass
Humidity Resistance Test 85°C, 85% RH x 2000 hr	Pass

### Application

**Surface Preparation:** Thoroughly clean surfaces prior to coating application to remove all dirt, oil, grease and oxides.

**Mixing:** Thoroughly stir coating before use. If dilution is needed, use LORD JMC-700ST thinner or methyl ethyl ketone (MEK) as diluent.

**Applying:** Apply coating by dip or spray methods. Regardless of application method, recommended dry film thickness of LORD JMC-700K coating is 10-100 micron. If possible, preheating parts to 50-65°C prior to first application is recommended. Apply coating in 25-35 micron layers at a time until final film thickness is achieved. Following each coating layer application, flash solvent at 50-65°C for 5 minutes, then cure for 15 minutes at 180°C before applying the next layer. The solvent flash helps reduce the chance of the coating skinning over, trapping solvent, and mud-cracking which can create pinholes or defects.

**Curing:** When final film thickness is achieved, flash parts at 50-65°C for 5 minutes then cure parts for 30 minutes at 180°C. This time-at-temperature profile refers to the time the material should be allowed to cure once it reaches the target temperature. Allowance should be made for oven ramp rates, parts with large thermal mass and other circumstances that may delay the material actually reaching the target temperature.

### Typical Properties\*

Appearance	Black Liquid
Viscosity, mPa·s @ 25°C	6000
Specific Gravity	1.07
Solids Content by Weight, %	39.5

\*Data is typical and not to be used for specification purposes.

## Typical Cured Properties\*

Thermal Conductivity, W/m·K	0.52
Volume Resistivity, ohm-cm	1.1 x 10 <sup>15</sup>
Dielectric Strength, kV/mm (V/mil)	
@ 25 µm	40 (1016)
@ ≥50 µm	80-100 (2032-2540)
Dielectric Constant	3.79
Dissipation Factor	0.0092

\*Data is typical and not to be used for specification purposes.

## Shelf Life/Storage

Shelf life is one year from date of manufacture when stored in a well ventilated area at 21-27°C in original, unopened container.

## Cautionary Information

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Verify Volatile Organic Compounds (VOC) requirements with the applicable local, regional and state air quality authorities before importing, selling or using this product. VOC rules, thresholds and reporting obligations vary by jurisdiction; compliance is the responsibility of the importer/seller/owner.

*For industrial/commercial use only.* Must be applied by trained personnel only. Not to be used in household applications. Not for consumer use.

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