



ECC4865

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Description

ECC4865 is a one component, solventless silicone thermal cure silicone conformal coating. This low viscosity product is easily applied via flow coating, brushing, spraying or dipping and has been found to provide outstanding moisture and environmental protection for printed circuit boards and other electronic assemblies.

Key Features and Benefits

- Solventless, low VOC formulation
- Extremely long coating bath life
- Outstanding long-term viscosity stability
- Very fast thermal cure mechanism
- Primerless adhesion to many substrates
- Excellent high/low temperature performance

Typical Physical Properties

Uncured Mixed Properties

Property	Value
Specific Gravity @25°C	0.98
Viscosity @ 25C, cps	210
Color	clear
Flash Point, C	> 125

Cured Film Properties

Property	Units	Value
Durometer Hardness	Shore A	35
Dielectric Strength	volts / mil	500
Dielectric Constant		2.4
Dissipation Factor		0.01
Volume Resistivity	ohm-cm	5E14
Operating Temperature Range (continuous)		-40C to +200C
Fungus Resistance (ASTM G21)		Excellent
Chemical Resistance		Very Good

Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

Product Safety, Handling and Storage

The warranty period for ECC4865 silicone conformal coating is 6 months from date of shipment if stored in the original unopened container at temperatures of 25C (77F) or below.

Customers should review the latest Material Safety Data Sheet (MSDS) and label for product safety information, safe handling instructions, personal protective equipment if necessary, and any special storage conditions required for safety. MSDS are available at www.momentive.com or, upon request, from any Momentive Performance Materials (MPM) representative. **For product storage and handling procedures to maintain the product quality within our stated specifications, please review Certificates of Analysis, which are available in the Order Center.** Use of other materials in conjunction with MPM products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

Processing Recommendations

Surface Preparation

The cleanliness of the circuit board substrate is critical to successful application of the conformal coating and its long-term performance. Surfaces must be free of moisture, dirt, wax, grease and other contaminants. Failure to remove contamination can lead to long-term failure of the circuit assembly.

Solder Flux

Solder flux residues on the surface of a printed circuit board can greatly impact the performance of a conformal coating by interfering with coating adhesion and possibly interfering with the coating's cure mechanism. This is of particular concern when using 'no-clean' flux systems. Careful compatibility testing, with the flux system to be used, is strongly recommended.

Compatibility

Certain materials such as butyl and chlorinated rubber, sulfur containing materials, amines and certain metal soap-cured RTV silicone rubber compounds can cause cure inhibition. Cure inhibition is characterized by a lack of cure of the liquid silicone coating at the interface between it and the substrate being coated. Compatibility tests are strongly recommended.

Application Method

ECC4865 can be applied by dipping, spraying, flow coating, or brushing. When dip coating, a controlled dip insertion and withdrawal rate of between 2 - 6 inches per minute will typically yield a 3 - 5 mil average coating thickness per side. Spray coating should be done in an enclosed and ventilated area.

Curing

ECC4865 is designed to be thermal cured. The minimum cure temperature is 105C. The maximum cure temperature is 175C. Curing should be done in a ventilated oven. Actual cure time at a given temperature for a given part is dependent upon a variety of factors, including heat sink characteristics of the part being coated, type of oven (i.e. convection, IR, etc.), and oven loading factors. For more detailed information of the curing properties of ECC4865, contact Momentive Performance Materials Technical Service.

Limitations

Customers must evaluate Momentive Performance Materials products and make their own determination as to fitness of use in their particular applications.

Availability

ECC4865 silicone conformal coating may be ordered from Momentive Performance Materials, Waterford, NY 12188, or the Momentive Performance Materials sales office nearest you.

From automotive to healthcare, from electronics to construction, products from Momentive Performance Materials Inc. are practically everywhere you look. We are a global leader in silicones and advanced materials with a 70+ year heritage of innovation and being first to market – with performance applications that improve everyday life. By knowing our customers' needs and creating custom technology platforms for them, we provide science based solutions to help customers increase performance, solve product development issues and engineer better manufacturing processes.

Contact Information For product prices, availability, or order placement, contact our customer service by visiting momentive.com/ContactSilicones.

For literature and technical assistance, visit our website at: www.momentive.com

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