

ECC4865

Silicone Conformal Coating

Product Description

ECC4865 is a one component, solventless, thermal cure, conformal coating silicone. 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 Performance Properties

- 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
- Contains UV tracer
- UL certified – UL number E135148

Typical Product Data

Uncured Mixed Properties		ECC 4865
Colour		clear
Viscosity @ 25°C	mPa·s	210
Density @25°C	g/cm ³	0.98
Flash Point	°C	> 125

Cured Film Properties		ECC 4865
Hardness	Shore A	35
Dielectric Strength	kV / mm	20
Dielectric Constant		2.4
Dissipation Factor		0.01
Volume Resistivity	Ohm·cm	5·10 ¹⁴
Operating Temperature Range (continuous)	°C	-40°C to +200
Fungus Resistance (ASTM G21)		Excellent
Chemical Resistance		Very Good

Specifications

Typical product data values should not be used as specification. Assistance and specifications are available by contacting Momentive performance materials Technical Service RTV1 and RTV2.



Instructions for Use

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 5 - 15 cm per minute will typically yield a 0.08 – 0.13 mm 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 105°C. The maximum cure temperature is 175°C. 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.

Handling and Safety

Material Safety Data Sheets are available upon request from Momentive performance materials. Similar information for solvents and other chemicals used with Momentive performance materials Products should be obtained from your suppliers. When solvents are used, proper safety precautions must be observed.

Storage and Warranty Period

The warranted shelf life will be indicated by the 'use before date' on the associated documents with a minimum of 6 months when stored in the original unopened containers at temperatures between 2 and 10 °C

Availability

ECC4865 silicone conformal coating is available in 3.6 kg containers.



PRINCIPAL LOCATIONS – Regional Information

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Pacific	Akasaka Park Building - 5-2-20 Akasaka Minato-ku, Tokyo 107-6112 Japan	T +81.3.5544.3100	F +81.3.5544.3101

CUSTOMER SERVICE CENTERS

North America	Charleston, WV 25314, USA E cs-na.silicones@momentive.com		
	<ul style="list-style-type: none"> • Specialty Fluids • UA, Silanes, Resins, and Specialties • RTV Products-Elastomers • Sealants and Adhesives & Construction 	T 800.523.5862 T 800.334.4674 T 800.332.3390 T 877.943.7325	F 304.746.1654 F 304.746.1623 F 304.746.1623 F 304.746.1654
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	<ul style="list-style-type: none"> • Argentina & Chile • Brazil • Mexico & Central America • Venezuela, Ecuador, Peru, Colombia, & Caribbean 	T +54.11.4862.9544 T +55.11.4534.9650 T +52.55.5899.5135 T +58.212.285.2149	F +54.11.4862.9544 F +55.11.4534.9660 F +52.55.5899.5138 F +58.212.285.2149
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