



MOMENTIVE
performance materials

ECC3050S conformal coating

Product Description

ECC3050S conformal coating is a low viscosity, solventless silicone coating that cures very rapidly, at room temperature, to a soft, transparent silicone rubber. ECC3050S conformal coating can also be cured using a low temperature oven process to reduce cure and handling times, making it an excellent candidate to consider for high volume production conformal coating of printed circuit board assemblies with temperature limited components.

Key Performance Properties

- Fast Curing - typically ready to handle in just minutes
- Solventless Formulation - low VOC formulation
- Low Temperature Cure - room/low temperature cure (<60°C) generally safe for sensitive components
- Low Viscosity - generally suitable for spray or flow coating application
- Excellent Adhesion - outstanding long term moisture protection
- Low Modulus/Low Stress - minimizes coating-induced CTE stress to sensitive components

Momentive Performance Materials provides versatile materials as the starting point for our creative approach to ideas that help enable new developments across hundreds of industrial and consumer applications. We are helping customers

solve product, process, and performance problems; our silanes, fluids, elastomers, sealants, resins, adhesives, urethane additives, and other specialty products are delivering innovation in everything from car engines to biomedical devices.

From helping to develop safer tires and keeping electronics cooler, to improving the feel of lipstick and ensuring the reliability of adhesives, our technologies and enabling solutions are at the frontline of innovation.

Typical Product Data

UNCURED PROPERTIES

Viscosity, at 23°C [mPa·s]	550
Tack-Free Time ⁽¹⁾ , minutes (@ 23°C/73°F, 50% RH)	5
Cure Time ⁽¹⁾ , minutes (@ 23°C/73°F, 50% RH)	30
Cure Time ⁽¹⁾ , minutes (@ 60°C/140°F, 15% RH)	2

(1) 100µm (4 mils) thickness

CURED PROPERTIES (3 days @ 23°C/73°F, 50% RH)

Appearance	Transparent
Specific Gravity (23°C)	0.98
Hardness - Type A	22
Volume Resistivity MW·m {ohm·cm}	1x10 ⁷ {1x10 ¹⁵ }
Dielectric Strength kV/mm (v/mil)	20 (508)
Dielectric Loss (@ 60Hz)	0.001
Dielectric Constant (@ 60Hz)	2.60

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.

Application Method

ECC3050S conformal coating can be applied by spray or flow coating. Because ECC3050S conformal coating reacts with atmospheric moisture, dip coating and brush coating are not recommended for volume production operations. The use of atmospherically controlled application equipment is strongly recommended in order to maximize available work life. Spray coating should be done in an enclosed and ventilated area.

Curing

ECC3050S conformal coating typically cures under room temperature conditions. Depending upon ambient conditions, coated circuit boards may be cured in as little as 30 minutes. The use of a low temperature oven cure (<60°C) may significantly reduce cure/handling times to as little as three minutes. 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 applied thickness of coating, 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 ECC3050S conformal coating, contact Momentive Performance Materials.

Many of Momentive's materials may meet the requirements for homogeneous materials under 2002/95/EC (RoHS). Please refer to our website, www.momentive.com, for additional information.

ECC3050S conformal coating

Patent Status

Subject to one or more foreign patents and pending patent applications.

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute the 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

Customers considering the use of this product should review the latest Material Safety Data Sheet and label for product safety information, handling instructions, personal protective equipment if necessary, and any special storage conditions required. Material Safety Data Sheets are available at www.momentive.com or, upon request, from any Momentive Performance Materials representative. Use of other materials in conjunction with Momentive Performance Materials products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

Limitations

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

Emergency Service

Momentive Performance Materials maintains an around-the-clock emergency service for its products. The American Chemistry Council (CHEMTREC), Transport Canada (CANUTEC), and the Chemical Emergency Agency Service also maintain an around-the-clock emergency service for all chemical products:

Location	Momentive Performance Materials Products	All Chemical Products
Mainland U.S., Puerto Rico	518.233.2500	CHEMTREC: 800.424.9300
Alaska, Hawaii	518.233.2500	CHEMTREC: 800.424.9300
Canada	518.233.2500	CANUTEC: 613.996.6666 (collect) or CHEMTREC: 800.424.9300
Europe, Middle East, Africa	+32.(0)14.58.45.45 (Belgium)	CHEMTREC: +1-703.527.3887 (collect)
Latin America, Asia/Pacific, all other locations worldwide	+518.233.2500	CHEMTREC: +1-703.527.3887 (collect)
At sea	Radio U.S. Coast Guard, which can directly contact Momentive Performance Materials at 518.233.2500 or CHEMTREC at 800.424.9300.	

DO NOT WAIT. Phone if in doubt. You will be referred to a specialist for advice.

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