

ECC3051S

Solvent Free Conformal Coating

Description

ECC3051S is a one-component, low viscosity silicone conformal coating material that cures on exposure to atmospheric moisture to form a flexible protective coating. ECC3051S conformal coating cures quickly in ambient conditions without the need for curing equipment, and can achieve faster tack-free time with exposure to mild heat. ECC3051S conformal coating can help reduce the potential for corrosion of electronic components, and under certain test conditions* has been found to surpass other polymers such as acrylics, polyurethane, polyolefin and other silicone polymers in corrosion prevention.

Key Features and Typical Benefits

- Fast tack-free time
- Low volatility
- Solvent-free formulation (100% solid content)
- Contains UV indicator for ease in inspection under black light
- Continuous operating temperature range of -40 ~ 150 °C
- Flame retardant: UL94V-0 certified (File No. E135148)
- Meets IEC60068-2-52 Severity 5 standard for Salt Spray performance
- Meets IEC60068-2-60 Method 4 standard for Mixed Gas Corrosion performance
- Meets IPC-CC-830B / MIL-I-46058C standard for Appearance, Fluorescence, Thickness, Flexibility, Dielectric Withstanding Voltage, Moisture and Insulation

Resistance, Thermal Shock, Temperature and Humidity Aging.

Typical Physical Properties (JIS K 6249)

<u>Property</u>	<u>Unit</u>	<u>Value</u>
Typical Uncured Properties (23 °C / 50% RH)		
Appearance		Translucent
Viscosity	mPa·s	550
Tack-free Time ⁽¹⁾	min	5
Cure Time ⁽²⁾ (23 °C, 50% RH)	min	30
Cure Time ⁽²⁾ (60 °C, 15% RH)	min	2

Typical Physical Properties, continued

<u>Property</u>	<u>Unit</u>	<u>Value</u>
Typical Cured Properties (3 days at 23 °C / 50% RH)		
Appearance		Translucent
Density	g/cm ³	0.98
Hardness (Type A)		22
Volume Resistivity	MΩ·m {Ω·cm}	1 x 10 ⁷ {1 x 10 ¹⁵ }
Dielectric Strength	kV/mm	20
Dielectric Constant (60Hz)		2.60
Dielectric Loss (60Hz)		0.001
Low Molecular Siloxane (D ₄ -D ₁₀)	wt%	0.01

Typical properties are average data and are not to be used as or to develop specifications.

⁽¹⁾Thickness: 100 um ⁽²⁾Thickness: 100um, 180 °peel

Potential Applications

- Conformal coating of electrical and electronic parts
- Moisture-proof coating of circuit boards
- Thin section potting of electrical and electronic parts

General Considerations For Use

- Substrate surface should be thoroughly cleaned with a suitable solvent such as alcohol, xylene methyl ethyl ketone (MEK) etc.
- Wear eye protection and protective gloves as required while handling.
- Adequate ventilation must be maintained in the work area at all times.
- While the typical operating temperature for silicone materials ranges from -45°C to 200°C, the long-term maintenance of its initial properties is dependent upon design related stress considerations, substrate materials, frequency of thermal cycles, and other factors.

Currently Available Packaging

- 1kg can in case of 10
- 18kg pail
- 18kg bladder pack

*Based upon comparative tests performed by or contracted by Momentive and conducted in 2016 according to IEC standards for salt spray and mixed gas corrosion tests, using a sample of select non-Momentive, competitive product offerings.

Patent Status

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 should review the latest Safety Data Sheet (SDS) and label for product safety information, safe handling instructions, personal protective equipment if necessary, emergency service contact information, and any special storage conditions required for safety. Momentive Performance Materials (MPM) maintains an around-the-clock emergency service for its products. SDS are available at www.momentive.com or, upon request, from any 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.

Limitations

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

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