

ECCOCOAT[®] SC 71

Two Component, Silicone Coating

Internet Address:

www.emersoncuming.com

Key Feature:	Benefit:
<ul style="list-style-type: none"> High temperature resistance 	<ul style="list-style-type: none"> Coating can survive severe environmental conditions
<ul style="list-style-type: none"> Easy 1 to 1 mix ratio 	<ul style="list-style-type: none"> Ease of use
<ul style="list-style-type: none"> Soft, resilient coating 	<ul style="list-style-type: none"> Low mechanical stress on delicate components

Product Description:

ECCOCOAT SC 71 is a two component, room temperature curable silicone coating. It has an easy 1 to 1 mix ratio and maintains flexibility and electrical properties over a wide operating temperature range. ECCOCOAT SC 71 can be easily applied by spray, brush, or dip methods.

Applications:

ECCOCOAT SC 71 is designed for coating printed circuits, particularly those which are on flexible board, electrical and electronic components which require protection at extreme temperatures yet remain resilient. A coating of ECCOCOAT SC 71 is useful on delicate components which are to be embedded in epoxy resin.

Instructions For Use:

Thoroughly read the information concerning health and safety contained in this bulletin before using. Observe all precautionary statements that appear on the product label and/or contained in individual Material Safety Data Sheets (MSDS).

To ensure the long term performance of the coated assembly, complete cleaning of the substrates should be performed to remove contamination such as oxide layers, dust, moisture, salt, and oils which can cause poor adhesion or corrosion in a coated part. For information on proper substrate preparation, refer to the

reprint "Good Adhesive Bonding Starts With Surface Preparation" available from Emerson & Cuming.

This RTV silicone product is based on condensation cure chemistry and will cure in contact with most materials without cure inhibition. In addition, catalysts used to cure this product may cause corrosion of copper and other sensitive metals.

In general, silicone materials exhibit outstanding release properties and will not adhere to most substrates. If adhesion is required, apply a thin, uniform coating of PRIMER S 11 to the desired clean, dry substrates. Allow PRIMER S 11 to dry for 30-60 minutes at room temperature before applying this silicone material.

Some separation of components is common during shipping and storage. For this reason, it is recommended that the contents of the shipping container be thoroughly mixed prior to use. Power mixing is preferred to ensure a homogeneous product.

Accurately weigh resin and hardener into a clean container in the recommended ratio. Weighing apparatus having an accuracy in proportion to the amounts being weighed should be used.

Blend components by hand, using a kneading motion, for 2-3 minutes. Scrape the bottom and sides of the mixing container frequently to produce a uniform mixture.

ECCOCOAT SC 71 is the proper consistency for most spray applications or can be brush or dip applied. For dilution or clean-up, toluene is recommended. For spray applications, adjust nozzle, air pressure and spray distance so that most of the solvent has evaporated before impingement. Since the material contains solvent, ECCOCOAT SC 71 is recommended for coatings of 5 mil (125 micron) or less to allow the solvent to escape from the coating before cure.

Properties of Material As Supplied:

Property	Test Method	Unit	Value - Part A	Value - Part B
Chemical Type			Silicone	Silicone catalyst in solvent
Appearance	Visual		Red liquid	Clear liquid
Density	ASTM-D-792	g/cm ³	1.25	0.7
Brookfield Viscosity	ASTM-D-2393	Pa.s cP	13 13,000	0.01 10

Properties of Material As Mixed:

Property	Test Method	Unit	Value
Mix Ratio - Amount of Part B per 100 parts of Part A		By Weight	100
		By Volume	100
Working Life (100 g @ 25°C)	ERF 13-70	hours	8
Density	ASTM-D-792	g/cm ³	0.9

Cure Schedule:

Cure at any one of the recommended cure schedules. Before curing, especially at elevated temperatures, make sure solvent has evaporated.

Temperature	Cure Time
°C	Time (hours)
25	16
95	2

Properties of Material After Application:

Property	Test Method	Unit	Value
Hardness	ASTM-D-2240	Shore A	60
Elongation	ASTM-D-412	%	140
Water Absorption	ASTM-D-570	%	0.1
Temperature Range of Use		°C	-55 to + 200
Dielectric Strength	ASTM-D-149	kV/mm	27.6
		V/mil	700
Dielectric Constant	ASTM-D-150	-	4.0
Dissipation Factor	ASTM-D-150	-	0.02
Volume Resistivity @ 25°C	ASTM-D-257	Ohm-cm	10 ¹⁴

Storage and Handling:

The shelf lives of ECCOCOAT SC 71 Parts A and B are 6 months at 25°C. For best results, store in original, tightly covered containers. Storage in cool, clean and dry areas is recommended. Usable shelf life may vary depending on method of application and storage conditions.

Health and Safety:

The ECCOCOAT SC 71 Part A, like most industrial compounds, possesses the ability to cause skin and eye irritation upon contact. Handling this product at elevated temperatures may also generate vapors irritating to the respiratory system.

The ECCOCOAT SC 71 Part B is considered a flammable material. Like most industrial compounds, this product also possesses the ability to cause skin and eye irritation upon contact. Handling this product at elevated temperatures may also generate vapors irritating to the respiratory system. This product should be kept away from all flame, spark and heat sources, and must be used only with proper exhaust ventilation. Overexposure to vapors may result in central nervous

system effects; symptoms may include headache, dizziness, and in extreme cases, loss of consciousness.

Good industrial hygiene, ventilation and safety practices should be followed when handling this product. Proper eye protection and appropriate chemical resistant clothing should be worn to minimize direct contact. Consult the Material Safety Data Sheet (MSDS) for detailed recommendations on the use of engineering controls, flammability precautions and personal protective equipment.

This information is only a brief summary of the available safety and health data. Thoroughly review the MSDS for more complete information before using this product.

Attention Specification Writers:

The values contained herein are considered typical properties only and are not intended to be used as specification limits. For assistance in preparing specifications, please contact Emerson & Cuming Quality Assurance for further details.

■ Underfills Solder Alternatives C.O.B. Materials

Film Adhesives Thermal Interfaces ■



■ Encapsulants Coatings Adhesives

Electrically Conductive Coatings and Adhesives ■

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