



SILICOAT

SILICONE BASED CONFORMAL COATING

TECHNICAL DATA SHEET

SILICOAT is a silicone based coating designed for the protection of printed circuit board assemblies & other electronic and electrical components from harsh environmental conditions. Its high dielectric strength prevents short circuiting, high voltage arcing and corona effect. **SILICOAT** is an air drying; room temperature curing, single component coating which protects the coated surface from moisture, dust, corrosion, fungus and thermal shock. Its fast air drying property allows components to be ready for further handling within 15-20 minutes, making it convenient for further processes.

It protects and insulates electrical and electronic components and assemblies including control panels, solenoid coils, generators, motors and transformers. Its good adhesion property allows it to be applied on a variety of substrates like metals, ceramics, plastics etc. **SILICOAT** does not contain any CFC's and is RoHS compliant.

PROPERTY	TEST STANDARD	VALUE
Properties of Liquid SILICOAT		
Color		: Light straw
Appearance		: Transparent
Viscosity	ASTM D 1824	: 15 - 20 cps
Density	ASTM D 1475	: 0.8 - 1.0 gm/cc
Flash point	IS: 10026	: 0.5°C
Solids content	ASTM D 3960	: 22 ± 3%
V.O.C	ASTM D 3960	: 688 gm/Ltr
Coverage at 25 µm	Calculated	: 50 sq.cm/gm
Recommended coating thickness		: 50 - 100µm
Properties of cured SILICOAT		
Physical Properties:		
Color		: Clear
Appearance		: Transparent
Continuous use operating range		: -60°C to +200°C
Thermal shock	MIL-I-46058C	: Pass
Flexibility	MIL-I-46058C	: Pass
Flammability	ASTM D 635	: Self extinguishing
Solderability		: Excellent
Weather resistance		: Very Good
Electrical Properties:		
Dielectric withstand Voltage	MIL-I-46058C	: Pass
Leakage current @1500V	MIL-I-46058C	: 0.9 µA
Insulation resistance	MIL-I-46058C	: 2.85x10 ¹³ Ω
Moisture resistance	MIL-I-46058C	: 1.25x10 ¹² Ω
Dielectric strength	ASTM D 149	: >80 KV/mm
Surface resistivity	IEC 60093	: 1.9 x 10 ¹⁶ Ω
Volume resistivity	IEC 60093	: 4.1 x 10 ¹⁵ Ω-cm
Dielectric constant at 50Hz	ASTM D 150	: 1.36
Dissipation factor at 50Hz	ASTM D 150	: 0.025



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Chemical Properties:

Type		: Silicone
Fungus resistance rating	MIL-I-46058C	: Zero
Resistance to chemicals		: Fair

DIRECTIONS FOR USE:

Surface to be coated should be thoroughly cleaned prior to coating in order to ensure that satisfactory adhesion to the substrate is achieved. It should be free of moisture, flux residues, dirt, wax, grease, oil and other contaminants. Contamination under the coating may become corrosive and lead to assembly failure.

SILICOAT can be applied by spraying, brushing or dip coating. The liquid is in ready to use condition. However, over a period of extended time, viscosity change can occur due to solvent evaporation. In such a case, the viscosity can be adjusted by addition of **Thinner/Stripper 'CTS 05'**. The thickness and uniformity of the coating depends on the operator's technique and must be determined by trials with the method concerned.

Spraying - Bulk: **SILICOAT** is suitable for use in manual spray guns as well as selective coating equipment.

Spraying - Aerosol: The can should be held at an angle of not more than 45° from the vertical and at a distance of 20 to 25 cm from the surface to be coated.

Brushing: Use a brush having soft nylon bristles. Care must be taken not to re-apply on partially cured surface in order to avoid bristle marks.

Dip coating: The board assemblies should be immersed in the dipping tank in the vertical position for approximately 10 seconds and then withdrawn at a suitable rate (to be determined by trials) to ensure that an even film covers the entire surface.

CURING PROCESS: The coating will air dry tack free in 15 to 20 minutes, curing fully in 24 hours. The curing time can be accelerated by curing at room temperature for 2 hours followed by curing in an air circulating oven @80°C for 1 hour. This process will also ensure that maximum coating properties are achieved.

REPAIR: The cured coating may be removed by soaking and cleaning with **Thinner/Stripper 'CTS 05'**. Component replacement may be accomplished by localized desoldering/soldering directly through the coating. Re-apply the coating on the repaired area.

PACKING & SHELF LIFE:

<u>Description</u>	<u>Packing</u>	<u>Shelf Life</u>
Bulk	5/20 Ltr	12 months
Aerosol	500 ml	24 months

HANDLING & STORAGE: Keep the product away from fire and heat as the solvents in **SILICOAT** are flammable. Avoid contact with eyes and skin. Avoid inhalation of vapors. Use only in well ventilated areas. Store in a cool, dry room at room temperature in tightly closed container. Keep away from fire and heat. Refer to MSDS before use.

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of the product are beyond our control, this information should not be used as a substitute for customer's tests to ensure that our products are safe, effective and fully satisfactory for the intended end use. Our sole warranty is that the product will meet the sales specifications in effect at the time of shipment.