SCHPC-101

Conformal Coating
Technical Data Sheet
SCHPC-101- xx

SCHPC101 – BASE MATERIAL
XX – VISCOSITY OF THE MATERIAL
XX=18 – Spray/Brushing Viscosity
XX=15 – Special Spray Viscosity
XX=23 – Special Brush viscosity

Acrylic Conformal Coating

SCHPC101 is a single part, fast drying, superior, acrylic conformal coating for printed circuit assemblies and electrical equipment. Used in all areas of high-end electronics including aerospace, military, and automotive engineering and meets Mil-I-46058C and IPC-CC-830 Qualifications.

- Offers complete protection from harsh environment conditions such as high humidity, dust, corrosion, fungus, salt and thermal extremes
- Suitable for LED applications due to high clarity and transparency performance
- Meets MIL-I-46058C and IPC-CC-830 Qualifications
- Easily reworked using solvents such as Trinity Shields thinners and strippers
- High speed drying allows efficient electronic production processing
- Meets the Requirement of RoHS Annex II of 2011/65/EU and Amendment (EU) 2015/863.
- Coating does not contain > 0.10% of any candidate substances of very high concern (SVHC) per Article 59(10) or REACH Regulations
- All materials and substances in this product have been pre-registered or are exempt from REACH Registration

Physical Properties

Color	:	Water White transparent - light amber
Odor	:	Solvent
Viscosity @ 24°C		
Zahn #3 cup - SCH PC101 BASE	:	25 ±1 second(s)
Zahn #2 cup - SCH PC101-23	:	30 ±1 second(s)
Zahn #2 cup - SCH PC101-18	:	25 ±2 second(s)
Zahn #2 cup - SCH PC101-15	:	20 ±2 second(s)
Specific Gravity - Base/18/15	:	0.934 / 0.904 / 0.894
Weight (kg /L) - Base/18/15	:	0.94 / 0.90 / 0.90
VOC Content (%)	:	68-79%
Flash Point	:	6°C
Solids Content (w/w%)		
SCH PC101	:	32%
SCH PC101-23	:	28%
SCH PC101-18	:	24%
SCH PC101-15	:	21%
SCH PC101 Aerosol	:	16%

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Electrical Properties	Dielectric strength (kV/mil)	:	1.776
	Dielectric Constant (1 GHz)	:	3.49
	Dissipation Factor (1 GHz)	:	0.0543
	Moisture Resistance (Mil-I-46058C)	:	Passes
	Volume Resistivity	:	$1.14x10^{14}$
Physical Performance	Temperature Range	:	-40°C to 135°C
	Coverage @ 25um		
	SCH PC101	:	12.8 m^2 Per liter
	SCH PC101-23	:	11.2 m^2 Per liter
	SCH PC101-18	:	9.6 m^2 Per liter
	SCH PC101-15	:	8.4 m^2 Per liter
	SCH PC101 Aerosol	:	6.2 m^2 Per liter
	Adhesion	:	Excellent
	Thermal Cycling (Mil-I-46058C)	:	Passes
Work Schedule	Dry to Touch	:	15-20 minutes
	Tack Free time	:	45-60 minutes
	Recommended Dry time	:	24 hours @ room temperature
		:	2 hours @ 60°C

APPLICATION

Cleaning

In general PCBs should be thoroughly cleaned before coating. This may be required to ensure that satisfactory adhesion to the substrate is possible. Also, all flux residues may need to be removed as they can become corrosive if left on the PCB.

Dip Coating

Ensure that the coating material in the container has been agitated thoroughly and has been allowed to stand for all the air bubbles to disperse.

Thinner-S should be used to keep the A101 coating at a suitable viscosity for dipping. Thinner-s is added periodically as the solvent evaporates. The viscosity should be checked using a viscosity meter or "flow cup" on a regular basis.

The board assemblies should be immersed in the dipping tank in the vertical position, or at an angle as close to the vertical as possible. It is possible to dip a PCB horizontally and SCH and its agents would be happy to help with this process. Connectors should not be immersed in the liquid unless they are very carefully masked.

For good penetration it may be necessary to leave the circuit board submerged for a short time until the air bubbles have dispersed. The board or boards should then be withdrawn VERY

SLOWLY so that an even film covers the surface. Typical withdrawal rates are 10-20 cm/min (4-8"/min). After withdrawing, the boards should be left to drain over the tank until the majority of residual coating has left the surface.

After the draining operation is complete, the boards should be placed in an air-circulating drying cabinet and left to dry.

Bulk Spraying

Use SCHPC101-18/15 for bulk spraying using a spray gun, if required, adjust the viscosity using Thinner-S before spraying. The optimum viscosity to give coating quality and thickness depends on the spray equipment. If the bulk coating material has been agitated, allow to rest until air bubbles have dispersed.

SCHPC101-18/15 is suitable both for use in manual spray guns and selective spray equipment.

A good technique is to hold the gun at 45 degrees angle and a distance of approximately 20-25cm while spraying. Spray a thin and continuous film onto the circuit with an even motion. Turn the circuit 90 degrees and repeat the process. Rotate a full 360 degrees to cover all sides of the circuit.

This process helps to ensure penetration of the coating beneath the components and in confined spaces. Allow the coating to dry for a few minutes. Apply a second coat as required to meet any coating thickness requirements specified.

After spraying, the boards should be placed in an air-circulating drying cabinet and left to dry for handling.

Aerosol Spraying

A good technique is to hold the aerosol can at 45 degrees angle and a distance of approximately 20-25cm while spraying. Spray a thin and continuous film onto the circuit with an even motion. Turn the circuit 90 degrees and repeat the process. Rotate a full 360 degrees to cover all sides of the circuit.

Brushing

Use SCH PC101-18 or 23 Ensure that the coating material has been agitated thoroughly and has been allowed to settle to avoid bubbles in the coating. The coating should be kept at ambient temperature. Gently apply the coating with a good quality brush so as not to leave brush marks and so that the components and wiring are not disturbed. Dilution using Thinner-S can aid in the flow of the conformal coating during application.

Drying Times & Curing Conditions

SCHPC101 will be touch dry after 10-15 minutes at room temperature and does not require a thermal cure. The full properties of SCHPC101 will be obtained after 24 hours at room temperature. This can be accelerated by the use of a thermal cure of 2 hours at 60°C or 4 hours at 45°C.

Coating Removal & Repair

SCHPC101 can be easily removed using Stripper ST101, which can be locally or completed stripped depending on requirements. Application can be achieved using a cotton bud, brush or complete immersion in a bath of ST101. Compatibility of the ST101 with the PCB should be assessed at all times.

Inspection

The SCHPC101 conformal coating has a UV trace within the coating itself, which fluoresces under UV light. This aids inspection of the material after drying and during coating application. Suitable lighting includes UVA.

	Packaging	**Shelf Life**
SCHPC101	525 ml Aerosol	2 Years
	5 Liter Bulk	2 Years
	20 Liter Bulk	2 Years
Thinner-S	5 Liter	2 years
	20 Liter	2 years
Stripper ST101	5 Liter	2 years
	20 Liter	2 years

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