

## FSCP Flexible Silicone Coating Plus

FSCP is a solvent based conformal coating designed to protect printed circuit boards, particularly those exposed to high humidity environments. FSCP offers enhanced adhesion to a variety of substrates, including solder resists with low surface energy.

- Excellent adhesion; ideal for substrates which are difficult to bond to due to low surface energy
- High surface insulation resistance; good resistance to humid environments
- Flexible coating; good resistance to a wide and varying temperature range
- Ideal for applications requiring rework; cured coating can be removed with Electrolube ULS

<b>Approvals</b>	<b>RoHS-2 Compliant (2011/65/EU): IEC 61086-2:</b>	<b>Yes Meets approval</b>
<b>Liquid Properties</b>	Appearance:	Clear translucent liquid
	Density @ 20°C (g/ml):	0.960
	VOC Content:	53.5%
	Flash Point:	Approx. 25°C
	Solids content:	46.5%
	Viscosity @ 20°C (mPa s):	400
	Touch Dry:	10-15 minutes
	Recommended Drying Time:	24 Hours @ 20°C 4 Hours @ 60°C 2 Hours @ 90°C
	Coverage @ 25µm:	16m <sup>2</sup> per litre
<b>Dry Film Coating</b>	Colour:	Colourless
	Operating Temperature Range:	-50°C to +125°C
	Flammability:	Meets UL94 V-0
	Thermal Cycling (IEC 60068-2-14):	Pass
	Coefficient of Expansion:	150ppm
	Dielectric Strength:	80 kV/mm
	Dielectric Constant:	2.7
	Insulation Resistance:	1 x 10 <sup>20</sup> Ohms/cm
	Dissipation Factor @ 100Hz @ 25°C:	0.001
	Moisture Resistance (IEC 60068-2-78):	Pass
	Salt Spray (IEC 60068-2-11):	Pass

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All information is given in good faith but without warranty. Properties are given as a guide only and should not be taken as a specification.

Electrolube cannot be held responsible for the performance of its products within any application determined by the customer, who must satisfy themselves as to the suitability of the product.

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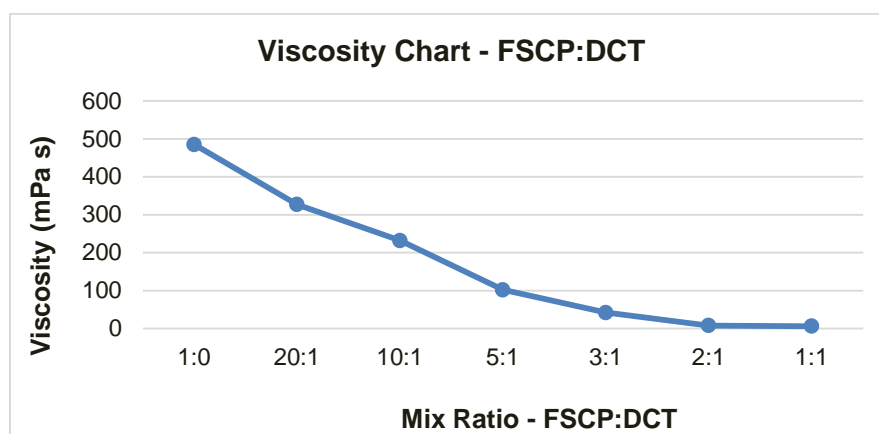
BS EN ISO 9001:2008  
Certificate No. FM 32082

<u>Packaging</u>	<u>Description</u>	<u>Order Code</u>	<u>Shelf Life</u>
<u>FSCP Conformal Coating</u>	5 Litre Bulk	FSCP05L	36 Months
<u>Conformal Coating Thinners</u>	1 Litre	DCT01L	36 Months
	5 Litre	DCT05L	36 Months
<u>Removal Solvent</u>	200ml Aerosol	ULS200D	36 Months
	400ml Aerosol	ULS400D	36 Months
	1 Litre Bulk	ULS01L	72 Months
	5 Litre Bulk	ULS05L	72 Months
	25 Litre Bulk	ULS25L	72 Months

### Directions for Use

FSCP can be sprayed, dipped or brushed. The thickness of the coating depends on the method of application (typically 25-75 microns). Temperatures of less than 16°C or relative humidity in excess of 75% are unsuitable for the application of FSCP. As is the case for all solvent based conformal coatings, adequate extraction should be used (refer to MSDS for further information).

Substrates should be thoroughly cleaned before coating. This is required to ensure that satisfactory adhesion to the substrate is achieved. Also, all flux residues must be removed as they may become corrosive if left on the PCB. Electrolube manufacture a range of cleaning products using both hydrocarbon solvent and aqueous technology. Electrolube cleaning products produce results within Military specification.



## **Spraying-Bulk**

FSCP needs to be diluted with the appropriate thinners (DCT) before spraying. The optimum viscosity to give coating quality and thickness depends on the spray equipment and conditions, but normally a suitable spray viscosity is typically 50-80mPa s. If bulk coating material has been agitated, allow to stand until air bubbles have dispersed.

FSCP is suitable both for use in manual spray guns and selective coating equipment. The selected nozzle should enable a suitable even spray to be applied in addition to suiting the prevailing viscosity. The normal spray gun pressure required is 274 to 413 kPa (40 - 60 lbs/sq.inch). After spraying, the boards should be placed in an air-circulating drying cabinet and left to dry.

## **Dip Coating**

Ensure that the coating material in the container has been agitated thoroughly and has been allowed to stand for at least 2 hours for all the air bubbles to disperse. Conformal coating thinners (DCT) should be used to keep the FSCP coating at a suitable viscosity for dipping. DCT is added periodically as the solvent evaporates. The viscosity should be checked using a viscosity meter or "flow cup". The board assemblies should be immersed in the FSCP dipping tank in the vertical position, or at an angle as close to the vertical as possible. Connectors should not be immersed in the liquid unless they are very carefully masked. Electrolube Peelable Coating Masks (PCM/PCS) are ideal for this application.

Leave submerged for approximately 10 seconds until the air bubbles have dispersed. The board or boards should then be withdrawn slowly (1 to 2s/mm) so that an even film covers the surface. After withdrawing, the boards should be left to drain over the tank or drip tray 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.

## **Brushing**

Ensure that the coating material has been agitated thoroughly and has been allowed to settle for at least 2 hours. The coating should be kept at ambient temperature. When the brushing operation is complete the boards should be placed in an air-circulating drying cabinet and left to dry.

## **Inspection**

FSCP contains a UV trace, which allows inspection of the PCB after coating to ensure complete and even coverage. The stronger the reflected UV light, the thicker the coating layer is. Fluorescence emission will occur between 400-500nm; peak emission is around 440nm.

Revision 1: Oct 2013