

FSCP

Flexible Silicone Coating Plus

DESCRIPTION

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.

READ ENTIRE TECHNICAL BULLETIN BEFORE USING THIS PRODUCT

FEATURES AND BENEFITS

- 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

APPROVALS

Standard	Status
RoHS Compliant (2015/863/EU)	Yes
IEC 61086-2	Meets Approval

PRODUCT INFORMATION

For available packaging sizes please visit:

electrolube.com

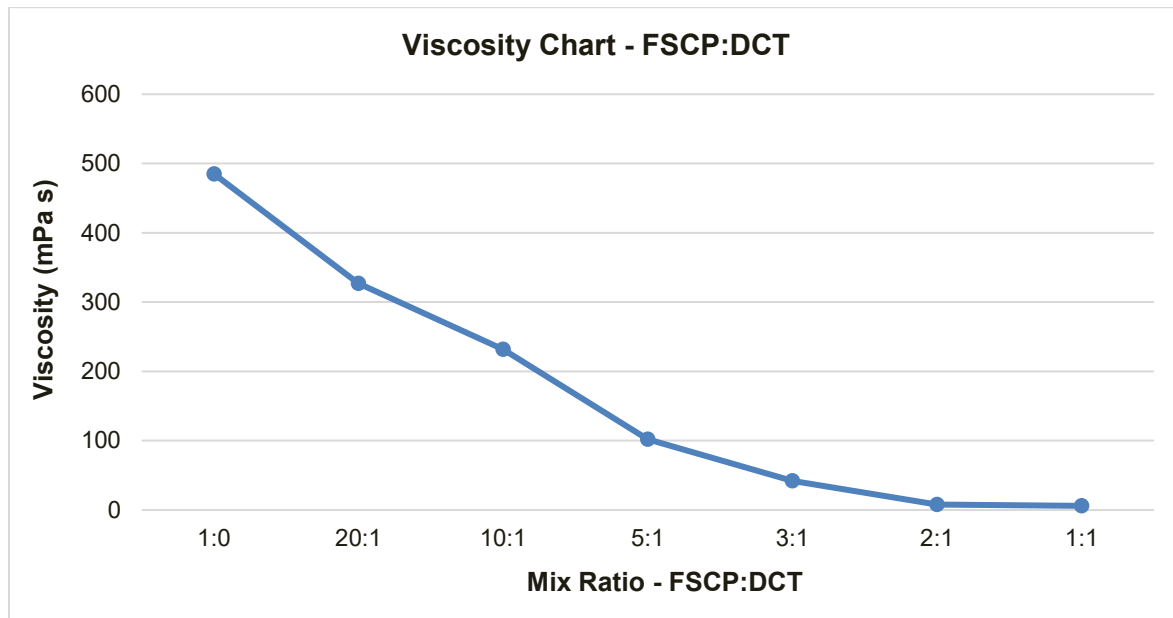
PHYSICAL PROPERTIES

Category	Results
Liquid Properties	
Appearance	Clear Translucent Liquid
Density @ 20 °C (g/mL)	0.96
VOC Content	53.5%
Flash Point (°C)	Approximately 25
Solid Content	46.5%
Viscosity (mPa s @ 20 °C)	400 to 600
Touch Dry	10 to 15 minutes
Recommended Drying Time	
20 °C	24 hours
60 °C	4 hours
90 °C	2 hours
Coverage @ 25µm	16 m ² /L
Dry Film Coating	
Color	Colorless
Operating Temperature Range (°C)	-50 to 125
Flammability	Meets UL94 V-0
Thermal Cycling (IEC 60068-2-14)	Pass
Coefficient of Expansion (ppm)	150
Dielectric Strength (kV/mm)	80
Dielectric Constant	2.7
Insulation Resistance	1 x 10 ²⁰ Ω
Dissipation Factor @ 100MHz, 25 °C	0.001
Moisture Resistance (IEC 60068-2-78)	Pass
Salt Spray (IEC 60068-2-11)	Pass

APPLICATION GUIDELINES

FSCP can be sprayed, dipped or brushed. The thickness of the coating depends on the method of application (typically 25 to 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. We manufacture a range of cleaning products using both hydrocarbon solvent and aqueous technology. Our cleaning products produce results within Military specification.



APPLICATION GUIDELINES - BULK

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 to 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 to 60 lb./sq.in.). After spraying, the boards should be placed in an air-circulating drying cabinet and left to dry.

TYPICAL PRODUCT APPLICATION

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. UV light in the region of 375nm should be used for inspection.

ADDITIONAL INFORMATION

Shelf Life

Description	Shelf Life
FSCP Conformal Coating	36 Months
Conformal Coating Thinners	36 Months
Removal Solvent	
Bulk	72 Months
Aerosol	36 Months

SAFETY & WARNING

It is recommended that the company/operator read and review the Safety Data Sheets for the appropriate health and safety warnings before use. **Safety Data Sheets are available.**

CONTACT INFORMATION

To confirm this document is the most recent version, please contact
TechnicalSupportTeam@hkw.co.uk
www.electrolube.com

North America 109 Corporate Blvd. South Plainfield, NJ 07080, USA 1.800.367.5460	Europe Ashby Park Coalfield Way Ashby de la Zouch Leicestershire, LE65 1JR, UK 44.01530.41960	Asia 8/F., Paul Y. Centre 51 Hung To Road Kwun Tong, Kowloon, Hong Kong 852.3190.3100
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Also read carefully warning and safety information on the Safety Data Sheet. This data sheet contains technical information required for safe and economical operation of this product. READ IT THOROUGHLY PRIOR TO PRODUCT USE . Emergency safety directory assistance: US 1 202 464 2554, Europe + 44 1235 239 670, Asia + 65 3158 1074, Brazil 0800 707 7022 and 0800 172 020, Mexico 01800 002 1400 and (55) 5559 1588

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