Technical Data Sheet

LFCC
Lead Free Conformal Coating

PRODUCT DESCRIPTION

LFCC is a flexible, transparent, fast drying modified silicone conformal coating specifically designed for the protection of electronic circuitry processed with lead free soldering products. It has been formulated to offer excellent adhesion properties to these lead free flux resides while maintaining the high specification required of conformal coatings in today's industries.

FEATURES

- Compatible with lead free flux residues
- Fluoresces under UV light for ease of inspection.
- Excellent operating temperature range.
- Can be soldered through.
- Non-corrosive to Cadmium and Zinc plate (contains no phenols).
- Excellent resistance to mould growth & UV light
- Excellent dielectric properties at all frequencies in accordance to DEF-STAN 59-4/2 Annex C

Approvals	**DEF-STAN 59/47 (Issue 4)**	**Meets approval**
	MIL Approval (MIL-1-46058C):	**Meets approval**
	RoHS Compliant (2002/95/EC):	**Yes**
	IPC-CC-830	**Meets approval**
Liquid Properties	Appearance:	Clear Pale Straw
	Specific Gravity (Density) @ 20°C:	0.78 (Aerosol)
	VOC Content:	83% (Aerosol)
	Flash Point:	<23°C (Aerosol)
	Solids content:	27% (Aerosol)
	Viscosity @ 20°C:	Not Applicable
	Touch Dry:	50 - 55 minutes
	Recommended Drying Schedule:	24 hours @ 20°C Or 1 hour @ 20°C followed by 2 hours at 90ºC
	Coverage @ 25 µm:	4.32m² (400ml Aerosol)

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BS EN ISO 9001:2000 Certificate No. FM 32082

Cured Film Coating:	Colour:	Colourless
	Operating Temperature Range:	-50°C to +150°C
	Flammability:	Meets UL746C Approval
	Thermal Cycling:	Meets MIL 1-46058C Approval
	Coefficient of Expansion:	85ppm
	Dielectric Strength:	80 kV/mm
	Dielectric Constant:	3.5 @ 1 MHz
	Insulation Resistance:	1×10^{15} Ohms/cm (DEF-STAN 59/47)
	Dissipation Factor:	0.034 @1 MHz 25°C
	Moisture Resistance (MIL-1-46058C):	Meets approval

Packing	**Description**	**Order Code**	Shelf Life
LFCC Conformal Coating	400ml Aerosol	LFCC400ML	36 Months
Remover	1 Litre Bulk	DRG01L	36 Months

Directions For Use

The thickness of the coating depends on the method of application (typically 25 microns). Temperatures of less than 16°C or relative humidity in excess of 75% are unsuitable for the application of LFCC. 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 - Aerosol

When applying LFCC in aerosol form care must be taken to ensure the can is not shaken before use. Shaking the can will introduce excessive air bubbles and will give a poor coating finish.
The can should be held at 45°, and 200mm from the substrate to be coated. The valve should then be depressed when the can is pointing slightly off target and moved at about 100mm / second across the target. To ensure the best coating results are achieved try to use a smooth sweeping motion with small overlap for successive rows.
To ensure penetration of the coating beneath the components and in confined spaces, spray the assembly from all directions to give an even coating. After spraying, the boards should be placed in an air-circulating drying cabinet and left to dry.

Inspection

LFCC 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.

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