

PROVISIONAL TDS

LTC

Aromatic Free Low Temperature Coating

Electrolube LTC is a fast-drying, tough and highly flexible, modified synthetic rubber conformal coating, designed specifically for the protection of high-performance electronic circuitry. Due to its unique base resin, LTC maintains its flexibility at extremely low temperatures and provides extremely low moisture vapour permeability. This readily repairable coating maintains its excellent mechanical and dielectric properties over a wide temperature range, especially after thermal shock testing.

- Low odour coating, free of aromatic solvents; fast touch dry <10 minutes
- Low stress; flexible at low temperature with improved high temperature and thermal shock performance
- Very low moisture vapour permeability; excellent resistance to highly humid/condensing environments
- Improved adhesion compared with other synthetic rubber conformal coatings

Approvals **RoHS-2 Compliant (2011/65/EU):** **Yes**

Liquid Properties

Appearance:	Clear faint yellow liquid
Density @ 20°C (g/ml):	0.81 ±0.02
VOC Content:	77%
Solids Content:	22 ±1.5%
Viscosity (mPa s @ 20°C):	150
Touch Dry:	10 minutes
Recommended Drying Time:	24 hours @ 20°C, 30 minutes @ 80°C

Dry Film Coating:

Colour:	Clear
Operating Temperature Range:	-65°C to +130°C
Insulation Resistance:	1 x 10 ¹⁵ Ohms/cm (DEF-STAN 59/47)
Moisture Resistance (IPC-CC-830B):	Meets Requirements

<u>Packaging</u>	<u>Description</u>	<u>Order Code</u>	<u>Shelf Life</u>
<u>LTC Conformal Coating</u>	5 Litre Bulk	LTC05L	24 Months
<u>LTC Thinners</u>	5 Litre	LTCT05L	36 Months
<u>Removal Solvent</u>	1 Litre	ULS01L	36 Months

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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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Directions for Use

LTC 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 LTC. 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

LTC is suitable both for use in manual spray guns and selective coating equipment. If bulk coating material has been agitated, allow to stand until air bubbles have dispersed. 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. The board assemblies should be immersed in the LTC 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 Mask (PCM) is 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 2 Seconds / 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

LTC 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.

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