

## APL5050

### Acrylic Protective Lacquer – Special Blend

APL5050 is a modified version of APL which provides a flexible, fast drying transparent acrylic conformal coating for the protection of electronic circuitry. APL5050 has been formulated to meet many of today's commercial applications.

- Acrylic conformal coating; special blend of viscosity for horizontal automated dip coating applications
- Improved flow characteristics; allows coating of difficult or inaccessible areas
- Excellent adhesion to a wide variety of substrates; resistant to mould growth
- Fluoresces under UV light for ease of inspection; can be removed with Electrolube ULS or ACT5050

<b>Approvals:</b>	<b>RoHS Compliant (2015/863/EU):</b> <b>MIL Approval (MIL-1-46058C):</b> <b>IPC-CC-830</b>	<b>Yes</b> <b>Meets approval</b> <b>Meets approval</b>
<b>Liquid Properties</b>	Appearance: Density @ 20°C (g/ml): VOC Content: Flash Point: Solids Content: Viscosity (mPa s @ 20°C): Touch Dry:  Recommended Drying Time:  Coverage @ 25µm:	Pale Coloured Liquid 0.91 65% -7°C 31% 58 10-15 minutes 8 minutes @ 80C 24 Hours @ 20°C 4 Hours @ 60°C 2 Hours @ 90°C 14 m <sup>2</sup> per litre
<b>Dry Film Coating</b>	Colour: Operating Temperature Range: Flammability:  Thermal Cycling (MIL-1-46058C): Coefficient of Expansion: Dielectric Strength: Dielectric Constant: Surface Insulation Resistance: Comparative Tracking Index Dissipation Factor @ 1MHz @ 25°C Moisture Resistance (MIL-1-46058C):	Colourless -55°C to +125°C Self-extinguishing (ASTM Method D635) Meets UL approval Meets approval 130ppm 45 kV/mm 2.5 1 x 10 <sup>15</sup> Ω >300 Volts 0.01 Meets approval

#### Copyright Electrolube 2013

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.

Ashby Park, Coalfield Way,  
Ashby de la Zouch,  
Leicestershire LE65 1JR  
T +44 (0)1530 419 600  
F +44 (0)1530 416 640  
BS EN ISO 9001:2008  
Certificate No. FM 32082

<u>Packaging</u>	<u>Description</u>	<u>Order Code</u>	<u>Shelf Life</u>
<u>APL5050 Conformal Coating</u>	5 Litre Bulk	APL505005L	24 Months
<u>Acrylic Thinners</u>	5 Litre Bulk	ACT05L	72 Months
<u>Removal Solvent</u>	5 Litre Bulk	ULS05L	72 Months

### Directions for Use

APL5050 can be sprayed, dipped or brushed although primarily developed for close work dipping process. 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 APL5050. 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.

### 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. ACT should be used to keep the APL5050 coating at a suitable viscosity for dipping (56 – 60 mPa s @ 22°C). ACT is added periodically as the solvent evaporates. The viscosity should be checked using a Ford No. 4 ASTM flow cup.

The board assemblies should be immersed in the APL5050 dipping tank in either the horizontal or vertical position, or at an angle that achieves the best results that suit the assembly configuration. Connectors should not be immersed in the liquid unless they are very carefully masked. Electrolube Peelable Coating Mask (PCM) is ideal for this application. The immersion rate is very important and tests should be conducted to ensure the optimal procedure for the application. A pneumatic (air or oil) semi-automatic dip coating machine is best suited for this method. Leave submerged for approximately 5 to 10 seconds until the air bubbles have dispersed. The board or boards should then be withdrawn slowly (0.5 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.

### Inspection

APL5050 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.

Revision 1: November 2018  
Ref: CCT/Rev B/Draft

#### Copyright Electrolube 2013

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.

Ashby Park, Coalfield Way,  
Ashby de la Zouch,  
Leicestershire LE65 1JR  
T +44 (0)1530 419 600  
F +44 (0)1530 416 640  
BS EN ISO 9001:2008  
Certificate No. FM 32082