

## PUCLO

### Low Odour Polyurethane Coating

#### Product Description

PUCLO is a tough, flexible, modified polyurethane conformal coating and is specifically designed for the protection of electronic circuitry. It is more environmentally friendly than traditional coating as the specially designed formulation. PUCLO still have excellent mechanical and dielectric properties after high low temperature cycling, and it has low moisture vapour permeability.

#### Features

- Low odour, environmentally friendly, and fast touch dry
- Excellent adhesion to a wide variety of substrates
- Fluoresces under UV light for ease of inspection
- Resistance to a variety of chemicals including the acid and alkali
- Wide operating temperature range, -65°C ~ +130°C.
- Can be soldered through without fear of highly toxic gases being produced (contains no isocyanates).
- Non - corrosive to Cadmium and Zinc plate (contains no phenols)
- Cured coating can be removed with Electrolube remover gel (DRG).
- Excellent dielectric properties and insulativity properties
- Excellent mechanical properties, including abrasion resistance and low temperature resistance

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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

## Approvals:

<b>IPC-CC-830:</b>	<b>Meets approval</b>
<b>MIL Approval (MIL- 1- 46058C):</b>	<b>Meets approval</b>
<b>DEF- STAN 59/47:</b>	<b>Meets approval</b>
<b>RoHS Compliant (2002/95/EC):</b>	<b>Yes</b>

## Liquid Properties:

Appearance:	Clear claybank liquid
Specific Gravity (Density) @ 20°C:	0.89±0.02(Bulk)
VOC Content:	58% (Bulk)
Solids content:	42% (Bulk)
Viscosity @ 20°C:	210 ± 30cps(Bulk)
Touch Dry:	10 ~15 minutes
Recommended Drying Time:	24hrs @ 20°C 4hrs @ 60°C 2hrs @ 60°C
Coverage@25µm	14m <sup>2</sup> /per liter, 2.4m <sup>2</sup> (200ml Aerosol)

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**Dry Film Coating:**

Colour:	Clear
Operating Temperature Range:	-65°C to +135°C
Flammability:	Meets UL94 V- 0
Thermal Cycling(MIL- 1- 46058C):	Meets approval
Expansion Coefficient:	150ppm
Dielectric Strength:	80kV / mm
Dielectric Constant:	2.7
Insulation Resistance:	1 x 10 <sup>16</sup> Ohms/cm (DEF-STAN 59/47)
Dissipation Factor:	0.001
Moisture Resistance (MIL-1-46058C):	Meets approval
Salt Spray Resistance Test (ASTM B117-03):	Meets approval

<b><u>Packaging</u></b>	<b><u>Description</u></b>	<b><u>Order Code</u></b>	<b><u>Shelf Life</u></b>
<u>PUCLO Conformal Coating</u>	5 Litre Bulk	PUCLO05L	24 Months
<u>Conformal Coating Thinners</u>	5 Litre Bulk	PTHLO05L	24 Months
<u>Removal Solvent</u>	1 Litre Bulk	DRG01L	36 Months

**Directions for Use**

PUCLO 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

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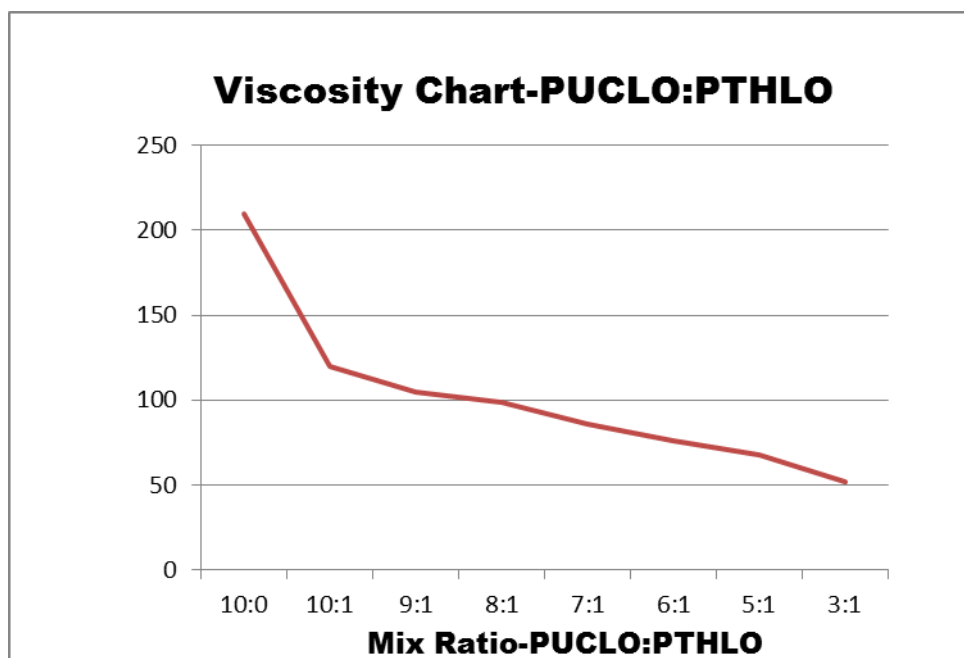
for the application of PUCLO. As is the case for all solvent based conformal coatings, adequate extraction should be used (refer to MSDS for further information).

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**

PUCLO 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.



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## **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 PUCLO 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 Synthetic (PCS) 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 mm / seconds) 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**

PUCLO 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