

# TECHNICAL DATA SHEET



PRODUCT NAME

UVP63

DATE Jan.12

## POLYURETHANE CONFORMAL COATING

### PRODUCT DESCRIPTION

**UVP63 is an urethane** conformal coating, modified polyurethane with high mechanical and dielectric properties. High resistance to aggressive liquids and environmental conditions. UVP63 can be soldered through. UVP63 conformal coating contains an Ultra Violet trace for ease of inspection and quality control.

### FEATURES

- Excellent adhesion under all climatic condition
- Good mechanical strength
- \* Fluoresces under UV light as an aid to inspection.
- \* Wide temperature range  $-55^{\circ}\text{C}$  to  $+130^{\circ}\text{C}$
- \* Resistant to mould growth.
- \* Excellent resistance to a wide variety of chemicals including acids and alkalis
- \* Excellent Dielectric properties.

### APPLICATION

**UVP63** can be sprayed, dipped or brushed. The final dry film thickness of the coating depends on the method of application. All PCBs, being composite materials, absorb moisture. If this is not removed, the conformal coating may not protect to its fullest extent. Pre-drying, or better still, vacuum desiccation, will remove most of the moisture.

**UVP63** contains a UV trace which allows inspection of the PCB after coating to ensure complete and even coverage. The stronger the reflected light, the thicker the coating layer is.

### Dip Coating

Allow the coating to de-aerate fully after initially filling the tank, leaving to stand for approximately 15 minutes should be sufficient, (depends on the volume of the tank used.)

**Polyurethane Thinners (DVU)** should be used to keep the **UVP63** coating at a suitable viscosity for dipping (120 – 140cps @20°C). **DVU** 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 **UVP63** 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. LDM is ideal for this application.

The required final dry film thickness can be controlled by the immersion and withdrawal speeds of the boards and the dilution and viscosity of the **UVP63**. Immersion Speed 30 cm/min, Holding (Immersion Time) 1 minute, Withdrawal Speed 5 to 20 cm/min.

After coating, the boards should be placed in an air-circulating drying cabinet and left to dry.

## **Spraying**

The optimum viscosity to give coating quality and thickness depends on the spray equipment and ambient conditions the spraying is conducted in. Allow the diluted bulk coating to de-aerate fully after filling the spray equipment, before spraying starts.

**UVP63** is suitable both for use in manual spray guns and computer controlled selective coating spray equipment that only coats the required areas of the PCB, eliminating the need for masking.

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.

## **Brushing**

The coating should be kept at ambient temperature. Gently apply the coating with a good quality brush so as not to leave brush marks and so that the components and wiring are not disturbed.

When the brushing operation is complete the boards should be placed in an air-circulating drying cabinet and left to dry.

## **Drying Times and Curing Conditions**

**UVP63** will be touch dry after 40-50 minutes at room temperature and does not require a thermal cure. Can be dry touch after 8-10 minutes at 80-90°C after solvent evaporating. The full properties of **UVP63** will be obtained after a 48 hours at room temperature.

## **TYPICAL PROPERTIES**

### **Liquid UVP63**

Colour:	Clear amber
Solids content:	50% bulk
Viscosity @ 20-25°C:	110-150 cPs
Specific Gravity @ 20°C:	0.9 (Bulk)
Flash Point:	> 21°C
Drying Time:	50 min. @ 25°C or 10 mins @ 80°C tack free
Complete Cure	48 hours @ 25°C or 3 hours at 65°C or 1.5hours at 80°C

### **Cured UVP63 Coating**

Colour:	Transparent
Electrical Resistivity:	3.15 Ohms/cm
Temperature Range:	-55°C to +130°C
Flammability:	Self-extinguishing
Dissipation Factor @ 1MHz @ 25°C:	0.01
Dielectric Strength	60Kv/mm
Dielectric Constant	3.6
Surface Insulation Resistance	$2 \times 10^{13}$

## **PACKAGING**

## **ORDER CODE**

### **UVP63 Conformal Coating**

5 Litre Bulk

UVP63 05L

### **Polyurethane Thinners**

5 Litre

DVU05L

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