ELECTROLUBE
THE SOLUTIONS PEOPLE

URC
High Performance Urethane Coating

URC is a transparent, flexible, modified high performance urethane conformal coating, specifically designed for the protection of electronic circuitry. URC has excellent mechanical and dielectric properties after temperature cycling.

- Wide operating temperature range; excellent performance in changeable temperatures
- Resistant to a wide variety of chemicals; improved by heat curing
- Excellent mechanical properties, including abrasion resistance
- Excellent electrical properties and low temperature performance

Approvals	**RoHS Compliant (2015/865/EU):**	**Yes**
	REACH Compliant:	**Yes**
	IPC-CC-830:	**Meets Approval**
	MIL-I-46058C:	**Meets Approval**
	QMJU2.E480702	**Approved File Number: E480702**
Liquid Properties	Appearance:	Clear yellow/brown liquid
	Density @ 20°C:	0.90 g/ml (Bulk), 0.84 g/ml (Aerosol)
	Flash Point:	>90ºC
	Solids content:	43% (Bulk), 21.5% (Aerosol)
	VOC Content:	57% (Bulk), 93% (Aerosol)
	Viscosity @ 20°C:	240mPa s
	Touch Dry Time at 20°C:	15 minutes
	Recommended Drying Time:	24 Hours @ 20°C or 4 Hours at 60ºC or 2 Hours at 90ºC
	Coverage @ 25µm:	17m^2
Dry Film Coating	Colour:	Clear
	Temperature Range:	-40 to +140ºC
	Flammability:	UL94 V-0
	Moisture Resistance:	Meets MIL-I-46058C
	Salt Spray Resistance:	Meets ASTM B117-03
	Dielectric Strength:	80 kV/mm
	Surface Insulation Resistance:	1 x 10^{16} Ω
	Dissipation Factor:	0.001
	Dielectric Constant:	2.7

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Packaging	Description	Order Code	Shelf Life
URC Conformal Coating	5 Litre Bulk	URC05L	24 Months
	200ml Aerosol	URC200D	36 Months
Low Odour Thinners	5 Litre Bulk	LOT05L	36 Months
Removal Solvent	1 Litre Bulk	CCRG01L	36 Months

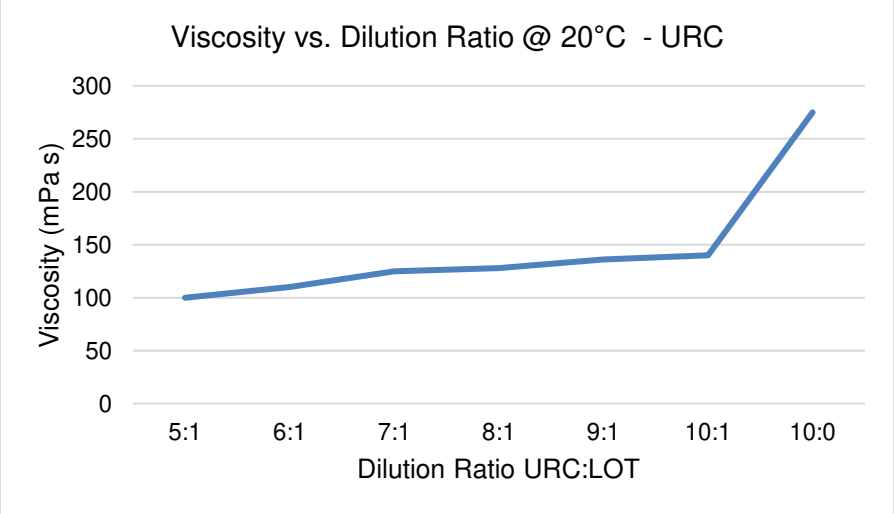
Directions for Use

URC 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 URC. 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

URC needs to be diluted with the appropriate thinner (LOT) before spraying. The optimum viscosity to give coating quality and thickness depends on the spray equipment and conditions, but normally a dilution ratio of approximately 8:1 to 10:1 (URC:LOT) is required. Suitable spray viscosity is typically 120 - 140 mPa s. If bulk coating material has been agitated, allow to stand until air bubbles have dispersed before use.

URC is suitable both for use in manual spray guns and selective coating equipment. 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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Spraying - Aerosol

When applying URC 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 100 mm/s 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.

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 URC 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 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

URC 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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