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2K850
UV Curable, Two-Component Polyurethane Coating

2K850 is a rapid cure, flame retardant, tough yet flexible, high performance two-component, solvent-free conformal coating, designed specifically for selective coating processes. 2K850 is characterised by greater coating thickness and enhanced edge coverage and shows improved adhesion, abrasion, scratch and solvent resistance when compared to conventional single component coatings.

- Rapid UV curing with fast chemical secondary cure mechanism for shadowed areas
- Flame retardant at thicknesses; meets UL94 V-0
- Coating exhibits excellent adhesion and hardness
- High coating thickness achievable; enhanced edge coverage

Approvals	**RoHS Compliant (2015/863/EU):**	**Yes**
	REACH Compliant:	**Yes**
	IPC-CC-830 Rev. C:	**Meets Requirements**
	UL746	**Meets UL94 V-0**
Liquid Properties	Appearance:	Opaque Red Liquid
	Density @ 20°C (g/ml):	1.34g/ml (mixed)
	Flash Point:	>100ºC
	Min. Solids Content (1hr @80˚C):	>99%
	Mix Ratio:	2:1 v/v
	Mixed System Viscosity @ 25˚C:	Sprayable
	Mixed Useable Life @ 20°C:	5 Minutes
	Recommended Drying Time:	UV (see curing instructions – page 2)
	Touch Dry Time at 20°C:	10 Minutes
Dry Film Coating	Colour:	Opaque Red
	Recommended Coating Thickness:	100-300µm
	Temperature Range:	-40 to +130ºC
	Thermal Shock Range:	-65 to +125ºC
	Thermal Shock (1000 cycles):	No cracking, blistering or delamination*
	Shore Hardness:	A95
	Glass Transition Temperature (DMA):	-18˚C
	Elongation at Break (BS EN ISO 537):	20%
	Tensile Strength (BS EN ISO 537):	4.1MPa @ 20˚C
	Elastic Modulus (BS EN ISO 537):	3000MPa @ -40˚C 10MPa @ 20˚C 6MPa @ 130˚C
	Dielectric Strength:	90 kV/mm
	Surface Insulation Resistance:	1×10^{15} Ω
	Moisture Resistance (IPC-CC-830):	9.34×10^{9} Ω
	Flammability:	Meets UL94 V-0

*Other thermal shock regimes are also possible, i.e. different temperatures, number of cycles, etc.

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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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Description	Packaging	Order Code
2K850 UV Cure Conformal Coating Part A	5 Litre	E2K85005L
2K Part B 1L	1 Litre	E2KPBO01L
2K Part B 5L	5 Litre	E2KPBO05L

Directions for Use

2K850 is intended to be applied by selective spray coating. It is recommended that the use of a high accuracy, volumetric metering system, such as progressive cavity pumps are used to control the mix ratio of the two components. It is recommended that a 10 turn static mixer is used to ensure complete mixing of the two components prior to reaching the dispense valve. The use of a heated applicator block can result in reduced film builds and faster cycle times. Machine settings for various 2K selective spraying options are available upon request.

Directions for Curing

The use of an Iron doped, Arc or Microwave style curing lamp is recommended. Using such a lamp, the following parameters have been established for optimum curing, without inducing defects or excessive ageing of the coating.

UV Energy Range	Dose (J/cm^2)		Irradiance (W/cm^2)	
	Min	Max	Min	Max
UVA	3.5	4.0	0.7	0.9
UVB	1.5	2.0	0.3	0.5
UVC	0.4	0.6	0.1	0.2

It is also possible to cure 2K850 using UV LED at 365nm, please contact Electrolube for further information on the settings.

Inspection

2K850 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. 2K850 is also opaque red in colour, further facilitating visual inspection and improving contrast for Automated Optical Inspection Systems.

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