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# 2K550
## Two-Component Polyurethane Coating

2K550 is a flame retardant, tough yet flexible, high performance two-component, solvent-free conformal coating, designed specifically for selective coating processes. 2K550 is characterised by greater coating thickness and enhanced edge coverage and shows improved adhesion, hardness and scratch and solvent resistance when compared to conventional single component coatings.

- Flame retardant at thicknesses below 350µm; meets UL94 V-0
- Excellent resistance to humidity, condensation and immersion in water
- Coating exhibits excellent adhesion and hardness; low stress during automotive thermal shock cycles
- 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 Black Liquid |
| | Density @ 20°C (g/ml): | 1.46 (mixed) |
| | Flash Point: | >100ºC |
| | Min. Solids Content (1hr @80˚C): | >99% |
| | Mix Ratio: | 2:1 v/v |
| | Mixed System Viscosity @ 25˚C: | Sprayable |
| | Useable Life @ 20°C: | 180 Minutes |
| | Touch Dry Time at 20°C: | 240 Minutes |
| | Recommended Drying Time: | 10 Minutes @ 80°C |
| **Dry Film Coating** | Colour: | Opaque Black |
| | 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 |
| | Dielectric Strength: | 90 kV/mm |
| | Surface Insulation Resistance: | $1 \times 10^{15}$ Ω |
| | Moisture Resistance (IPC-CC-830): | $9.24 \times 10^{9}$ 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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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 |
|---|---|---|
| 2K550 Conformal Coating Part A | 5 Litre | E2K5505L |
| 2K Part B 1L | 1 Litre | E2KPBO01L |
| 2K Part B 5L | 5 Litre | E2KPBO05L |

## Directions for Use

2K550 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 minimum 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. 60°C is a typical set-point.

The material works best when a relatively high flow rate and low atomising air combination is used, but this will depend on the design of the assembly, required cycle times and other process considerations. Machine settings for various 2K selective spraying options are available upon request.

## Inspection

2K550 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. 2K550 is also opaque black in colour, further facilitating visual inspection and improving contrast for Automated Optical Inspection Systems.

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