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2K500
Two-Component Polyurethane Coating

2K500 is a tough, flexible, high performance two-component conformal coating, designed specifically for selective coating processes. 2K500 is characterised by greater coating thickness and enhanced edge coverage and shows improved adhesion, hardness, scratch and solvent resistance when compared to conventional single component coatings..

- Conformal coating with excellent clarity and resistance to discolouration with UV exposure
- Excellent resistance to humidity, condensation and immersion in water
- Coating with improved 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:	**Meets Requirements**
	BMW GS95011-5:	**Meets Requirements**
Liquid Properties	Appearance:	Clear Colourless Liquid
	Density @ 20°C:	1.05 g/ml (mixed)
	Flash Point:	>100ºC
	Min. Solids Content (1hr @80˚C):	>98.5%
	Mix Ratio:	1:1 v/v
	Viscosity (mixed) @ 25°C:	1000-1500 (Spray Settings Pg. 2)
	Useable Life @ 20°C:	40 Minutes
	Touch Dry Time at 20°C:	240 Minutes
	Recommended Drying Time:	10 Minutes @ 80°C
Dry Film Coating	Colour:	Colourless/Transparent
	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:	A70-80
	Glass Transition Temperature (Tg):	15°C (DMA)
	Elongation at Break (BS EN ISO 537):	40-50%
	Elastic Modulus (BS EN ISO 537):	1310 MPa @ -40°C 10.5 MPa @ 20°C 17.6 MPa @ 130°C
	Tensile Strength (BS EN ISO 537):	4.5 MPa @ 20°C
	Dielectric Strength:	90 kV/mm
	Dielectric Constant:	2.5
	Dissipation Factor @ 1MHz, 25°C:	0.01
	Surface Insulation Resistance:	5×10^{15} Ω
	Moisture Resistance (IPC-CC-830):	9.56×10^{9} Ω

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

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Certificate No. FM 32082

Description	Packaging	Order Code
2K500 Conformal Coating Part A	5 Litre	E2K5005L
2K Part B 1L	1 Litre	E2KPBO01L
2K Part B 5L	5 Litre	E2KPBO05L

Directions for Use

2K500 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

2K500 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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