MacDermid Alpha ELECTRONICS SOLUTIONS

TECHNICAL DATA SHEET

Electrolube® 2K301P

Two-Component Polyurethane Coating

DESCRIPTION

Electrolube® 2K301P is a high performance two-component conformal coating, designed specifically for selective coating processes. **2K301P** is characterized by increased coating thickness, enhanced edge coverage, great flexibility, and extremely low stress on components.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

FEATURES AND BENEFITS

- Improved high temperature performance
- Hydrophobic; excellent resistance to humidity, condensation, and water immersion
- Soft & flexible; provides low stress during typical automotive thermal shock cycles
- High coating thickness achievable; enhanced edge coverage

APPROVALS

Standard	Status
RoHS Compliant (2015/863/EU)	Yes
REACH Compliant	Yes
IPC-CC-830 (Rev.C)	Meets Requirements
BMW GS95011-5	Meets Requirements

PRODUCT INFORMATION

Please contact your customer service representative for information on available package sizes.

PHYSICAL PROPERTIES

Category	Results
Liquid Properties	
Appearance	Clear Liquid with Green/Blue Tint
Mix Ratio (Volume)	4:1
Mixed System Density @ 20°C (g/mL)	0.93
Min. Solid Content (1hr @ 80°C)	98.5%
Flash Point (°C)	> 100
Viscosity @ 20 °C (mPa.s) Part A Part B	 15,000 to 25,000 1,400 to 2,000
Useable Life @ 20 °C (min)	10 to 15
Touch Dry Time @ 60 °C (min)	15 to 20
Recommended Curing Time @ 60 °C (min)	25 to 40
Dry Film Coating	
Color	Clear with Green/Blue Tint
Recommended Coating Thickness (µm)	200 to 350
Operating Temperature Range (°C)	-65 to 150
Thermal Shock Range (°C)	-65 to 150
Thermal Shock (1000 cycles)	Passed*
Shore Hardness	A30 to A50
Glass Transition Temperature (°C)	< -60
Elongation at Break (BS EN ISO 537)	70 to 90%
Elastic Modulus (BS EN ISO 537) (MPa) @ -65 °C @ -40 °C @ 20 °C @ 130 °C	 11.84 8.14 2.49 1.79

Category	Results
Tensile Strength (BS EN ISO 537) (MPa)	1.46
Dielectric Strength (kV/mm)	90
Surface Insulation Resistance (Ω)	2×10^{16}
Comparative Tracking Index (V)	> 600
Dielectric Constant	2.5
Dissipation Factor @1MHz, 25°C	0.01
Moisture Resistance (IPC-CC-830)	Meets Requirements
Flammability	Meets UL94 HB

* No Cracking, Blistering or Delamination - other Thermal Shock regimes are possible i.e. differing Temperature ranges, number of cycles etc.

APPLICATION GUIDELINES

2K301P is intended to be applied by selective spray coating. It is recommended that high-accuracy volumetric metering systems, such as progressive cavity pumps, are used to control the mix ratio of the two components. The use of a heated applicator block can result in reduced film builds and faster cycle times. 60 °C is a typical set-point. Machine settings for various 2K selective spraying options are available upon request.

INSPECTION

2K301P contains a UV trace which allows ‘blacklight’ inspection of the PCB after coating, to ensure complete and uniform 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.

SAFETY & WARNING

It is recommended that the company/operator read and review the Safety Data Sheets for the appropriate health and safety warnings before use. **Safety Data Sheets are available.**

CONTACT INFORMATION

www.macdermidalpha.com

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Also read carefully warning and safety information on the Safety Data Sheet. This data sheet contains technical information required for safe and economical operation of this product. READ IT THOROUGHLY PRIOR TO PRODUCT USE . Emergency safety directory assistance: US 1 202 464 2554, Europe + 44 1235 239 670, Asia + 65 3158 1074, Brazil 0800 707 7022 and 0800 172 020, Mexico 01800 002 1400 and (55) 5559 1588