

**PROVISIONAL TDS**

## 2K300 Two-Component Polyurethane Coating

2K300 is a high performance two-component, VOC-free conformal coating, designed specifically for selective coating processes. 2K300 is characterised by greater coating thickness and enhanced edge coverage and shows extreme flexibility, outstanding solvent resistance and extremely low stress on components.

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

<b>Approvals</b>	<b>RoHS-2 Compliant (2011/65/EU):</b> <b>REACH Compliant:</b> <b>IPC-CC-830:</b> <b>BMW GS95011-5:</b>	<b>Yes</b> <b>Yes</b> <b>Meets Requirements</b> <b>Meets Requirements</b>
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<b>Liquid Properties</b>	Appearance: Density @ 20°C: Flash Point: Solids Content: VOC Content: Mix Ratio: Viscosity (mixed) @ 25°C: Useable Life @ 20°C: Touch Dry Time at 20°C: Recommended Drying Time:	Pale coloured liquid 1.05 g/ml (mixed) >100°C 100% 0g/L 5:1 by volume 1500-2000 40 Minutes 240 Minutes 10 Minutes @ 80°C
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<b>Dry Film Coating</b>	Colour: Recommended Coating Thickness: Temperature Range: Thermal Shock Range: Thermal Shock (1000 cycles): Softening Temperature Shore Hardness: Glass Transition Temperature (Tg) Elongation at Break (ASTM D638 IV) Elastic Modulus	Pale yellow/amber 100-300µm -40 to +130°C -65 to +125°C No cracking, blistering or delamination >125°C A20-30 -22°C (DMA) 150-200% 122 MPa @ -40°C 2 MPa @ 25°C 10 KPa @ 125°C
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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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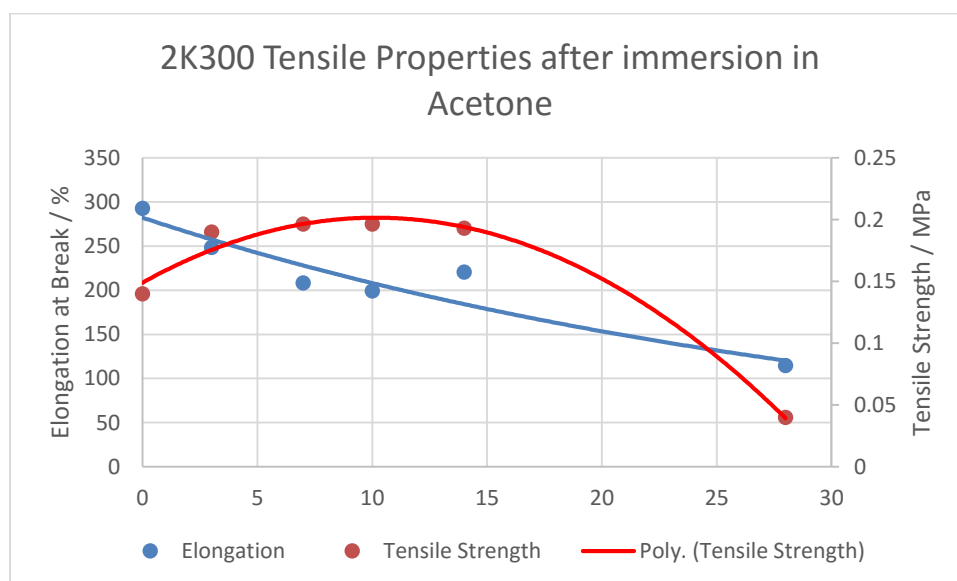
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BS EN ISO 9001:2008  
Certificate No. FM 32082

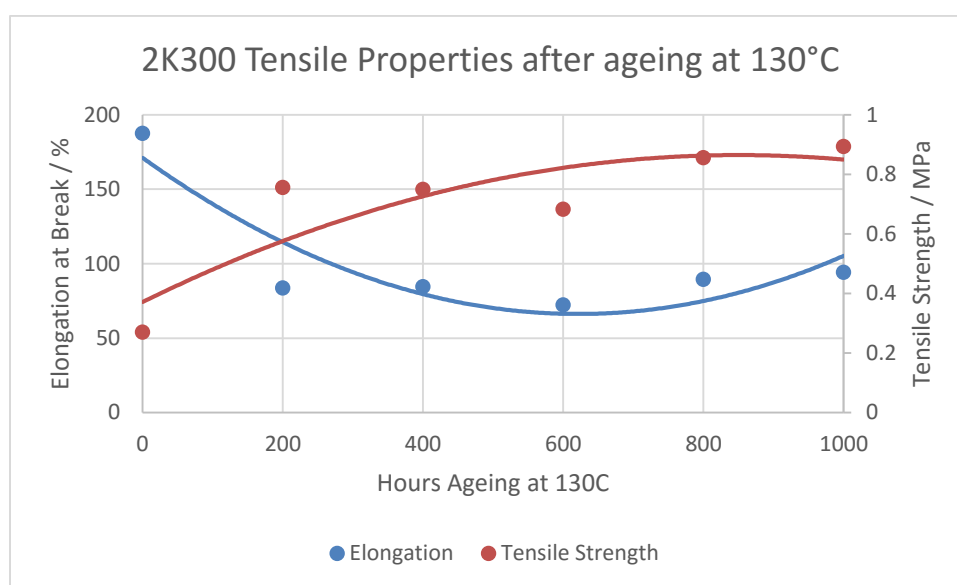
Tensile Strength	1MPa @ 25°C
Dielectric Strength:	90 kV/mm
Dielectric Constant:	2.5
Surface Insulation Resistance:	$1 \times 10^{15} \Omega$
Comparative Tracking Index:	> 600 Volts
Dissipation Factor @ 1MHz, 25°C:	0.01
Moisture Resistance (IPC-CC-830):	$1.63 \times 10^{10} \Omega$

### Additional Data

2K300 shows outstanding resistance to common solvents, maintaining its initial tensile strength and a large degree of its elongation at break or elasticity for a significant duration.



2K300 shows excellent retention of elongation and minimised increase in tensile strength when aged at 130°C in air.



### **Directions for Use**

2K300 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 recirculation system, or 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.

### **Inspection**

2K300 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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# NEW from Electrolube...

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Specialist chemical solutions for a range of applications

## Conformal Coatings

### 2K300KIT

Sample Kit



- Unique sampling kit for 2K300
- Aerosol for ease of application
- No need for specialist equipment
- Designed for customer trials of 2K300

### 2K350

Two-Part Conformal Coating



- Meets UL94-V0
- Opaque Blue - ease of inspection
- Highly flexible coating, low stress on components
- Hydrophobic; demonstrates excellent salt mist and condensation resistance
- Good solvent resistance
- Excellent coverage, even over difficult geometries
- Two part system requires 2K350 as Part A and 2KPB0 as Part B

### 2K550

Two-Part Conformal Coating



- Meets UL94-V0
- Wide operating temperature range
- Good abrasion resistance
- Excellent thermal shock performance
- Excellent coverage, even over difficult geo metries
- Fluorescent tracer
- Two part system requires 2K550 as Part A and 2KPB0 as Part B

### 2K850

UV Cure Two-Part Conformal Coating



- Super-fast UV cure
- Wide operating temperature range
- Good abrasion resistance
- Excellent thermal shock performance
- Excellent coverage, even over difficult geometries
- UL94-V0
- Consistently reliable chemical cure
- Two part system requires 2K850 as Part A and 2KPB0 as Part B

### HFAC



- High performance coating with excellent electrical properties
- Optical clarity for LED applications
- Good adhesion to a wide range of materials
- Mould resistant
- Easily reworked if required
- UV trace
- Meets requirements IPC-CC-830
- Meets UL94-V0

### 2KPB0



- Part B used with 2K range of conformal coatings

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# Epoxy and Polyurethane Encapsulants

## ER2225

High Temperature Epoxy



- High chemical resistance
- Wide operating temperature range
- Excellent high temperature resistance up to 210°C
- Good thermal conductivity 1.1 Wm/K

## UR5640

Optically Clear Polyurethane Resin



- Water white transparency
- Ideal for LED applications
- Excellent resistance to yellowing effects of UV light
- Excellent scratch and mark resistance

## UR5641

Optically Clear Flame Retardant Polyurethane Resin



- Flame retardant
- Water white transparency
- Protection of LED's in hazardous environments
- Halogen free

Resin systems are designed to protect and insulate printed circuit boards (PCBs) and electronic components from the threats of harsh and challenging environments, including; moisture, vibration, thermal or physical shock and general contamination. By encapsulating the entire device, resins can form a complete barrier against such environments offering superior performance under extreme conditions.

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# Thermal Management Solutions

## GF300UT

Liquid Ultra-Thin Gap Filler



- Good Wet-Out Performance
- Extremely low bond line thickness
- High thermal conductivity 3.0 Wm/K
- Thixotropic – easy to apply
- No Pump-out
- Long-term performance stability
- Suitable for automotive applications, semi conductors, IGBT and LEDs

## HTSX

HTSX is a silicone thermal interface material which has been developed to perform in more extreme conditions than its sister product HTS. It exhibits extended characteristics to HTS, with higher thermal conductivity, extended operating temperatures and excellent stability with a much-reduced oil bleed. It is a non-curing thermal paste, making it easy to apply and easy to rework if necessary. It is ideal for use on heatsinks or as a thermal gap filler between components to dissipate heat away from the electronic device and can be used in a wide range of industry applications.

- General purpose silicone thermal paste
- Reduced oil-bleed
- Non-curing thermal paste
- Excellent stability in a range of conditions
- Exceptionally wide operating temperature range -50°C to +200°C
- Excellent thermal conductivity - 1.58 Wm/K
- Allows simple and efficient rework of components if required



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# Cleaning

## SWCC

Safewash Components Cleaner

- Excellent Metal Compatibility; designed for semiconductor industry
- High solvency for removing flux residues
- Ready to use at pure concentration, surfactant-free easy rinsing
- Low surface tension makes this product ideal for flip-chip applications



# Maintenance & Service Aids

## FIP100

Nickle/Graphite Filled Silicone Form-In-Place Material

- One-component – high dispensing performance
- Good Compression set
- High tensile strength
- High and stable long term shielding effectiveness in harsh environments
- UL94-V0



## FIP200

Silver/Nickle/Copper Filled Silicone Form-In-Place Material

- Fast Cure, high dispensing performance
- 40 Shore A hardness + extra low deflection force
- High shielding effectiveness and long term reliability, ideal for automotive applications
- Excellent corrosion resistance on Cr (III), Cr (VI) and bare Al flanges



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