

**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

#### Approvals

**RoHS-2 Compliant (2011/65/EU):**  
**REACH Compliant:**  
**IPC-CC-830:**  
**BMW GS95011-5:**

**Yes**  
**Yes**  
**Meets Requirements**  
**Meets Requirements**

#### Liquid Properties

|                           |                      |
|---------------------------|----------------------|
| Appearance:               | Pale coloured liquid |
| Density @ 20°C:           | 1.05 g/ml (mixed)    |
| Flash Point:              | >100°C               |
| Solids Content:           | 100%                 |
| VOC Content:              | 0g/L                 |
| Mix Ratio:                | 5:1 by volume        |
| Viscosity (mixed) @ 25°C: | 1500-2000            |
| 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:                            | Pale yellow/amber                                 |
| Recommended Coating Thickness:     | 100-300µm                                         |
| Temperature Range:                 | -40 to +130°C                                     |
| Thermal Shock Range:               | -65 to +125°C                                     |
| Thermal Shock (1000 cycles):       | No cracking, blistering or delamination           |
| Softening Temperature              | >125°C                                            |
| Shore Hardness:                    | A20-30                                            |
| Glass Transition Temperature (Tg)  | -22°C (DMA)                                       |
| Elongation at Break (ASTM D638 IV) | 150-200%                                          |
| Elastic Modulus                    | 122 MPa @ -40°C<br>2 MPa @ 25°C<br>10 KPa @ 125°C |

#### Copyright Electrolube 2013

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.

Ashby Park, Coalfield Way,  
Ashby de la Zouch,  
Leicestershire LE65 1JR

**T** +44 (0)1530 419 600

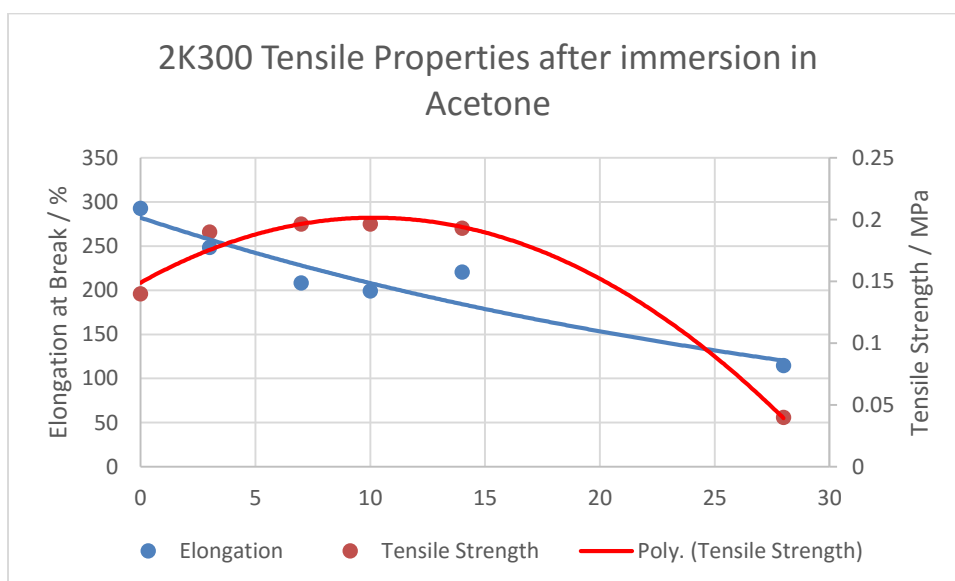
**F** +44 (0)1530 416 640

BS EN ISO 9001:2008  
Certificate No. FM 32082

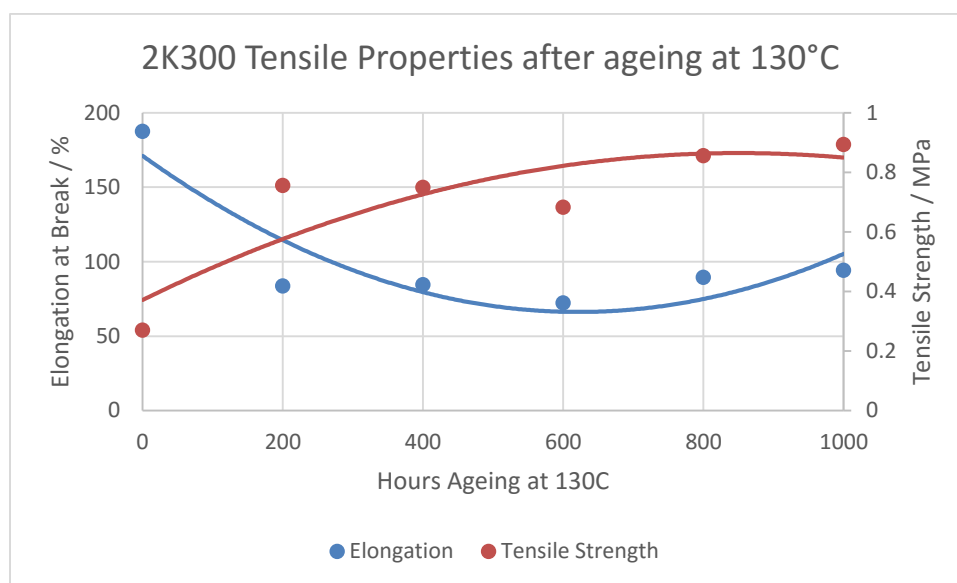
|                                   |                              |
|-----------------------------------|------------------------------|
| Tensile Strength                  | 1MPa @ 25°C                  |
| Dielectric Strength:              | 90 kV/mm                     |
| Dielectric Constant:              | 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.

Revision 0: Nov 2015