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):**	**Yes**
	REACH Compliant:	**Yes**
	IPC-CC-830:	**Meets Requirements**
	BMW GS95011-5:	**Meets Requirements**
Liquid Properties	Appearance:	Pale coloured liquid
	Density @ 20°C:	1.05 g/ml (mixed)
	Flash Point:	>100ºC
	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 +130ºC
	Thermal Shock Range:	-65 to +125ºC
	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 2 MPa @ 25°C 10 KPa @ 125°C

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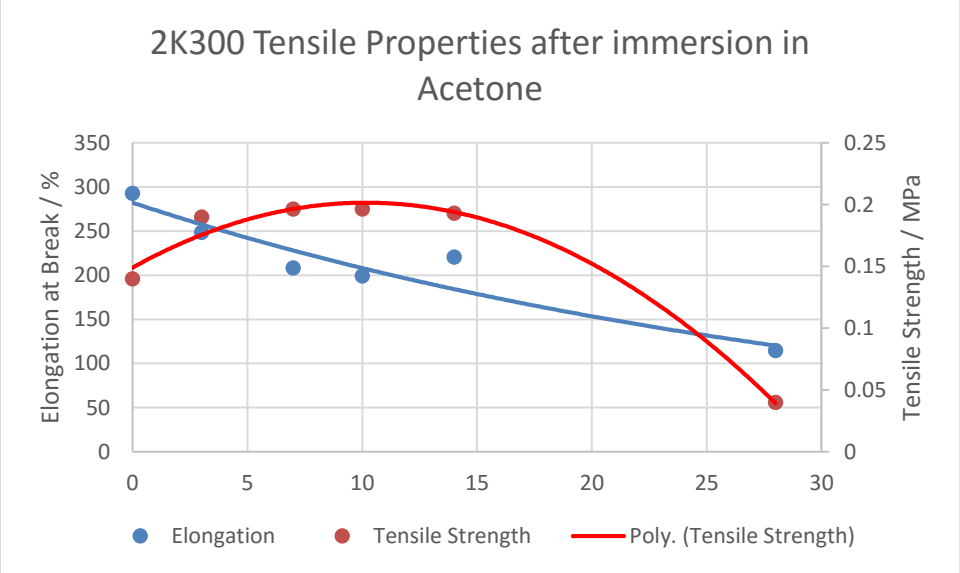
Tensile Strength	1MPa @ 25°C
Dielectric Strength:	90 kV/mm
Dielectric Constant:	2.5
Surface Insulation Resistance:	1 x 10^{15} Ω
Comparative Tracking Index:	> 600 Volts
Dissipation Factor @ 1MHz, 25°C:	0.01
Moisture Resistance (IPC-CC-830):	1.63 x 10^{10} Ω

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.



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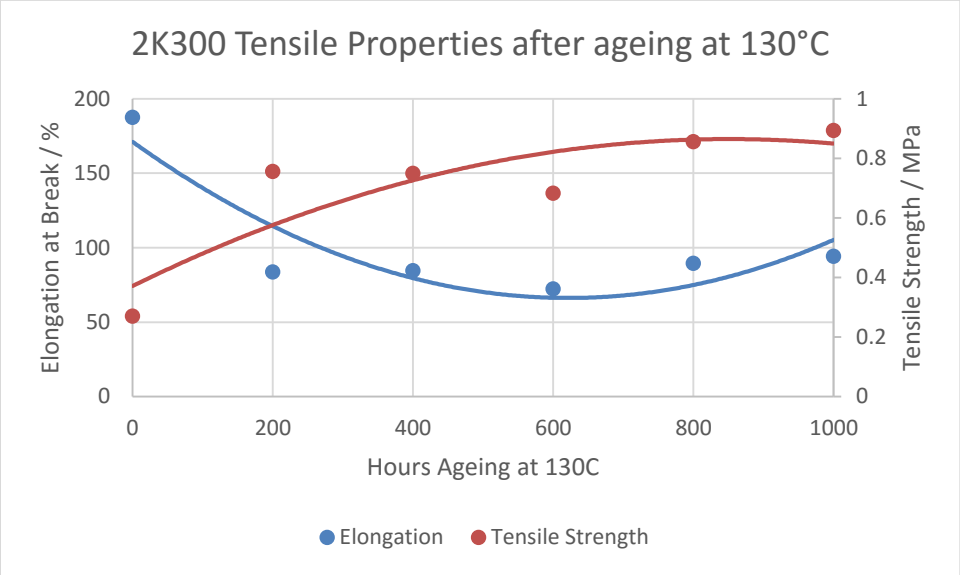
2K300 shows excellent retention of elongation and minimised increase in tensile strength when aged at 130°C in air.



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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