

# PROPERTIES COMPARISON

## DK18-05 VS GCP 1805

Property / Product	Unit of Measure	DK 18-05	GCP 1805
<b>RECOMMENDED CURE CONDITIONS</b>			
Cure Conditions	min	30min @ 110°C	30 min @ 85-105°C + 120 min @ 105 ± 5°C
Preheat Temperature	°C	100 - 180	100 – 180
Pickup Temperature	°C	110	TBD
Melt Point	°C	TBD	55-70
<b>UNCURED PROPERTIES</b>			
Available colors		● Black ● Blue ● Gold	● Black ● Blue ● Brown...
Halogen-free (Green)		X	✓
Particle Size	%	- 80 mesh, 100% - 325 mesh, 35%	-100 mesh, 100% -180 mesh, 50-65% - 325 mesh, 6-16%
RoHS/REACH Compliant		✓	✓
Shelf Life, @ 10°C storage	months	12	12
<b>TYPICAL CURED PROPERTIES</b>			
Specific Gravity, g/cc	g/cc	1.64	1.4-1.6
Glass Plate Flow	mm	32 @ 150°C	25 - 35 @ 150°C
Hot Plate Gel time	s	23 @ 160°C	80 - 110 @ 120°C
Laser Markable		✓	✓
Moisture Absorption, weight	%	0.37 @ 24 hours	TBD
Glass Transition Temperature, Tg	°C	107	157
Coefficient of Thermal Expansion (CTE)			
Alpha1	ppm/C	46.0	TBD
Alpha2	ppm/C	129	TBD
UL Relative Thermal Index (RTI) Rating, UL 743B	°C	105	130
UL Flammability Rating		V-0	V-0
Insulation Resistance, @ 25°C		8.4 x 10 <sup>13</sup>	1 x 10 <sup>15</sup>
Dielectric Constant, @ 25°C		4.5 @ 100 Hz	4.5 – 5.2 @ 100 Hz
Dissipation Factor, @ 25°C		0.009 @ 10 kHz	0.009 @ 10 kHz
Dielectric Constant, @ 25°C		4.5 @ 100 Hz	4.5 – 5.2 @ 100 Hz

### CONCLUSION

It could be seen from the table that the properties of GCP1805 are quite similar to DK18-05. The important features are the optimized pickup temperature and the low cure temperatures as low as 110°C.

GCP 1805 is expected to have a similar coating performance as DK18-05. It is suggested to coat GCP1805 powder for your passive components under the same preheating and curing conditions for DK18-05. Based on the trial results, the coating process could be further adjusted and optimized.

