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CERMET PLATINUM / GOLD CONDUCTOR 5837-G

Cadmium, Lead & Nickel-Free*

ESL 5837-G is a platinum gold conductor that is solderable both on 96% alumina substrates and when fired over 4917 dielectric. The 5837-G can be used in high reliability multilayer circuits where chip carriers are soldered to the top layer. The re-fire capability on alumina is also high. A typical lead and cadmium-free system consists of 8844-G gold conductor, 4917 dielectric and 5837-G. The 5837-G can also be used on beryllia substrates with excellent initial adhesion. However, the aged adhesion is lower than that obtained on 96% alumina substrates. This may be improved by firing at 980°C.

PASTE DATA

Rheology:	Thixotropic, screen-printable paste
Viscosity: (Brookfield RVT, 10rpm, ABZ spindle, 25.5 ± 0.5 °C)	250 ± 25 Pa.s
Bonding Mechanism:	Mixed-bonded
Shelf Life (20 - 25 °C):	6 months

PROCESSING

Screen Mesh, Emulsion:		325 S/S, 20 µm
Levelling Time (at 20°C):		5 - 10 min
Drying Time (at 125°C):		10 -15 min
Firing Temperature Range:		850 - 1000°C in air
	Optimum:	850°C
	Time at peak:	10 min
Total Firing Cycle:		1 hour
Substrate for Calibration:		96% alumina
Thinner:		ESL 401

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TYPICAL PROPERTIES

Fired Thickness: (measured on a 2 mm x 2 mm pad on 96% alumina)		12.0 ± 2.0 µm
Approximate Coverage:		55 - 70 cm^2/g
Resistivity:		<85 mΩ/□
Printing Resolution: (line / space)		0.125 mm / 0.125 mm
Solder Wettability: (RMA flux, 5 sec. dip, 95.5Sn/3.8Ag/0.7Cu, 250°C)	96% alumina	95 - 100 %
	over 4917	90 - 95 %
Solder Leach: (No. of 10 sec. dips to double minimum resistance of 100 mm x 0.25 mm conductor, 95.5Sn/3.8Ag/0.7Cu, 250°C)		> 6 dips

Adhesion:
(90° pull, 2 mm x 2 mm pads, 95.5Sn/3.8Ag/0.7Cu)

Initial pull strength:	on 96% alumina	>7.0 kg
Aged 48 hours at 150°C:	on 96% alumina	>4.0 kg
Initial pull strength:	on 4917	>4.0 kg
Aged 48 hours at 150°C:	on 4917	>3.0 kg

***Complies with RoHS, ELV, WEEE and CHIP 3 EC directives.**