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CERMET PLATINUM / GOLD CONDUCTOR 5837-G

RoHS Compliant*

ESL 5837-G is a platinum / gold conductor that is solderable both on 96% alumina substrates and when fired over 4913 and 4920 dielectrics. 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, 4913 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)	350 ± 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:
(measured on a 100 mm x 0.25 mm conductor track) < 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)

on 96% alumina	95 - 100 %
over 4913	90 - 95 %
over 4920	90 - 95 %

Solder Leach:
(No. of 10 sec. dips to double lowest 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

***None of the six substances referred to in the RoHS Directive (2002/95/EC) are used in the formulation of this product.**