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CERMET SILVER/PALLADIUM CONDUCTOR 9695-G

RoHS Compliant*

ESL 9695-G is a low-cost, high-conductivity silver/palladium conductor for use on alumina. It is also used as a termination for 29XXX series resistors over 4924 and 4986 dielectric in **Heaters on Steel® (HOS)**. It has a wide-firing temperature range and can also be used on Porcelain Enamelled Steel (PES). This conductor exhibits excellent solderability and adhesion and may be used as a termination for all ESL 850°C firing resistor systems, as well as many other commercially available systems.

The 9695-G is commonly used for ground plane and buried conductor layers in multilayer hybrid circuits as a substitute for higher palladium content conductors to improve conductivity and lower cost. A typical system consists of 9695-G, 4917 dielectric and 9633-G as the top conductor for excellent solder leach resistance.

PASTE DATA

Rheology:	Thixotropic, screen-printable paste
Viscosity: (Brookfield RVT, 10rpm, ABZ Spindle, 25.5 ± 0.5 °C)	225 ± 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:		625 - 930°C in air
	Optimum on PES:	625°C
	Optimum on alumina:	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) 12.5 ± 2.5 µm

Approximate Coverage: 90 - 100 cm²/g

Resistivity:
(measured on a 100 mm x 0.25 mm conductor track at 12.5 µm fired thickness) ≤ 6 mΩ/□

Printing Resolution:
(line/space) 0.125 mm / 0.125 mm

Solder Wettability:
(RMA flux, 5 sec. dip
95.5/Sn/3.8Ag/0.7Cu at 250°C) 100%

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 at 250°C) ≥ 1 dips

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

Initial pull strength:	≥ 8 kg
Aged 48 hours at 150°C:	≥ 6 kg

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