



ESL ELECTROSCIENCE

CERAMIC TAPES &
THICK-FILM MATERIALS

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PALLADIUM SILVER CONDUCTOR

9647

**RoHS Compliant* Conductor with Excellent
Adhesion, Solderability, and Wire bondability**

ESL 9647 is a palladium silver conductor with approximately a 3:1 Ag to Pd ratio. It is designed to have good initial adhesion and good thermal aging adhesion after an extended period of time at temperature. This conductor also has excellent large-diameter aluminium wire bondability. ESL 9647 is lead, cadmium, and nickel free.

PASTE DATA

Rheology:	Thixotropic, screen-printable paste
Viscosity: (Brookfield RVT, 10 rpm, ABZ spindle, 25.5 ± 0.5 °C)	325 ± 25 Pa.s
Bonding Mechanism:	Mixed-bonded
Shelf Life (20 - 25 °C):	6 months

PROCESSING

Screen Mesh, Emulsion:	325 S/S, 25 µm
Levelling Time (at 20°C):	5 - 10 min
Drying Time (at 125°C):	10 - 15 min
Firing Temperature:	850°C
	Time at peak: 10 min
Rate of Ascent/Descent:	60 - 100°C / min
Substrate for Calibration:	96% alumina
Thinner:	ESL 413

ESL Europe (KOP) 9647 0807-B

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See Caution and Disclaimer on page 2.

TYPICAL PROPERTIES

Fired Thickness: (at least 2 layers 96% alumina)	10 ± 3 µm
Resistivity:	≤25 mΩ/sq
Printing Resolution: (line/space)	0.125 mm / 0.125 mm
Solder Wettability: (RMA flux, 5 sec. dip, 60Sn/40Pb at 250°C)	Excellent
Solder Leach: (No. of 10 sec. dips to double lowest resistance of 100 mm x 0.25 mm conductor, 60Sn/40Pb at 250°C)	≥ 2 dips
Peel Adhesion: (2 mm x 2 mm pads, 60Sn/40Pb solder)	
	Initial pull strength: > 2.0 kg
	Aged 1000 hours at 150°C: > 1.8 kg
Wire Bondability: (250µm Al wire, 100% wire breaks)	≥ 450 g

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

CAUTION: Proper industrial safety precautions should be exercised in using these products. Use with adequate ventilation. Avoid prolonged contact with skin or inhalation of any vapours emitted during use or heating of these compositions. The use of safety eye goggles, gloves or hand protection creams is recommended. Wash hands or skin thoroughly with soap and water after using these products. Do not eat or smoke in areas where these materials are used. Refer to appropriate MSDS sheet.

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