



ESL ELECTROSCIENCE

CERAMIC TAPES &
THICK-FILM MATERIALS

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CERMET SILVER/PLATINUM CONDUCTOR

9512

Low cost, general-purpose, cadmium-free silver/platinum conductor

ESL 9512 is a mixed-bonded platinum/silver paste developed for general applications in the automotive market. It exhibits excellent adhesion after 1000 thermal cycles, -30°C to 110°C, and after 1000 hours of aging at 150°C. This material also exhibits excellent solderability and solder leach resistance with 62Sn/36Pb/2Ag solder on alumina.

PASTE DATA

Rheology:	Thixotropic, screen-printable paste
Viscosity: (Brookfield RVT, 10rpm, ABZ Spindle, 25.5 ± 0.5 °C)	200 ± 25 Pa.s
Bonding Mechanism:	Mixed-bonded
Shelf Life (20 - 25 °C):	6 months

PROCESSING

Screen Mesh, Emulsion:	325 S/S, 20 - 25 µm
Levelling Time (at 20°C):	5 - 10 min
Drying Time (at 125°C):	10 - 15 min
Firing Temperature Range:	850 - 930°C in air
	Optimum: 850°C
	Time at peak: 10 -12 min
Total Firing Cycle:	1 hour
Substrate for Calibration:	96% alumina
Thinner:	ESL 401

ESL Europe 9512 0802-F

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See Caution and Disclaimer on other side.

TYPICAL PROPERTIES

Fired Thickness: 9 - 14 μm
(measured on a 2 mm x 2 mm pad on 96% alumina)

Approximate Coverage: 75 - 100 cm^2/g

Resistivity:
(measured on a 100 mm x 0.25 mm
conductor track at 12.5 μm fired thickness) $\leq 3 \text{ m}\Omega/\square$

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

Solder Wettability: 100%
(RMA Flux, 5 sec. dip, 62Sn/36Pb/2Ag, 220°C)

Solder Leach: ≥ 5 dips
(No. of 10 sec. dips to double lowest resistance of
100 mm x 0.25 mm conductor, 62Sn/36Pb/2Ag, 220°C)

Adhesion:
(90° Pull, 2 mm x 2 mm pads, 62Sn/36Pb/2Ag)

Initial pull strength: $\geq 6.4 \text{ kg}$
Aged 48 hours at 150°C: $\geq 6.4 \text{ kg}$

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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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