



ESL ELECTROSCIENCE

CERAMIC TAPES &
THICK-FILM MATERIALS

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CERMET SILVER/PALADIUM CONDUCTOR 9996-B

ESL 9996-B is a silver conductor specially designed for Elpor II CCMS (Ceramic Coated Metal Substrates). It exhibits good solderability, high conductivity, low cost and excellent adhesion.

PASTE DATA

Rheology:	Thixotropic screen-printable paste
Viscosity: (Brookfield RVT, 10rpm, ABZ Spindle, 25.5 ± 0.5 °C)	300 ± 25 Pa.s
Bonding Mechanism:	Mixed
Shelf Life (20 - 25 °C):	6 months

PROCESSING

Screen Mesh, Emulsion:	200 - 325 S/S, 25 µm
Levelling Time (at 20 °C):	5 - 10 min
Drying Time (at 125 °C):	10 - 15 min
Firing Temperature Range:	625 - 930 °C
	Optimum: 625 °C on Elpor II
	Time at peak: 10 - 12 min
Rate of Ascent/Descent:	60 - 100°C / min
Substrate for Calibration:	Elpor II
Thinner:	ESL 401

ESL Europe (KOP) 9996-B 9801-C

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See Caution and Disclaimer on page 2.

TYPICAL PROPERTIES

Fired Thickness:	10 - 17 μm
Approximate Coverage:	60 - 70 cm^2/g
Resistivity:	1 - 3 $\text{m}\Omega/\text{sq.}$
Printing Resolution: (line/space)	0.250 mm / 0.250 mm
Solder Wettability: (RMA Flux, 5 sec. dip 62Sn/36Pb/2Ag, 220°C)	Excellent
Solder Leach: (No. of 10 sec. dips to double lowest resistance of 100 mm x 0.25 mm conductor, 62Sn/36Pb/2Ag, 220°C)	4 - 8 dips
Adhesion: (90° pull, 2 mm x 2 mm pads, 62Sn/36Pb/2Ag, 220°C)	
	Initial pull strength: $\geq 1.5 \text{ kg}$
	Aged 48 hours at 150 °C: $\geq 1.0 \text{ kg}$
Ultrasonic Al Wire Bond: (25 μm wire)	7 - 9 g
Thermosonic Au Wire Bond: (25 μm wire)	4 - 6 g

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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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