



ESL ELECTROSCIENCE

CERAMIC TAPES &
THICK-FILM MATERIALS

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CERMET PALLADIUM SILVER CONDUCTOR

9694-SA

Cadmium-free, High Speed Printing Palladium Silver

ESL 9694-SA is a cadmium-free high speed printing palladium silver conductor that exhibits excellent adhesion, good solderability, and high conductivity. The 9694-SA is also recommended for use with ESL R-300-P and R-300-C series resistors as a termination in trimmer and potentiometer applications.

PASTE DATA

RHEOLOGY:	Thixotropic, screen printable paste
VISCOSITY: (Brookfield RVT, ABZ Spindle, 10 rpm, 25.5°C±0.5°C)	225±25-Pa.s
BONDING MECHANISM:	Mixed
SHELF LIFE: (25°C)	6 months

PROCESSING

SCREEN MESH/EMULSION:	200-325/20-30 µm
LEVELING TIME: (25°C)	5-10 minutes
DRYING AT 125°C:	10-15 minutes
FIRING RANGE:	750°C-930°C
OPTIMUM:	850°C
TIME AT PEAK:	10-12 minutes
RATE OF ASCENT/DESCENT:	60°C-100°C/minute
SUBSTRATE OF CALIBRATION:	96% alumina
THINNER:	ESL 401 or 413

0711-C

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See Caution and Disclaimer on other side.

TYPICAL PROPERTIES

FIRED THICKNESS:	8-15 μm
RESISTIVITY: (Measured on a 100 mm x 0.25 mm conductor track at 12.5 μm fired thickness)	2.0-5.0 $\text{m}\Omega/\text{sq.}$
PRINTING RESOLUTION: (Line/Space)	250 μm x 250 μm
SOLDER WETTABILITY: (RMA flux, 5 sec. dip, 62 Sn/36 Pb/2 Ag, 220°C \pm 5°C)	excellent
SOLDER LEACH (Number of 10 sec. dips to double the resistance of a 100 mm x 0.25 mm long conductor, 62 Sn/36 Pb/2 Ag, 220°C \pm 5°C)	\geq 4 dips
ADHESION: (90° pull, 2.0 mm x 2.0 mm pads, 62 Sn/36 Pb/2 Ag, 220°C \pm 5°C)	
Initial pull strength:	\geq 65 N
Aged 48 hours at 150°C:	\geq 35 N

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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 vapors 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.

DISCLAIMER: The product information and recommendations contained herein are based on data obtained by tests we believe to be accurate, but the accuracy and completeness thereof is not guaranteed. No warranty is expressed or implied regarding the accuracy of these data, the results obtained from the use hereof, or that any such use will not infringe any patent. Electro-Science assumes no liability for any injury, loss, or damage, direct or consequential arising out of its use by others. This information is furnished upon the condition that the person receiving it shall make their own tests to determine the suitability thereof for their particular use, before using it. User assumes all risk and liability whatsoever in connection with their intended use. Electro-Science's only obligation shall be to replace such quantity of the product proved defective.
