



## ESL ELECTROSCIENCE

CERAMIC TAPES &  
THICK-FILM MATERIALS

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# CERMET SILVER/PALADIUM 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

<b>Rheology:</b>	Thixotropic screen-printable paste
<b>Viscosity:</b> (Brookfield RVT, 10rpm, ABZ Spindle, 25.5 ± 0.5 °C)	225 ± 25 Pa.s
<b>Bonding Mechanism:</b>	Mixed
<b>Shelf Life (20 - 25 °C):</b>	6 months

### PROCESSING

<b>Screen Mesh, Emulsion:</b>	200 - 325 S/S, 20 - 30 µm
<b>Levelling Time (at 20 °C):</b>	5 - 10 min
<b>Drying Time (at 125 °C):</b>	10 - 15 min
<b>Firing Temperature Range:</b>	750 - 950 °C
	Optimum: 850 °C
	Time at peak: 10 - 12 min
<b>Rate of Ascent/Descent:</b>	60 - 100°C / min
<b>Substrate for Calibration:</b>	96% alumina
<b>Thinner:</b>	ESL 401 or 413

ESL Europe (KOP) 9694-SA 0711-New

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## TYPICAL PROPERTIES

**Fired Thickness:** 8 - 15  $\mu\text{m}$

**Resistivity:** 2.0 - 5.0  $\text{m}\Omega/\text{sq.}$

**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)  $\geq 4$  dips

**Adhesion:**  
(90° pull, 2 mm x 2 mm pads, 62Sn/36Pb/2Ag, 220°C)

Initial pull strength: > 6.5 kg  
Aged 48 hours at 150°C: > 3.5 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.

**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. ElectroScience 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 his own tests to determine the suitability thereof for his particular use, before using it. User assumes all risk and liability whatsoever in connection with his intended use. ElectroScience's only obligation shall be to replace such quantity of the product proved defective.

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