



## ESL ELECTROSCIENCE

CERAMIC TAPES &  
THICK-FILM MATERIALS

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# CERMET SILVER/PLATINUM CONDUCTOR 9501-CH

**HOS Heaters on Steel<sup>®</sup> • COS Circuits on Steel<sup>®</sup> • TFOS Thick Film on Steel<sup>®</sup>**

ESL 9501-CH is a low-cost, high-speed printing conductor material exhibiting high-conductivity and excellent adhesion. 9501-CH may be used contact pads for ESL 29XXX series resistors in HOS (Heaters on Steel)<sup>®</sup> applications.

## PASTE DATA

<b>Rheology:</b>	Thixotropic, screen-printable paste
<b>Viscosity:</b> (Brookfield RVT, 10rpm, ABZ Spindle, 25.5 ± 0.5 °C)	150 ± 20 Pa.s
<b>Bonding Mechanism:</b>	Mixed-bonded
<b>Shelf Life (20 - 25 °C):</b>	6 months

## PROCESSING

<b>Screen Mesh, Emulsion:</b>	325 S/S, 20 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>	850 - 930°C in air
	Optimum: 850°C
	Time at peak: 10 min
<b>Total Firing Cycle:</b>	1 hour
<b>Substrate for Calibration:</b>	96% alumina
<b>Thinner:</b>	ESL 401

ESL Europe 9501-CH 0302-C

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See Caution and Disclaimer on other side.

## TYPICAL PROPERTIES

**Fired Thickness:** 10.5 ± 2.5 µm  
(measured on a 2 mm x 2 mm pad on 96% alumina)

**Approximate Coverage:** 60 - 70 cm<sup>2</sup>/g

**Resistivity:** 2 - 4 mΩ/□ max  
(measured on a 100 mm x 0.25 mm conductor track)

**Printing Resolution:** 0.250 mm / 0.250 mm  
(line/space)

**Solder Wettability:** 95 - 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: 7 - 9 kg  
Aged 48 hours at 150°C: 5 - 9 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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