

# Electro-Science Laboratories, Inc.

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## THE MARKET LEADER – PROVEN RELIABILITY

**Over 90%** of the World's **HOS™** (Heaters on Steel) have been made using ESL materials. **Millions** are being used successfully worldwide.

## CERMET SILVER/PLATINUM CONDUCTOR for HOS<sup>™</sup> (Heaters on Steel)

The 9501-CH is a low cost, high speed printing silver/platinum conductor material,

which exhibits high conductivity and excellent adhesion and solderability. ESL 9501-CH may be used as contact pads for 29XXX Series resistors in HOS<sup>™</sup> (Heaters on Steel) applications.

### PASTE DATA

RHEOLOGY: VISCOSITY: (Brookfield RVT, 10 rpm, ABZ spindle, 25.5°C±0.5°C) BONDING MECHANISM: SHELF LIFE: (20°C) Thixotropic, screen printable paste

150±20 Pa·s Mixed bonded 6 months

9501-CH

### PROCESSING

SCREEN MESH/EMULSION:	325/20 μm
LEVELING TIME: (20°C)	10-15 minutes
DRYING AT 125°C:	15 minutes
FIRING TEMPERATURE RANGE: (in air)	850°C-930°C
OPTIMUM:	850°C
TIME AT PEAK TEMPERATURE:	10 minutes

9501-CH 9901-New

**ESL** Affiliates

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RATE OF ASCENT/DESCENT: SUBSTRATE FOR CALIBRATION: THINNER:	50°C-60°C/minute 96% alumina ESL 401
TYPICAL PROPERTIES	
FIRED THICKNESS:	
(measured on a 2.0 mm x 2.0 mm pad on 96% alumina)	10.5±2.5 μm
APPROXIMATE COVERAGE:	60-70 cm²/g
RESISTIVITY:	2-4 mΩ/sq.
PRINTING RESOLUTION: (Line/Space)	250 μm/250 μm
<b>SOLDER WETTABILITY:</b> (RMA flux, 5 sec. dip, 62 Sn/36 Pb/2 Ag, 220°C±5°C)	95%-100%
<b>SOLDER LEACH:</b> (No. of 10 sec. dips to double resistance of 0.25 mm wide x 100 mm long conductor)	5-10 dips
ADHESION:	
(90° pull, 2.0 mm x 2.0 mm pads, 62 Sn/36 Pb/2 Ag, 220°C±5°C)	
Initial:	68-88 N
Aged 48 hours at 150°C:	58-88 N

9501-CH 9901-New

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.

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