



## ESL ELECTROSCIENCE

CERAMIC TAPES &  
THICK-FILM MATERIALS

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### Polymer Silver Conductor

# 19101

### For High Temperature Applications

ESL 19101 is a high temperature, low resistivity, silver conductor, which provides very good adhesion and thermal stability. It is designed for use as a heating element on glass, ceramic, and polyimide film. The ESL 19101 can also be used on ESL 14401 polymer dielectric on metal substrates.

#### PASTE DATA

**RHEOLOGY:** Thixotropic, screen printable paste

**VISCOSITY:** 100±10 Pa•s  
(Brookfield RVT, ABZ Spindle, 10 rpm, 25.5±5°C)

**SHELF LIFE:** (5°C) 3 months

#### PROCESSING

**SCREEN MESH / EMULSION:** 200 / 20-30 µm

**LEVELING TIME:** (25°C) 5 - 10 minutes

**DRYING AT 125C:** 10 - 15 minutes

**CURING CYCLE:** 320°C / 150 minutes  
(10-15°C / min. rise)

**SUBSTRATE OF CALIBRATION:** glass

**THINNER:** ESL 455

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See Caution and Disclaimer on other side.

## TYPICAL PROPERTIES

<b>CURED THICKNESS:</b>	8 - 14 $\mu\text{m}$
<b>RESISTIVITY:</b> (at 12 $\mu\text{m}$ cured thickness)	8 - 16 $\text{m}\Omega/\text{square}$
<b>TCR:</b> (25-250°C)	3100 $\pm$ 150 ppm/°C
<b>RESISTIVITY STABILITY:</b> (16 hrs. at 250°C)	$\leq$ 5%
<b>COMPATIBILITY:</b>	ESL 14401 Dielectric

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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.

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