



Electro-Science Laboratories, Inc.

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CERMET SILVER CONDUCTOR

599-E

Low Temperature Firing Conductor

ESL 599-E conductive paste offers versatility and superior performance in many applications. It exhibits excellent adhesion and high conductivity. ESL 599-E may be processed at temperatures as low as 400°C.

Suitable substrates include aluminum, various ceramics, porcelain enameled steel, soda-lime and other glass substrates. This conductive coating is compatible with various dielectrics.

PASTE DATA

RHEOLOGY:	Thixotropic, screen printable paste
VISCOSITY: (Brookfield RVT, ABZ Spindle, 10 rpm, 25.5°C±0.5°C)	200±25 Pa·s
BONDING MECHANISM:	Fritted
SHELF LIFE: (25°C)	6 months

PROCESSING

SCREEN MESH/EMULSION:	325/25 □m
LEVELING TIME: (25°C)	5-10 minutes
DRYING AT 125°C:	10-15 minutes

599-E 0211-New

ESL Affiliates

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See Caution and Disclaimer on other side.

FIRING RANGE: 400°C-550°C
OPTIMUM PEAK TEMPERATURE/TIME AT PEAK: 450°C/10-15 min
RATE OF ASCENT/DESCENT: 60°C-100°C/minute
SUBSTRATE OF CALIBRATION: glass
THINNER: ESL 401

TYPICAL PROPERTIES

FIRED THICKNESS: 12.5±2.5 μm
RESISTIVITY: 3-6 mΩ/sq.
PRINTING RESOLUTION:
(Line/Space) 125 μm x 125 μm
SOLDER WETTABILITY:
(RMA flux, 5 sec. dip) **62 Sn/36 Pb/2 Ag, 220°C±5°C** excellent
ADHESION:
(90° pull, 2.5 mm x 2.5 mm pads, 62 Sn/36 Pb/2 Ag)
Initial pull strength: ≥10±0.5 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.

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