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CERMET SILVER CONDUCTOR

590
590-G

ESL 590 and ESL 590-G conductive pastes offer versatility and superior performance in many applications. These low cost compositions may be selected for applications requiring shielding, solder seal metallization for axial components, and conductive wiring. With their versatility, 590 and 590-G can also be used in AC and DC plasma displays, and as terminations for monolithic capacitors and capacitor electrodes. Both 590 and 590-G exhibit excellent adhesion, high conductivity and electroplatability. They also feature very low firing temperature characteristics.

Suitable substrates include silicon wafers, various ceramics, porcelain enameled steel, soda-lime and other glass substrates. These conductive coatings are compatible with various glossy and matte finish dielectrics.

PASTE DATA

RHEOLOGY:	Thixotropic, screen printable paste	
VISCOSITY: (Brookfield RVT, ABZ Spindle, 10 rpm, 25.5°C±0.5°C)	590	250±25 Pa·s
	590-G	225±25 Pa·s
BONDING MECHANISM:	Fritted	
SHELF LIFE: (25°C)	6 months	

PROCESSING

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

590/G 9808-F

ESL Affiliates

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See Caution and Disclaimer on other side.

FIRING RANGE:	590	500°C-700°C
	590-G	450°C-580°C
OPTIMUM PEAK TEMPERATURE/TIME AT PEAK:	590	580°C/10-15 min.
	590-G	450°C/35 min.
RATE OF ASCENT/DESCENT:		60°C-100°C/minute
SUBSTRATE OF CALIBRATION:		glass
THINNER:		ESL 401 or 404

TYPICAL PROPERTIES

FIRED THICKNESS:	590	12.5±2.5 µm
	590-G	12.0±3.0 µm
RESISTIVITY:		3-5 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	good-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

590/G 9808-F

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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