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CERMET GOLD CONDUCTOR

8880
8880-H

The 8880 and 8880-H gold conductors (MICRO-LOK®) have been developed to give the best adhesion properties possible when printed and fired on a range of ceramic substrate materials. This is achieved by a reactive bonding mechanism that does not require glass frit. These gold conductors have high conductivity and excellent wire bondability properties due to the absence of glass in the bonding mechanism.

The 8880-H is a higher solids version of the 8880 conductor and has been successfully used on 99.5% alumina and ferrite substrates for thick film microwave applications.

These gold conductors may be etched with KI/I₂ solutions for fine line definition to give lowest attenuation in microwave circuits at frequencies up to 20 GHz. Small amounts (<10 ppm) of halogenated hydrocarbons in the furnace atmosphere will severely affect the adhesion of these products.

PASTE DATA

RHEOLOGY:	Thixotropic, screen printable paste
VISCOSITY: (Brookfield RVT, ABZ Spindle, 10 rpm, 25.5°C±0.5°C)	400±35 Pa·s
BONDING MECHANISM:	MICRO-LOK®
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

8880 9711-C

ESL Affiliates

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See Caution and Disclaimer on other side.

FIRING TEMPERATURE RANGE:	930°C-1000°C
OPTIMUM:	980°C
TIME AT PEAK:	10-12 minutes
RATE OF ASCENT/DESCENT:	50°C-60°C/minute
SUBSTRATE OF CALIBRATION:	96% alumina
THINNER:	ESL 401

TYPICAL PROPERTIES

FIRED THICKNESS:		10-15 µm
RESISTIVITY:		≤ 3 mΩ/square
PRINTING RESOLUTION: (Line/Space)	8880	125 µm x 125 µm
	8880-H	75 µm x 75 µm
APPROXIMATE COVERAGE:		80-85 cm ² /gram
ADHESION: (90° pull, 2.0 mm x 2.0 mm pads, 80 Au/20 Sn solder)		
Initial pull strength:		60-100 N
Aged 48 hours at 150°C:		40-80 N
THERMOSONIC WIRE BONDING: (125°C bonding temperature) (50 µm Au)		30-35 grams
ULTRASONIC AI WIRE BOND: (25 µm, 1% Si, Al wire)		
Initial pull strength:		10-16 grams
Aged 48 hours at 150°C:		7-11 grams

8880 9711-C

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.

DISCLAIMER: The product information and recommendations contained herein are based on data obtained by tests we believe to be accurate, but the accuracy and completeness thereof is not guaranteed. No warranty is expressed or implied regarding the accuracy of these data, the results obtained from the use hereof, or that any such use will not infringe any patent. Electro-Science assumes no liability for any injury, loss, or damage, direct or consequential arising out of its use by others. This information is furnished upon the condition that the person receiving it shall make their own tests to determine the suitability thereof for their particular use, before using it. User assumes all risk and liability whatsoever in connection with their intended use. Electro-Science's only obligation shall be to replace such quantity of the product proved defective.