



ESL ELECTROSCIENCE

CERAMIC TAPES &
THICK-FILM MATERIALS

416 EAST CHURCH ROAD
KING OF PRUSSIA, PA 19406-2625, U.S.A

T: 610-272-8000
F: 610-272-6759

www.electroscience.com

CERMET GOLD CONDUCTOR

8886

ESL 8886 is a fritless gold conductor that has been developed for very fine line interconnect by print and etch processing in applications where higher conductivity rather than organo-metallic thin film gold is required. When printed using the recommended screen, a very dense, 1 μm thick film is obtained. When two layers are printed, the gold film is 100% dense and may be etched with KI/I_2 solutions to give fine line definition without discontinuities in the conductive paths. 8886 should be printed on top of high temperature glazes (Code 129) which are employed to confer smooth surface characteristics on standard 96% Al_2O_3 substrates. This combination of materials is recommended in applications such as thick film thermal printheads where very fine line resolution may be obtained by print and etch techniques. The gold conductor is also compatible as a termination for 8084 organo-metallic gold.

PASTE DATA

Rheology:	Thixotropic, screen-printable paste
Viscosity: (Brookfield RVT, 10rpm, #4 spindle, 25.5 ± 0.5 °C)	20 \pm 5 Pa.s
Bonding Mechanism:	Fritless
Shelf Life (20 - 25 °C):	6 months

PROCESSING

Screen Mesh, Emulsion:	325 or 400 S/S, minimum emulsion
Levelling Time (at 20°C):	5 - 10 min
Drying Time (at 125°C):	10 -15 min
Firing Temperature Range:	850 - 930 °C in air
	Optimum: 850 °C
	Time at peak: 10 min
Rate of Ascent/Descent:	50 - 60 °C / min
Substrate for Calibration:	glazed alumina
Thinner:	ESL 401

ESL Europe 8886 9902-E

ESL Affiliates

ESL Europe (Agmet Ltd) • 8 Commercial Road • Reading • Berkshire • England • RG2 0QZ • Tel: +44 (0) 118 918 2400 • Fax: +44 (0) 118 986 7331 • Sales@ESLEurope.co.uk

ESL Nippon • Sukegawa Bldg. • 6th floor • 3-4 Yanagibashi 1-chome • Taito-ku • Tokyo 111, Japan • Tel: +81-3-3864-8521 • Fax: +81-3-3864-9270 • Sales@ESL-Nippon.co.jp

ESL China • Room #1707, Tower A, City Center of Shanghai • 100 Zunyi Road • Shanghai, China 200051 • Tel: +86-21-6237-0336 and 0337 • Fax: +86-21-6237-0338
ESLChina@eslshanghai.net

See Caution and Disclaimer on other side.

TYPICAL PROPERTIES

Fired Thickness: (on glazed alumina)	1 layer 2 layers	1.1 ± 0.1 µm 2.2 ± 0.2 µm
Approximate Coverage:		254 cm ² /g
Resistivity:	1 layer 2 layers	30 - 40 mΩ/□ 20 - 25 mΩ/□
Printing Resolution: (line/space)		designed for print and etch
Solids Content:		50 - 55 %

ESL Europe 8886 9902-E

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 vapours 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. ElectroScience 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 his own tests to determine the suitability thereof for his particular use, before using it. User assumes all risk and liability whatsoever in connection with his intended use. ElectroScience's only obligation shall be to replace such quantity of the product proved defective.