



## 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](http://www.electroscience.com)

# CERMET GOLD CONDUCTOR

# 8844

### Cadmium-Free

ESL 8844 is an economical, general-purpose gold conductor for use on alumina and 4913-G dielectric. It has been specifically designed to give thin, smooth and dense films (7 - 9  $\mu\text{m}$  fired thickness). Excellent results are obtained with thermosonic gold wire bonding.

### PASTE DATA

<b>Rheology:</b>	Thixotropic, screen-printable paste
<b>Viscosity:</b> (Brookfield RVT, 10rpm, ABZ spindle, $25.5 \pm 0.5$ °C)	375 $\pm$ 25 Pa.s
<b>Bonding Mechanism:</b>	Mixed-bonded
<b>Shelf Life (20 - 25 °C):</b>	6 months

### PROCESSING

<b>Screen Mesh, Emulsion:</b>	325 S/S, 20 $\mu\text{m}$
<b>Levelling Time (at 20°C):</b>	5 - 10 min
<b>Drying Time (at 125°C):</b>	10 -15 min
<b>Firing Temperature Range:</b>	850 - 1000°C in air
	Optimum: 850 °C
	Time at peak: 10 min
<b>Total Firing Cycle:</b>	30 min
<b>Substrate for Calibration:</b>	96% alumina
<b>Thinner:</b>	ESL 402

ESL Europe 8844 0409-C

#### 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. • 6<sup>th</sup> 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:

(measured on a 2 mm x 2 mm pad on 96% alumina)

7 - 9  $\mu\text{m}$

### Approximate Coverage:

80 - 85  $\text{cm}^2/\text{g}$

### Resistivity:

(measured on a 100 mm x 0.25 mm  
conductor track at 8  $\mu\text{m}$  fired thickness)

<7.5  $\text{m}\Omega/\square$

### Printing Resolution:

(line/space)

0.075 mm / 0.075 mm

### Adhesion:

(90° pull, 2 mm x 2 mm pads,  
80Au/20Sn and 62Sn/36Pb/2Ag)

Initial pull strength: >4.5 kg

Aged (48 hours at 150°C) >1.7 kg

### Thermosonic Au Wire Bond:

(25  $\mu\text{m}$  wire; bond length 1 mm;  
100% wire breaks)

>7 g average

### Aged Au Wire Bond:

(24 hours at 200°C)

>5 g average

ESL Europe 8844 0409-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 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.