



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

8836

Thin-Printing, General-Purpose Gold

ESL 8836 is an economical, general-purpose gold conductor for use on alumina and over ESL series' dielectrics 4901, 4905 and 4913. It has been specifically designed to give thin, smooth and dense films (6 - 9 μm fired thickness) and may be used as resistor terminations, preferably with 3900-Au Series resistors. Excellent results are obtained with both ultrasonic aluminium and thermosonic gold wire bonding.

PASTE DATA

Rheology: Thixotropic, screen-printable paste

Viscosity:
(Brookfield RVT, 10rpm,
ABZ spindle, 25.5 \pm 0.5 $^{\circ}\text{C}$) 250 \pm 25 Pa.s

Bonding Mechanism: Mixed-bonded

Shelf Life (20 - 25 $^{\circ}\text{C}$): 6 months

PROCESSING

Screen Mesh, Emulsion: 325 S/S, 25 μm

Levelling Time (at 20 $^{\circ}\text{C}$): 5 - 10 min

Drying Time (at 125 $^{\circ}\text{C}$): 10 -15 min

Firing Temperature Range: 850 - 980 $^{\circ}\text{C}$ in air
Optimum: 850 $^{\circ}\text{C}$
Time at peak: 10 - 12 min

Total Firing Cycle: 1 hour

Substrate for Calibration: 96% alumina

Thinner: ESL 401

ESL Europe 8836 0702-M

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:

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

6 - 9 μm

Approximate Coverage:

80 - 85 cm^2/g

Resistivity:

(measured on a 100 mm x 0.25 mm
conductor track at 8 μm fired thickness)

< 6.0 $\text{m}\Omega/\square$

Printing Resolution:

(line/space)

0.125 mm / 0.125 mm

Adhesion:

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

Initial pull strength: > 4.0 kg
Aged 48 hours at 150°C: > 3.0 kg

Ultrasonic Al Wire Bond:

(25 μm wire; bond length 1 mm;
100% wire breaks)

> 9 g

Thermosonic Au Wire Bond:

(25 μm wire; bond length 1 mm;
100% wire breaks)

> 8 g

Aged Au Wire Bond:

(24 hours at 200°C)

> 5 g

ESL Europe 8836 0702-M

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.

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