



ESL ELECTROSCIENCE

CERAMIC TAPES &
THICK-FILM MATERIALS

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CERMET GOLD CONDUCTOR

8836-F

ESL 8836-F is an economical, general-purpose gold conductor for use on alumina and 4901 and 4905 Series dielectrics. It has been specifically designed to give thin, smooth and dense films (9 - 12 μm fired thickness). The conductor may be used as a resistor termination, preferably with 3900-Au Series resistors. Excellent results are obtained with thermosonic gold wire bonding (33 μm).

PASTE DATA

Rheology: Thixotropic, screen-printable paste

Viscosity:
(Brookfield RVT, 10rpm,
ABZ spindle, 25.5 \pm 0.5 $^{\circ}\text{C}$) 200 \pm 20 Pa.s

Bonding Mechanism: Mixed-bonded

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

PROCESSING

Screen Mesh, Emulsion: 325 S/S, 20 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 - 1000 $^{\circ}\text{C}$ in air
Optimum: 850 $^{\circ}\text{C}$
Time at peak: 10 min

Total Firing Cycle: 30 min

Substrate for Calibration: 96% alumina

Thinner: ESL 401

ESL Europe 8836-F 0402-C

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See Caution and Disclaimer on other side.

TYPICAL PROPERTIES

Fired Thickness:

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

9 - 12 μm

Approximate Coverage:

80 - 85 cm^2/g

Resistivity:

(measured on a 100 mm x 0.25 mm conductor track)

<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: > 4.5 kg
Aged 48 hours at 150°C: ≥ 2.4 kg

Thermosonic Au Wire Bond:

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

≥ 11 g

Aged Au Wire Bond:

(24 hours at 200°C)

≥ 8.5 g

ESL Europe 8836-F 0402-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.

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