



## ESL ELECTROSCIENCE

CERAMIC TAPES &  
THICK-FILM MATERIALS

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# CERMET GOLD CONDUCTOR

# 8881-B

ESL 8881-B is a thin printing fritless (MICRO-LOK<sup>®</sup>) gold paste designed for use on 96% alumina substrates or with 4905-C dielectric to give high coverage. The fired film exhibits strong adhesion to both bare alumina and 4905-C dielectric and may be easily etched using KI/I<sub>2</sub> solutions. Fired films of 8881-B are very dense with no centre line depression and give excellent line definition. 8881-B exhibits excellent wire bondability is a mixed-bonded, high-conductivity gold material for use on alumina.

## PASTE DATA

<b>Rheology:</b>	Thixotropic, screen-printable paste
<b>Viscosity:</b> (Brookfield RVT, 10rpm, ABZ spindle, 25.5 ± 0.5 °C)	350 ± 25 Pa.s
<b>Bonding Mechanism:</b>	Fritless, MICRO-LOK <sup>®</sup>
<b>Shelf Life (20 - 25 °C):</b>	6 months

## PROCESSING

<b>Screen Mesh, Emulsion:</b>	325 S/S, 15 µm
<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>Rate of Ascent/Descent:</b>	50 - 60 °C / min
<b>Substrate for Calibration:</b>	96% alumina
<b>Thinner:</b>	ESL 413

ESL Europe 8881-B 9509-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)

7.0 ± 1.0 µm

### Approximate Coverage:

80 cm<sup>2</sup>/g

### Resistivity:

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

< 5.0 mΩ/□

### Printing Resolution:

(line/space)

0.075 mm / 0.075 mm

Special screen: 0.050 mm / 0.050 mm

### Adhesion:

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

Initial pull strength: > 5.0 kg

Aged 48 Hours at 150°C: > 3.6 kg

### Ultrasonic Al Wire Bond:

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

> 8 g

### Thermosonic Au Wire Bond:

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

> 8 g

### Aged Au Wire Bond:

(25 µm wire; 24 hours at 150°C)

> 6 g

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**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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