



# Electro-Science Laboratories, Inc.

416 East Church Road • King of Prussia, PA 19406-2625, U.S.A

610-272-8000 • Fax: 610-272-6759 • www.ElectroScience.com • Sales@ElectroScience.com

## CERMET GOLD CONDUCTOR

## 8881-B

ESL 8881-B is a newly developed thin printing MICRO-LOK<sup>®</sup> gold paste designed for use on 96% alumina substrates, or with 4905-C dielectric. The fired film exhibits strong adhesion to both bare alumina and 4905-C dielectric and is easily etchable. ESL 8881-B exhibits high coverage and excellent wire bondability. Although the fired thickness is in the range of 6-8 micrometers, the film is very dense, exhibits no centerline depression and has good line resolution.

### HIGHLIGHTS OF 8881-B ARE:

- Thin, very dense fired film
- Excellent printability
- Fine line resolution
- Excellent etchability
- Low resistivity
- Excellent thermosonic gold wire bonding and thermal aging
- 850°C firing temperature

### PASTE DATA

<b>RHEOLOGY:</b>	Thixotropic, screen printable paste
<b>VISCOSITY :</b> (Brookfield HBT, SC4-14 spindle, 10 rpm, 25.5°C±0.5°C)	250±25 Pa·s
<b>BONDING MECHANISM:</b>	MICRO-LOK <sup>®</sup>
<b>SHELF LIFE:</b> (at 20°C)	6 months

### PROCESSING

<b>SCREEN MESH / EMULSION:</b>	325/25 µm
<b>LEVELING TIME:</b> (at 20°C)	5-10 minutes
<b>DRYING AT 125°C:</b>	10-15 minutes

8881-B 9710-C

#### ESL Affiliates

Japan: ESL-Nippon Company, Ltd. • Sukegawa Bldg. • 6<sup>th</sup> floor • 3-4 Yanagibashi 1-chome • Taito-ku • Tokyo 111, Japan • Tel: (011-81)-3-3864-8521 • Fax: (011-81)-3-3864-9270  
NipponSales@ESLNippon.com

China: Shanghai Agmet Electro-Science Laboratory Ltd. • Second Floor Bldg. 12A1 • #223 North Fe Te Road • Waigaoqiao Free Trade Zone • Shanghai, China  
Tel: (011-86)-21-5866-0497 • Fax: (011-86)-21-5866-0497 • ShanghaiSales@ShanghaiESL.com

Europe: Agmet, Ltd. • 8 Commercial Road • Reading, Berkshire, England RG2 0QZ • Tel: (011-44)-118-987-3139 • Fax: (011-44)-118-986-7331 • Sales@ESLEurope.co.uk

See Caution and Disclaimer on other side.

**FIRING TEMPERATURE:**

**OPTIMUM:** 850°C

**TIME AT PEAK:** 10 minutes

**RATE OF ASCENT / DESCENT:** 60°C-100°C/minutes

**SUBSTRATE FOR CALIBRATION:** 96% alumina

**THINNER:** ESL 413

**TYPICAL PROPERTIES**

**FIRED THICKNESS:** 6-8 µm

**RESISTIVITY:** (at 8 µm fired) ~ 3.5 mΩ/square

(at 7 µm fired) ~ 4.0 mΩ/square

**PRINTING RESOLUTION:**

(Line/Space) (325 mesh stainless steel) 75 µm x 75 µm

(Special Screen) 50 µm x 50 µm

**THERMOSONIC GOLD WIREBONDING:**

(25 µm gold wire)

Initial

After 48 hours at 150°C

(On bare 96% alumina)

14 grams

10 grams

(On 4905-C dielectric)

14 grams

10 grams

**SOLDERED ADHESION:**

(2 mm x 2 mm pads, 80 Au/20 Sn solder, on 96% alumina)

64 N

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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 vapors 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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