



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

8836
8836-A

ESL 8836 and 8836-A mixed bonded thick film gold pastes are specially designed for thin printing. They produce a very smooth, dense film of 6 to 9 micrometers fired thickness. ESL 8836 is particularly well suited for automatic thermosonic wirebonding. While they have a wide firing range, a peak firing temperature of 850°C gives the best properties.

ESL 8836-A is an alloyed version of 8836. Its properties are similar to 8836, but it is designed for ultrasonic wire bonding using 25 micrometers diameter aluminum wire.

PASTE DATA

RHEOLOGY:	Thixotropic, screen printable paste
VISCOSITY: (Brookfield RVT, ABZ Spindle, 10 rpm, 25.5°C±0.5°C)	250±25 Pa·s
BONDING MECHANISM:	Mixed
SHELF LIFE: (25°C)	6 months

PROCESSING

SCREEN MESH/EMULSION:	325/25 µm
LEVELING TIME: (25°C)	5-10 minutes
DRYING AT 125°C:	10-15 minutes
FIRING TEMPERATURE RANGE:	850°C-930°C
OPTIMUM:	850°C
TIME AT PEAK:	10-12 minutes
RATE OF ASCENT/DESCENT:	60°C-100°C/minute
SUBSTRATE OF CALIBRATION:	96% alumina
THINNER:	ESL 413

8836/A 9711-E

ESL Affiliates

Japan: **ESL-Nippon Company, Ltd.** • Sukegawa Bldg. • 6th 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

TYPICAL PROPERTIES

FIRED THICKNESS:		6-9 μm
RESISTIVITY:	8836	$\leq 6 \text{ m}\Omega/\text{square}$
	8836-A	$\leq 10 \text{ m}\Omega/\text{square}$
PRINTING RESOLUTION: (Line/Space)		125 μm x 125 μm
APPROXIMATE COVERAGE:		80-85 cm^2/gram
ADHESION: (90° pull, 2.0 mm x 2.0 mm pads, 80 Au/20 Sn solder)		
	Initial pull strength:	30-40 N
	Aged 48 hours at 150°C:	$\geq 20 \text{ N}$
THERMOSONIC WIRE BONDING: (125°C bonding temperature)		
	(25 μm Au)	8836 6-9 grams
		8836-A 5-8 grams
	(50 μm Au)	8836 20-26 grams
		8836-A 19-25 grams
ULTRASONIC Al WIRE BOND: (25 μm , 1% Si, Al wire)		
	Initial pull strength:	8836 7-9 grams
		8836-A 6-10 grams
	Aged 48 hours at 150°C:	8836 4-7 grams
		8836-A 5-6 grams
	Aged 200 hours at 150°C:	8836 3-4 grams
CONTACT RESISTANCE: (Change in contact resistance of Al bonds, 1000 hours at 150°C)		
	8836-A	Insignificant
EUTECTIC DIE BONDING:		
		Excellent
COMPATIBILITY:		
		ESL 3900, 3980, R-300-A and D-R-300-B
		ESL 4905-C, 4905-CH, 4911

8836/A 9711-E

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.

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. Electro-Science 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 their own tests to determine the suitability thereof for their particular use, before using it. User