CERMET GOLD CONDUCTOR

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

ESL 8836 8836-A

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

See Caution and Disclaimer on other side.
TYPICAL PROPERTIES

FIRED THICKNESS: 6-9 µm

RESISTIVITY:
8836 \( \leq 6 \, m\Omega/\text{square} \)
8836-A \( \leq 10 \, m\Omega/\text{square} \)

PRINTING RESOLUTION:
(Line/Space) 125 µm x 125 µm

APPROXIMATE COVERAGE:
80-85 cm²/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: \( \geq 20 \, N \)

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