



ESL ELECTROSCIENCE

CERAMIC TAPES &
THICK-FILM MATERIALS

416 EAST CHURCH ROAD
KING OF PRUSSIA, PA 19406-2625, U.S.A

T: 610-272-8000
F: 610-272-6759

www.electroscience.com

CERMET SILVER/PALLADIUM CONDUCTOR 9912-G

RoHS Compliant*

ESL 9912-G is a silver fuel cell and interconnect paste exhibiting excellent conductivity, adhesion to 96% alumina, fuel cell and other tape-cast materials, and excellent solder leach resistance. Its main use is as a ground plane conductor and SOFC Interconnect. It is compatible with 4920 dielectric and SOFC tape-cast materials.

PASTE DATA

Rheology:	Thixotropic, screen-printable paste
Viscosity: (Brookfield RVT, 10rpm, ABZ Spindle, 25.5 ± 0.5 °C)	250 ± 25 Pa.s
Bonding Mechanism:	Mixed-bonded
Shelf Life (20 - 25 °C):	6 months

PROCESSING

Screen Mesh, Emulsion:	325 S/S, 25 µm
Levelling Time (at 20 °C):	5 - 10 min
Drying Time (at 125 °C):	10 - 15 min
Firing Temperature:	850 °C
	Time at peak: 10 - 12 min
Rate of Ascent/Descent:	60 - 100 °C / min
Total Cycle:	50 min
Substrate for Calibration:	96 % alumina
Thinner:	ESL 401

ESL Europe (KOP) 9912-G 0403-E

ESL Affiliates

ESL Europe (Agmet Ltd) • 8 Commercial Road • Reading • Berkshire • England • RG2 0QZ • Tel: +44 (0) 118 918 2400 • Fax: +44 (0) 118 986 7331 • Sales@ESLEurope.co.uk

ESL Nippon • Sukegawa Bldg. • 6th floor • 3-4 Yanagibashi 1-chome • Taito-ku • Tokyo 111, Japan • Tel: +81-3-3864-8521 • Fax: +81-3-3864-9270 • Sales@ESL-Nippon.co.jp

ESL China • Room #1707, Tower A, City Center of Shanghai • 100 Zunyi Road • Shanghai, China 200051 • Tel: +86-21-6237-0336 and 0337 • Fax: +86-21-6237-0338
ESLChina@eslshanghai.net

See Caution and Disclaimer on page 2.

TYPICAL PROPERTIES

Fired Thickness: 12.5 ± 2.5 µm
(measured on a 2 mm x 2 mm pad on 96% alumina)

Resistivity: ≤3 mΩ / sq.
(measured on a 100 mm x 0.25 mm conductor track)

Printing Resolution: 0.075 mm / 0.075 mm
(line/space)

Solder Wettability: > 95 %
(RMA Flux, 5 sec. dip, 62Sn/36Pb/2Ag, 220°C)

Solder Leach: 10 dips
(No. of 10 sec. dips to double lowest resistance of
100 mm x 0.25 mm conductor, 62Sn/36Pb/2Ag, 220 °C)

Adhesion:
(90° pull, 2 mm x 2 mm pads, 62Sn/36Pb/2Ag)

Initial pull strength: > 7.5 kg
Aged 48 hours at 150 °C: > 7.5 kg

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*None of the six substances referred to in the RoHS Directive (2002/95/EC) are used in the formulation of this product.

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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