



ESL ELECTROSCIENCE

CERAMIC TAPES &
THICK-FILM MATERIALS

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CERMET PLATINUM CONDUCTOR

5545-G

RoHS Compliant*

ESL 5545-G is a screen-printable, dense, fritted platinum coating designed for use with partially stabilized zirconia for oxygen sensors. It can also be used on alumina for semi-conducting tin oxide sensors for the detection of gases like CO or hydrocarbons. As a sensor, its change in resistance is linear over the temperature range -50 to 500°C. ESL 5545-G is suitable for use as a heating element and is stable at 600°C in H₂ containing atmospheres without significant degradation of adhesion (when fired at 1300°C). Excellent performance, on pre-fired ceramics, is obtained when fired at temperatures of 850°C - 1300°C.

PASTE DATA

Rheology:	Thixotropic, screen-printable paste
Viscosity: (Brookfield RVT, 10rpm, ABZ spindle, 25.5 ± 0.5 °C)	250 ± 25 Pa.s
Solids Content:	77 - 79% by weight
Bonding Mechanism:	Fritted
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 Range:	850 - 1300°C in air
	Optimum: 980°C
	Time at peak: 15 min
Total Firing Cycle:	1 hour
Substrate for Calibration:	96% alumina

ESL Europe 5545-G 0907-C

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See Caution and Disclaimer on other side.

TYPICAL PROPERTIES

Resistivity (9 - 11 µm):	70 - 80 mΩ/□
Approximate Coverage:	80 - 100 cm ² /g
Adhesion: (90° pull, 2.5 mm x 2.5 mm pads, 62Sn/36Pb/2Ag solder on zirconia)	>5.0 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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