ESL ELECTROSCIENCE
CERAMIC TAPES & THICK-FILM MATERIALS
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5542 PRINT GD
5542 POURING GD

PLATINUM CONDUCTOR

RoHS Compliant Platinum Conductor for SOFC, Sensors, etc.*

ESL 5542 is a fritless platinum conductor and interconnect material available in screen-printable or pourable versions. The material is designed for use on partially stabilized zirconia for oxygen sensors and on tape-cast materials for solid oxide fuel cells and related applications. ESL 5542 is stable to 800°C-900°C and resists oxidation, which is particularly important for SOFC applications.

PASTE DATA

RHEOLOGY:	Thixotropic, screen-printable paste or Pouring consistency
VISCOSITY:	
Printing Grade (Brookfield RVT ABZ spindle, 10 rpm, 25.5°C±0.5°C)	75-105 Pa·s
Pouring Grade (Brookfield HBT, CP-51, 10 rpm, 25.5°C±0.5°C)	5-6 Pa·s
SHELF LIFE:	6 months

PROCESSING

SCREEN MESH/EMULSION: (Printing Grade)	325/20-30 µm
LEVELING TIME:	5-10 minutes
DRYING:	10-15 minutes, 90°C-125°C
FIRING RANGE:	950°C-1300°C
OPTIMUM:	980°C
TIME AT PEAK:	10-15 minutes
SUBSTRATE OF CALIBRATION:	96% alumina
THINNER	ESL 401

5542 1101-E

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See Caution and Disclaimer on other side.

TYPICAL PROPERTIES

PRINTING GRADE

RESISTIVITY:	≤ 100 mΩ/sq.
FIRED THICKNESS:	3-7 μm
SOLDERABILITY: (2.5 mm x 2.5 mm pads, 62 Sn/36 Pb/2 Ag solder, 220°C±5°C)	Fair to Good

POURING GRADE

RESISTIVITY:	100-200 mΩ/sq.
FIRED THICKNESS:	5-10 μm

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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.**