



ESL ELECTROSCIENCE

CERAMIC TAPES &
THICK-FILM MATERIALS

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CERMET PLATINUM CONDUCTOR

5545-LS

For Heating Elements

ESL 5545-LS is a screen printable, fritted platinum conductor designed for use as a heating element. This material is thin printing and has TCR characteristics approaching that of bulk platinum. The TCR is the most positive when the material is fired at 1300°C. Customers who fire in the range of 850°C to 1300°C obtain excellent performance on pre-fired ceramics.

PASTE DATA

| | |
|---|-------------------------------------|
| RHEOLOGY: | Thixotropic, screen printable paste |
| VISCOSITY: (Brookfield HBT Cone/Plate Viscometer, at 38.4 sec ⁻¹ , 23°C±0.2°C) | 60-90 Pa·s |
| BONDING MECHANISM: | Fritted |
| SHELF LIFE: | 6 months |

PROCESSING

| | |
|----------------------------------|---------------------------|
| SCREEN MESH/EMULSION: | 325/25 µm |
| LEVELING TIME: | 5-10 minutes |
| DRYING: | 10-15 minutes, 90°C-125°C |
| DRIED THICKNESS: | 9±3 µm |
| FIRING RANGE: | 850°C-1300°C |
| CALIBRATION: | 850°C |
| TIME AT PEAK: | 10-12 minutes |
| SUBSTRATE OF CALIBRATION: | 96% alumina |

ESL Europe (KOP) 5545-LS 0304-A

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See Caution and Disclaimer on other side.

TYPICAL PROPERTIES

RESISTIVITY: (Normalized at 8 µm dried thickness)

300-400 mΩ/square

FIRED THICKNESS:

3.5-4.5 µm

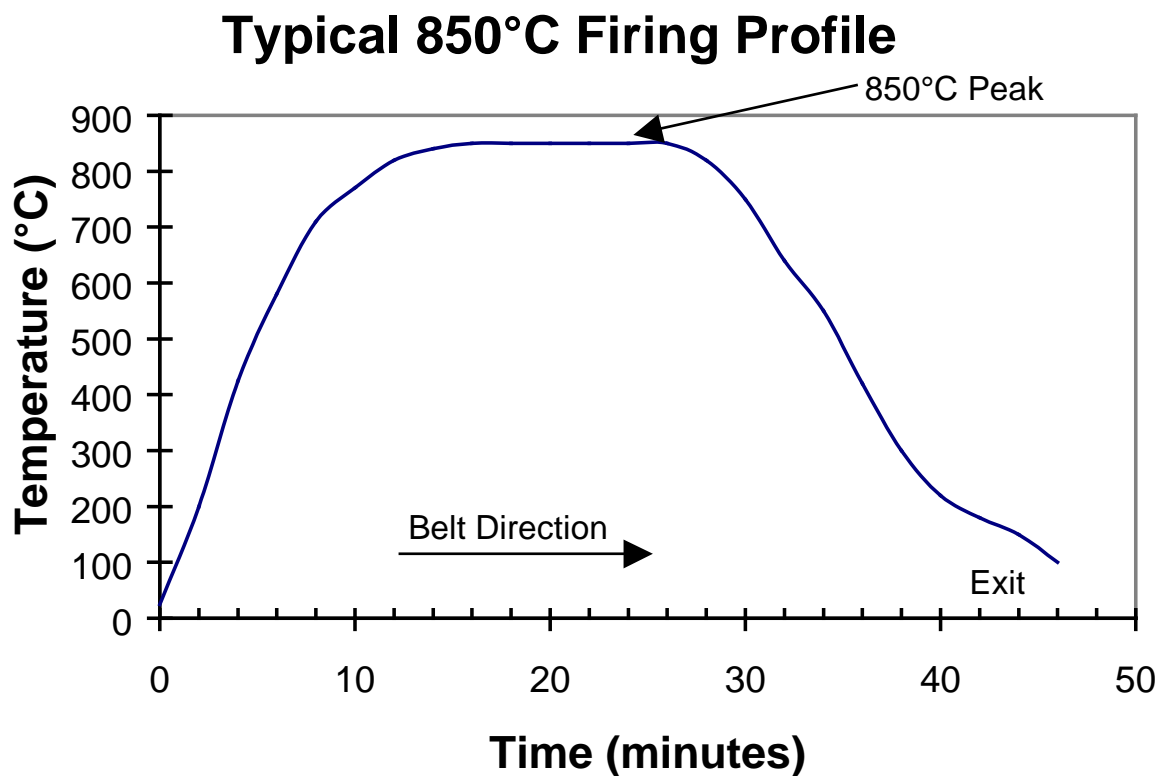
SOLDERED ADHESION:

(2.5 mm x 2.5 mm pads, 62 Sn/36 Pb/2 Ag solder, on zirconia)

> 50 N

TCR:

3500±200 ppm/°C



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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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