ESL ELECTROSCIENCE
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SOLAR CELL SILVER PASTE 9987

Cadmium-Free, Low-Lead Photovoltaic Material

ESL 9987 is a cadmium-free, low-lead silver paste developed for use as a front-side metallization in photovoltaic applications. The 9987 provides high efficiency and high fill factor on single crystal and polycrystalline silicon solar cells. ESL 9987 can be processed on solar cells using a fire-through process with silicon nitride or titanium dioxide anti-reflection coating.

The recommended materials to be used in conjunction with the 9987 are 9920 Series back-surface silver and 2590 Series back-surface aluminium metallisations.

PASTE DATA

Rheology:	Thixotropic screen-printable paste
Viscosity: (Brookfield HBT, Shear rate 9.6 sec^{-1}, CP-51 Spindle, 25.0 ± 0.2 °C)	120 ± 30 Pa.s
Shelf Life (20 - 25 °C):	6 months

PROCESSING

Screen Mesh, Emulsion:		200 - 325 S/S, 15 - 30 µm
Levelling Time (at 20 °C):		5 - 10 min
Drying Time (at 125 °C):		10 - 15 min
Furnace Set Point:		840 - 910 °C
	Time above 600 °C:	typically 5 - 8 sec
Thinner:		ESL 401

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See Caution and Disclaimer on page 2.

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