ALUMINUM CONDUCTOR PASTE FOR SOLAR CELLS

Technical Data Sheet

PALF-100A

Lead free, low bow

APPLICATION

Aluminum conductor paste PALF-100A is specially designed to form p+ doped layer when fired on p-doped silicon photovoltaic devices. It is used to create thick-film back-side contact metallization with mono- and multycrystalline silicon solar cells.

BENEFITS

- lead and cadmium free;
- excellent BSF quality;
- low bow on super thin (less than 200 microns) silicon wafers;
- very good surface properties – no beads, coloring, good adhesion;
- good printing characteristics;
- co-fireable with other Analog™ pastes for solar cells metallization.

TRANSPORTATIONS

Tightly capped plastic containers adapt to any kind of transport in compliance with the applied regulations.

STORAGE CONDITIONS

In original manufacturer's packaging

- storage place – roofed storage rooms and other covered storage facilities;
- storage temperature: from +5 to +30 °C;
- relative humidity not more than 85 %;
- no contacts with aggressive environment allowed;
- no direct sunlight allowed.

BEFORE USE

The paste must be kept at the temperature of (22±3) °C for 3 hours and then thoroughly stirred.

THINNING

Thinning is not recommended, since the pastes are supplied at the correct viscosity for application. If thinning becomes necessary to replace evaporated solvent, contact your local Monocrystal representative for thinning recommendation.

TYPICAL PROPERTIES

Solid Content, % mass	70-80
Viscosity, (Haake RV-1, Cone 35/°1, D=10 s^{-1}, T=21,0±0,1 °C) , Pa·s	50-70
Resistivity (normalized to 25µm on alumina), Ω/□ not more than	0,07
Bowing (160 micron wafer, 156x156), mm, not more than	1,5

PROCESSING RECOMMENDATIONS

Printing	200-325 mesh
Drying	250-300 °C for 1-5 minutes
Firing Range	750-950 °C
Firing Time at Peak Temperature	3-90 seconds
Firing Medium	Air
Shelf life	6 month

Firing conditions can be optimized to meet customer requirements

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