



# ALUMINUM CONDUCTOR PASTE FOR SOLAR CELLS

## Technical Data Sheet

## *PASE-12D*

Low bow on superthin

### APPLICATION

PASE-12D is a new modification of aluminum thick film conductive paste from Analog PASE-series for back surface metallization.

This product has been specially designed for super thin mono- and multicrystalline silicon wafers.

### BENEFITS

- high efficiency;
- 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%;
- avoid contacts with aggressive medium;
- do not expose to direct sunlight.

### 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 <sup>o</sup> 1, D=10 s <sup>-1</sup> , T=21,0±0,1 °C) , Pa·s	50-80
Fineness of grind, μm, no more than	25
Resistivity (normalized to 25μm on alumina), mOhm/sq., not more than	50
Bowing (200 micron wafer, 156x156), mm, not more than	1,0

### PROCESSING RECOMMENDATIONS

Printing	230-325 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

