

SOL570 Series



SOL570
> +0.05 %
Eta gain

efficiency

Patent Pending

FRONT-SIDE PASTE



New Generation Low Temperature Silver Paste

- Ideal for both HJT and OPV standard cells
- For single and double printing application

The SOL570 has been developed based on our recent improvement in low curing temperature paste chemistry, combined with the latest breakthrough in silver powder development and organic design. As confirmed by internal results SOL570 has outstanding resistivity and improved adhesion on HJT cells.

SOL570 has a low curing temperature (180–200°C) and allows for low resistivity values on HJT (Heterojunction with Intrinsic thin layer) solar cells. At the same time, the paste shows excellent adhesion.

Please contact our local technical service teams for detailed process recommendations.

KEY BENEFITS

- For outstanding efficiency gain
- Fine-line screen printing for mass production
- Excellent adhesion and solder ability
- Excellent resistivity values with a low curing temperature
- Can be stored at room temperature

IMPROVEMENT ON LINE RESISTIVITY

The SOL570 features a unique silver chemistry, which allows for improved resistivity values. The key is that this paste allows for improved sintering of the silver at low curing temperatures. The SOL570 is perfectly tailored for fine-line printability for screen printing. It supports a finger geometry that can print defect-free through a less than 50 µm screen opening in high throughput mass production, resulting in an efficiency gain through reduced optical shading and less contact resistivity.

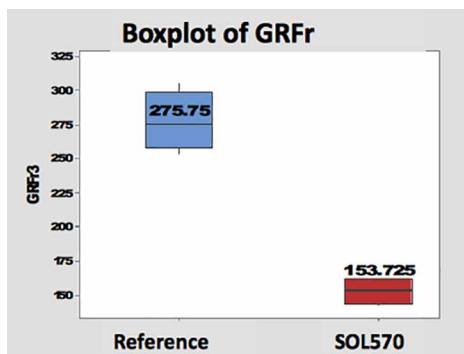


Figure 1: SOL570 has reduced line resistivity.

IMPROVEMENT ON ADHESION

The SOL570 shows after low temperature curing the microstructure of the fired fingers to be a much more densified structure enhancing not only grid resistivity, but adhesion and solder ability. This enhanced densification gives the paste a stronger internal bonding and moves the failure mechanism of the adhesion to within the paste.

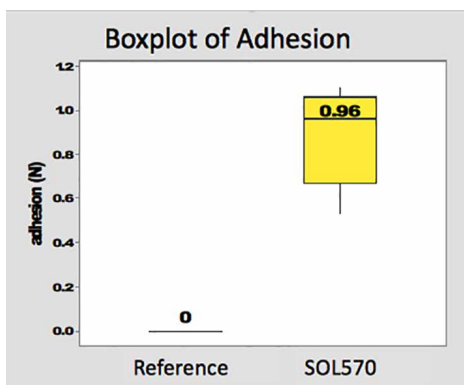


Figure 2: SOL570 has an outstanding adhesion

TYPICAL PROPERTIES

Wafer Application types:

- HJT
- OPV

Recommended finger opening:

Single Print : 40–50 µm

Recommended curing temperature:

200°C for 10 min

Recommended storage condition:

Room temperature

Solid content:

88.00 ± 1.0%

Fineness of Grind (FOG):

- 4th scratch: ≤ 10 µm
- 50%: ≤ 5 µm

Viscosity:

SOL570:

- CPE-51 spindle (Brookfield):
50–140 kcps @ 1 RPM, 25°C

RECOMMENDED PROCESSING GUIDELINES PRINTING

Printing: Screen Parameter Recommendations with Stainless Steel Screen:

≥ 40–50 µm opening:
calendared 360 mesh, 16 µm

EOM thickness: 12–20 µm

Curing: Typically cured in a circulated air oven furnace with set points of 180–200°C in 10–30 minutes

Storage:

DO NOT REFRIGERATE.

Store in a dry location at 5°C–25°C. Allow paste to come to room temperature prior to opening. Spatulate well before using.

Room-temp storage

The SOL570 has the important characteristic that it can be kept at room temperature and not degrade over a 6 month period.

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