

SOL9662B Series

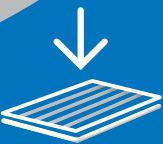


SOL9662B
> 0.05%
Eta gain

efficiency

Patent Pending

FRONT-SIDE DOUBLE-PRINT PASTE



New Generation Front Side Double-Print Paste

- Ultra-low laydown and high adhesion
- Great printability and superior overlapping
- A+A' and A+B double-print packages available

Double printing has always been one of a synonym for high efficiency cell because of its advantages in finger quality and aspect ratio. Conceptually, Double printing gives them the ability to print very narrow printing finger lines on top of each other, this can be technically challenging for both cell manufacturer and metallization paste supplier.

Heraeus, the technology leader, closely collaborating with customers, has developed SOL9662B double-print front-side silver paste package. The SOL9662B has been formulated based on our unique patent-pending SOL9661B glass chemistry, combined with the upgraded organic vehicle system for DP-UFL. This new double print package has the state-of-art formulation with perfectly balanced metallization contact and passivation damaged. As confirmed by customers, with the new screen design, SOL9662B can further narrow the line width to improve the aspect ratio and to reduce the laydown.

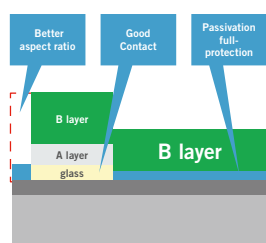
KEY BENEFITS

- Ultra-low laydown and high adhesion
- Great printability and superior overlapping
- A+A' and A+B double-print packages available
- Outstanding efficiency gain through improved Ultra-Fine-Line and contact on Perc with SE
- Improved paste rheology with better finger geometry that can print through (< 18µm) screen printing

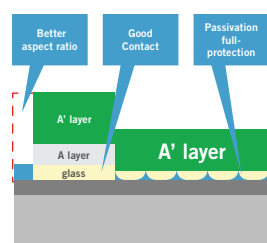
FLEXIBLE PACKAGE (A+A' AND A+B) TO BALANCE PASTE LAYDOWN AND EFFICIENCY UNDER DIFFERENT TEST CONDITIONS

Cost reduction and high efficiency are always two major goals from PV player. Because of different production technology, Heraeus provides a variety of Double printing solutions to customers. The main solutions are A + B paste package and A + A' paste package. A + B package can provide higher adhesion which will provide more space to customer to reduce laydown. As confirmed by customer, laydown can achieve less than 70 mg by using SOL9662B. A + A' package can bring higher efficiency gain due to its excellent performance of A.R. and contact.

A+B Package



A+A' Package



OUTSTANDING EFFICIENCY GAIN FROM SOL9662B

SOL9662B series is based on the upgraded glass chemistry from the last generation to offer extra protection on laser damaged area, combined with the latest improvement in organic vehicle system for UFL (Ultra-Fine-Line) printing, which can bring significant Voc and Isc gain.

Wafer	Mono PERC+ SE	
Screen	DP1: 380/14-18 Opening/ DP2: 380/14-20 Opening	
Paste	SOL9662B VS SOL9652B	
Screen Printing	Deposit/Pcs [mg]	-10
	ΔFired L.W. [μm]	-2.1
	ΔFired L.H. [μm]	+1.5
	ΔFired A.R. [%]	+5.2
Electrical Performance	ΔEff [%]	+0.08
	ΔVoc [mV]	+0.72
	ΔIsc [mA]	+32.6
	ΔFF [%]	-0.12
	ΔRs [mΩ]	+0.17
	ΔRsh [Ω]	+9.49

TYPICAL PROPERTIES

Wafer types:

- Mono crystalline PERC
- Mono crystalline PERC with SE

Solids: 91 ± 1 %

Fineness of Grind (FOG):

- 4th scratch: ≤ 12 μm
- 50%: ≤ 8 μm

Viscosity:

CPE-51 spindle (Brookfield):

- DP01: 60–160kcps @ 1 RPM, 25°C
- DP02: 200–300kcps @ 1 RPM, 25°C

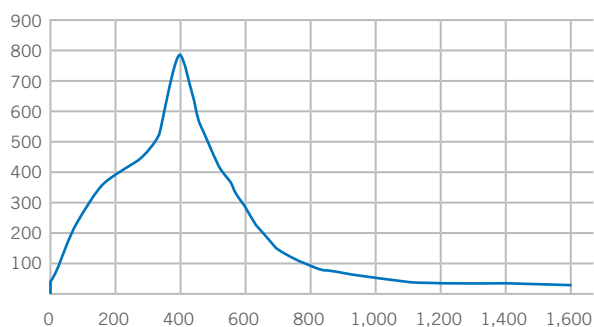
RECOMMENDED PROCESSING GUIDELINES

- DP01: 380/14 or 430/13 opening ≤ 22 μm
- DP02: 380/14 or 430/13 opening ≤ 22 μm

EOM thickness: ≤ 15 μm EOM

Drying: Typically dried in an IR dryer with set points of 250–300°C in less than 20 seconds.

Firing: IR Furnace with Actual Wafer Peak Temperature at 740–800°C profile.



Storage:

Store in a dry location at 5°C–25°C.
Stir well before using.

Contact your Application Engineering Team partner for individual advice.

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