Heraeus

SOL9671D Series

SOL9671D
>+0.05 %
Eta gain

efficiency

Patent Pending

FRONT-SIDE PASTE

Front-side Silver Paste Designed for DWC mc Cell

- **Ultra-Fine-Line compatibility for additional efficiency gain**
- **New glass with great adhesion and reliability for DWC/MCCE/Black-silicon cells**
- **Balanced metallization contact and Voc with efficiency improvement**

The Heraeus SOL9671D series front-side silver paste was specially designed for the Diamond-Wire-Cut (DWC) multi crystaline solar cells with specially textured surface. In addition to great cost reduction, SOL9671D can raise the conversion efficiency of DWC cells by > 0.05%.

The new glass chemistry was developed to provide excellent adhesion of SOL9671D, which allows customers to optimize their busbar design for better electrical performance and cost reduction, especially on DWC/Black-silicon texturing. Meanwhile, the new organic vehicle system is developed to provide superior ultra-fine-line screen printing, which allows customers to further narrow finger width for better electrical performance and cost reduction. It is worth mentioning that the SOL9671D platform allows our R&D to offer solutions for different printing technology, especially for Knotless screen printing.

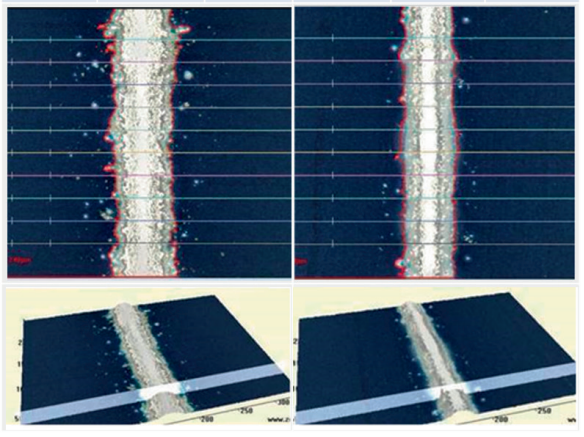
KEY BENEFITS

- Ultra-Fine-Line compatibility for additional efficiency gain
- New glass with great adhesion and reliability for DWC/MCCE/Black-silicon cells
- Balanced metallization contact and Voc with efficiency improvement
- Compatible for Single and Dual printing
- Compatible for MBB

ULTRA-FINE-LINE COMPATIBILITY FOR ADDITIONAL EFFICIENCY GAIN

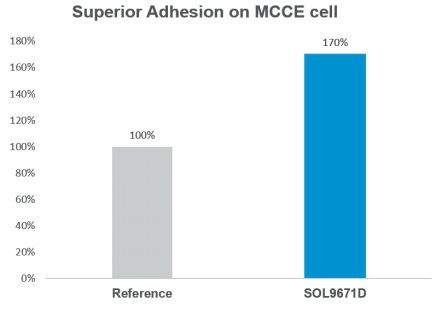
Due to the specially "polished" surface of DWC cells, the organic vehicle of SOL9661D has been fine-tuned for such textured surface, and still provide fine-line printability without defects in mass production. As confirmed by customer, Efficiency has been gained significantly from the benefit of narrower finger.

SOL9661D			SOL9671D		
Width [um]	Height [um]	AR [%]	Width [um]	Height [um]	AR [%]
33.5	12.0	35.82	31.6	12.5	40.2



NEW GLASS WITH GREAT ADHESION AND RELIABILITY

As cost driven, customer reduce the laydown more and more aggressively. The new glass chemistry of SOL9661D was developed to provide excellent adhesion, which allows customers to optimize their busbar design for better electrical performance and cost reduction.



TYPICAL PROPERTIES

Wafer types:
Conventional multi crystalline and Diamond-Wire-Cut cells with Additive, MCCE and RIE texturing
Solid content: 91.00 ± 1.0%
Fineness of Grind (FOG):
- 4th scratch: ≤ 12 µm
- 50%: ≤ 8 µm

Viscosity:
SC4-14 spindle (Brookfield):
140 – 220 kcps @ 20RPM, 25°C

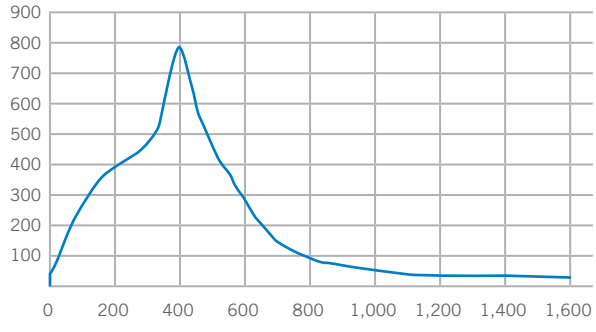
RECOMMENDED SCREEN GUIDELINES

Single/Dual Print:
Standard PI 430/13 ≥ 26 um opening and 480/11 ≤ 26 um opening; Knotless 400/16 ≥ 26 um and 360/13 ≤ 25 um

EOM thickness:
Standard PI ≤ 12 µm EOM and Knotless ≤ 14 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(Modified needed)



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.

*Contact your Application Engineering Team partner for individual advice.

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