Introduction
The demand for continued performance improvement in conventional p-type silicon solar cells place new demands on front-side silver metallizations, namely narrower, taller lines. The challenge is achieving this goal with an easy-to-print silver paste.

The challenge
It is possible to build taller, narrower lines with conventional organic systems, however, they become more difficult to screen print. Our latest organic systems have addressed the challenge…

Improved line dimensions without affecting printability

Selecting the right organic system has a dramatic effect on printability

Conclusions
The next generation organic systems address the need for higher performance front-side silver metallizations:

- Narrower, taller finger lines improve short-circuit current
- Enables fine-line printing through screen openings at or below 30 um
- Most importantly, enables new screen designs to maximize cell performance

ORGANIC SYSTEMS TO IMPROVE FINGER LINE SHAPE AND TRANSFER FOR HIGH PERFORMANCE FRONT SIDE METALLIZATIONS

V. Dua, E. Kook, L. Jiang, Y. Zhang, Lixin Song, and G. Berube*
Heraeus Precious Metals Conshohocken, HPT Business Unit, 24 Union Hill Road, Conshohocken, PA USA

* Corresponding author: Phone: 610-825-6050 x338  email: Gregory.berube@heraeus.com