

ALPHA[®] FORM PV

ELECTROFORM STENCILS

DESCRIPTION

ALPHA FORM PV Electroformed Stencils are designed and manufactured to deposit thick film paste for PV cell front side metallization. Both single and double layer stencils (developmental) are available and manufactured using 100% solid nickel plating (electroforming process). The end result is a high precision, durable stencil of any custom thickness with the possibility to print a full H-pattern or a variant on a silicon cell.

FEATURES & BENEFITS

High Repeatability: ALPHA FORM PV stencils are made using exacting manufacturing standards in order to deliver consistent performance by eliminating the two sources of variation:

- Design Inconsistencies
- Manufacturing Inconsistencies

High Precision: Produced from the modified CAD/CAM data in a climate controlled clean room using state of the art processing tools at 10.000 DPI resolution, resulting in a Aperture Size Accuracy of ± 5 micron with superior processing capability ($CpK \geq 1.33$).

Ultimate Durability: Hard Nickel Stencils (> 500 VH) outperforms the lifespan of standard mesh screen significantly.

Print Performance: ALPHA FORM PV Electroforming technology is targeted to achieve ultra fine printing results. The improved release properties from this stencil will provide the ability to print finer lines with higher aspect ratio. Improvements of cell characteristics are reached in significantly less shadowing and better electrical performance.

AVAILABILITY

Order Entry:

Customer Profile Information (not required for repeat orders)

Stencil Order Information (specific to the order)

Send stencil order information including CAD/CAM-file by e-mail, ftp-site, modem or data storage media

Data Management:

All common CAD/CAM file types such as Gerber, DXF, ODB++, etc are accepted.

Automatic aperture design modification options:

- No Design Modifications
- General Design Modifications
- Custom Design Modifications

Stencil Foil Material:

100% Hard Nickel Electroformed Foils

Post manufacturing surface treatment available

Stencil Foil Thickness:

Custom thickness available between 15 - 200 μ M

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AVAILABILITY

Stencil Framing Options:

Industry standard frames new and/or refurbished
Other frame sizes or types available upon request

Lead time:

ALPHA FORM PV stencils are manufactured with lead times as short as 2 days if required from our central manufacturing facility. Please refer to our Reference Bulletin LEAD TIME DEFINITION for more details.

SAFETY

Attention and care should always be applied when handling stencils. Mishandling can result in personal injury and/or stencil damage.

SHIPPING & STORAGE

ALPHA Stencils are shipped in specially manufactured cardboard boxes. Inspect the shipping box for damage. Report any exterior damage to the freight carrier.

Always clean stencil down properly after usage. Avoid delays between using the stencil and the cleaning process. Ensure that the foil is dry and free from any cleaning residues before storing.

CONDITIONAL PRODUCT SPECIFICATIONS

Manufacturing Technique:	Electrolytic Forming
Material:	100% Hard Nickel (> 500VH)
Minimum Aperture Size:	≥ 1.1x Thickness ≥ 90µM – Below < 90µM on request
Minimum Bar Width:	≥ 1.1x Thickness
Aperture Size Accuracy:	± 5 µM ≥ CpK 1.33
Positional Accuracy Double Layers:	± 10 µM
Available Thickness:	≥ 15 ≤ 200 µM
Tolerance on Thickness:	± 5 µM in image area
Maximum Frame Size:	≤ 760 x 1000 mm (≤ 30" x 40") – select availability
Maximum Image Size:	≤ 735 x 585 mm (≤ 29" x 23")
Compatibility with Frame Systems:	Yes