

alpha

Meeting today's
challenging printing
requirements with fast
response, high accuracy,
excellent printing
performance and
Europe-wide availability.



ALPHA® Stencils

The Complete Stencils Solution



macdermidalpha.com

March, 2021 Europe

ASSEMBLY SOLUTIONS

ALPHA Stencils - Optimising Paste Deposits

Knowledge: Alpha has an intimate knowledge of the stencil printing process based on its experience as the leading producer of stencils, as well as advanced solder pastes.

Expertise Through Experience: Our CAD technicians will make modifications based on Alpha's expertise to develop a stencil that meets customers specific design requirements and processes.

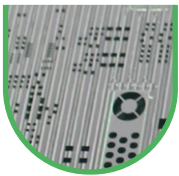
Service: If you need it tomorrow, order it today and we'll do everything humanly possible to meet your demands as well as keeping you informed all the way down the line.



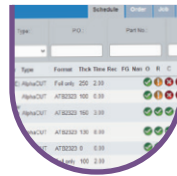
**ALPHA CUT HR2
Laser Cut
Stencils**



**ALPHA tensorRED®
Master Tensioning
Frame**



**ALPHA Precision
Milled Stencils**



**ALPHA iStencil Online
Ordering System**

ALPHA CUT HR2 Laser Cut Stencils

ALPHA CUT HR2 Stencils are the new improved printing performance, laser cut stencil from Alpha, retaining the best-in-class shape, positional accuracy and wall quality associated with the standard ALPHA Cut material, with the added benefits of improved print definition and reduced variation in the solder paste deposit.

Key Features:

- Improved volume repeatability
- Increased print yields
- Improved solder paste transfer efficiency
- Improved print definition
- Drop in compatibility
- Available in common formats such as ALPHA TetraBond, Vector Guard and meshed frame stencils

What is Standard:

- Best-in-Class positional accuracy proven in process capability studies
- Best-in-Class aperture tolerance
- Maximised paste transfer efficiency for optimum deposit repeatability and minimal stencil wiping
- Framed or frameless foils to suit all prints and formats



ALPHA tensorED Master Tensioning Frame

ALPHA tensorED has been designed to reduce the total cost of ownership of stencils compared to other systems by creating tension without the need of air pressure being applied to the frame.

Due to its innovative design, ALPHA tensorED enables a higher and more even tension, compared to ALPHA Tetra Frames, resulting in reduced maintenance costs and improved reliability.

Key Features:

- Reduced maintenance costs
- Improved reliability
- Improved manual handling for operators
- More even tension resulting in less paste smearing
- Reduced variation in volume deposits
- Improved positional alignment on volume deposits
- No need to replace your ALPHA TetraBond foils
- Compatible with Vector Guard foils



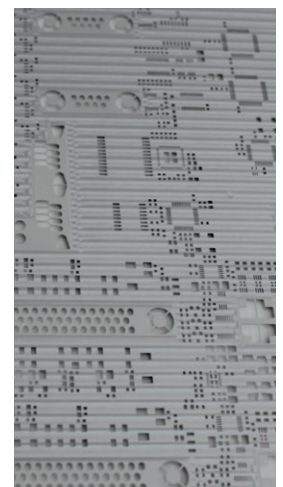
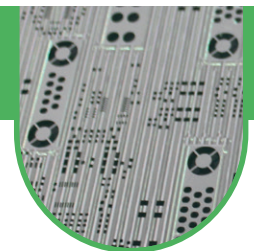
ALPHA Precision Milled Stencils

ALPHA Precision Milled Stencils are designed to enable optimal control of the paste deposits when assembling boards containing a wide variety of component sizes. They allow greater flexibility in the transition from one thickness to another and improved surface quality.

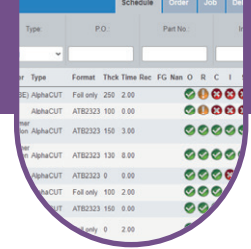
Key Features:

- Greater flexibility in the transition from one thickness to another
- Surface roughness values in the steps closer to that of the main stencil
- Less paste smearing
- Improved repeatability of print deposits
- Reduced pressure on steps compared to etch step stencils
- Enables use of Multi-level stencils on closed-head printing systems
- More flexibility in the design of the "Keep Out" area

ALPHA STEP Multi-Level, Step Stencils Technology is available on all ALPHA Stencils and offers the SMT engineer significant flexibility in achieving the right solder paste volume deposit for devices with markedly diverse paste requirements. They can provide additional paste height in selected areas of the PCB (step-up stencils) or reduced height deposits in other areas (step down stencils).



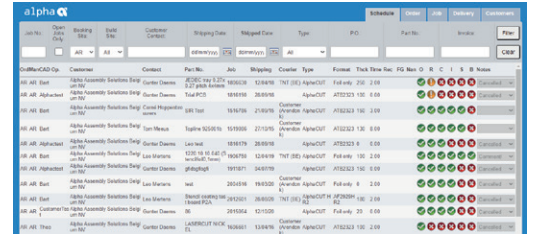
ALPHA iStencil Online Ordering System



The ALPHA iStencil Online order system enables customers to place orders directly and track their order status giving complete visibility of the stencil process from order to delivery.

Key Features:

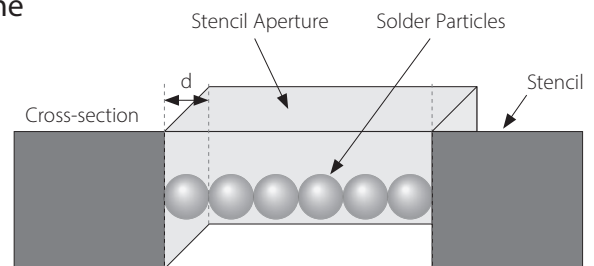
- History of all your stencil orders
- Secure storage of stencil data and other data files
- Customers can place orders for stencils directly into Alpha's production schedule
- Live status of open stencil orders, from receipt of order to delivery at your site
- Minimizes the information needed to order a stencil
- Customers can attach design data files needed to create the stencil
- All design rules and special instructions can be stored in the Customer Profile
- Cost of each stencil is confirmed once order received and confirmed
- Status updates are sent by email for each stage of the production process
- Track delivery status of the completed order



ALPHA Design Rules for Zero Defect Production

Advanced and automated aperture design modifications:

- Valor ODB + + Component Recognition Software
- Automated Area Ratio check to avoid low paste volume
- Paste powder size alert on every stencil
- Advanced micro BGA design modifications
- Fine Pitch connector design to avoid bridging
- Special aperture shapes for void reduction
- Pin-in-Paste calculations and design
- Eliminate mid chip solder balls with stencil design
- Anti-tombstone designs on 0402 and 0201 chip components (vapor phase design)
- Advice on step up/step down areas to improve paste volume deposit for specific components



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Alpha is a product brand of MacDermid Alpha Electronics Solutions.

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