

# VALTECH SOLUTION PTE LTD

## FIBER LASER CUT

### S T E N C I L S

Valtech Solution Pte Ltd uses a new Fiber Laser technology capable of producing high quality solder paste stencils for the majority of assemblies, advancements in components and PCB designs.

With introduction of components like micro BGA (uBGA), Quad Flat No-Lead (QFP), the 0201s and smaller parts, the older YAG laser technology stencils struggled to produce acceptable solder paste release for these very small apertures without a reduction in the thickness of the stencil foil.

However this is not always an acceptable solution as the larger components may have sufficient solder volume.

#### STENCIL LASER TECHNOLOGY

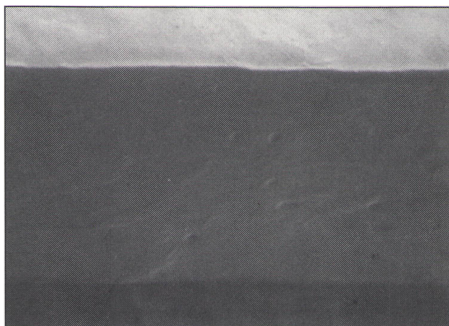
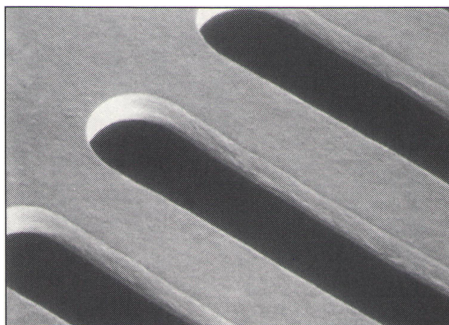
For the past 10 to 15 years, the source of the laser beam has mainly relied on the older YAG Laser System using the lamp pump technology, with a laser beam size of about 40um. While this beam size is fine for the majority of the larger aperture openings, the energy density is not high enough to produce the smoothest aperture walls when cutting stencils with miniature components.

#### STENCIL MATERIAL TECHNOLOGY

Together with the laser technology, there are also significant developments in the materials use for the stencil fabrication. For many years the standard materials used are the standard 300 stainless steel series, the nickel alloy (Alloy 42). These materials are acceptable for the common parts used in the past decade, however with the introductions of miniaturize components there is a need for better stencil materials.



#### FIBER LASER CUT



#### YAG LASER CUT

