

## Contract Laser Micromachining by OpTek Systems

Laser processing services based to meet your production needs – from proof of concept, through qualification to full volume production, consult the experts.

OpTek operates micro-machining facilities for contract materials processing and for demonstration of processes for machine design and build. Maybe your volumes do not justify a dedicated machine, or maybe you simply want to outsource this service. In that case, OpTek can help by providing an efficient and responsive contract micromachining service. We offer a number of standard micromachining services as described below. 'Non-standard' services can also be provided, so if you have a micromachining requirement, please contact us.

### Precision Hole Drilling

With the ability to machine a wide range of materials, OpTek can provide you with the precision holes and/or features you require. Whether your need is for a one-off fault simulation feature or for many millions of essentially identical holes, OpTek can provide the appropriate solution with either a dedicated machine, or through our processing services.

A wide range of materials can be processed including metals, polymers, glass, ceramic, electronic materials, composites and laminates. Capabilities include hole arrays, non-round holes, holes in live devices (e.g. powered circuits, filled vials), blind holes and test leaks. Typical applications include catheters & feed-tubes, aerosols & nozzles, metered-dose inhalers, gas sensors, filters and graders, injectors for drugs & fuel, and sensors based on optical, electrical or mechanical principles.

### Trimming & Cutting

Laser processing can be used to trim, tune or tailor standard parts to produce a range of different performance characteristics (such as frequency). Also laser trimming can be used to effectively increase yields on critical products by manufacturing the base component at one end of the spectrum and trimming each component to the desired performance.

### Scribing

Processing at scribe speeds up to 600 m/min per minute, OpTek can provide linear features or complex geometries on a range of substrates and over-layers. Scribe widths and depths can be from fractions of a millimetre down to micron dimensions. Typical treated materials include polymer coated metal, polymers (coated or uncoated), glasses (coated and uncoated), ceramics, silicon, GaAs, InP and other electronic materials, metal and oxide film (Al, Au, Sn, ITO, etc) removal from polymers.

### Surface Profiling & Surface Modification

From uniform depth laser milling to surface texturing, a range of surface features can be produced on a variety of materials (as listed for drilling), with depths from a few microns to a few mm and surface RMS roughness down to  $\pm 2\mu\text{m}$  (depending on material). Treatable areas are from scales of a few  $\mu\text{m}$  up to 10s of cm.

