

MICRO LASER PROCESSING MACHINE LASERTEC 40 – DMG



Main characteristics

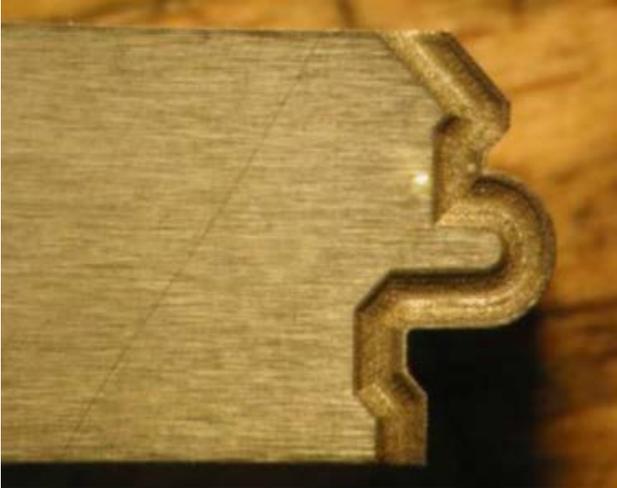
- A wide variety of workable materials - steel, aluminum, brass, carbide, ceramics, graphite, PCD, CBN, etc.
- Directing the laser beam using a precision scanner with dynamic mirrors, positioning probe with Z axis depth adjustment, CCD-camera with high resolution for accurate positioning of the work piece.
- Field of scanning 70 x 70 mm, automatic prepositioning for larger work pieces, a common working area 297 x 320 mm.
- Average power of the laser source 20 kW / 0, 0268 hp; wavelength 1,064 nm.
- Excellent accuracy of surfaces in depth, thanks to a regulation made during the process.
- Ability to process details without operator intervention.
- Intelligent and user friendly software management - LaserSoft 3D-control, with Windows™ interface.
- New software features - a generator of 3D volumes, 3D-contour laser processing, 3D-engraving with a draft angle of the walls, 3D-grey scale processing.
- Laser source type Fiber laser, with a surface quality $Ra = 0,6 \mu\text{m}$, improved dimensional accuracy and clarity of outline, a longer period of the source (requires changing only after 100,000 hours of work).

Fields of application

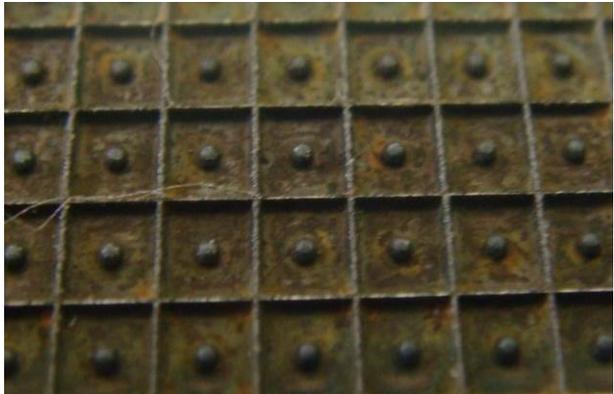
- Tools and molds:
 - Manufacture of molds and rapid form-building tools – micro switches, molds for electronics and semiconductors, medical, injection molds, inserts, seals, graphite electrodes for electrical-to 10 mm.
- Production of engravings and die sets:
 - 3D-surfaces, different versions of the logo prints.
- Tools:
 - Cutting plates for tools and tools for complex relief forms made of carbide, PCD and CBN materials.
- MEMS models:
 - Actuators and sensors.
- Order productions:
 - Flexible production of simple engravings and fine and precise molds in the same time on the same machine.

ACHIEVED RESULTS WITH MICRO LASER PROCESSING MACHINE LASERTEC 40 – DMG

PROFILING OF TOOL INSERTS



MICROFEATURING



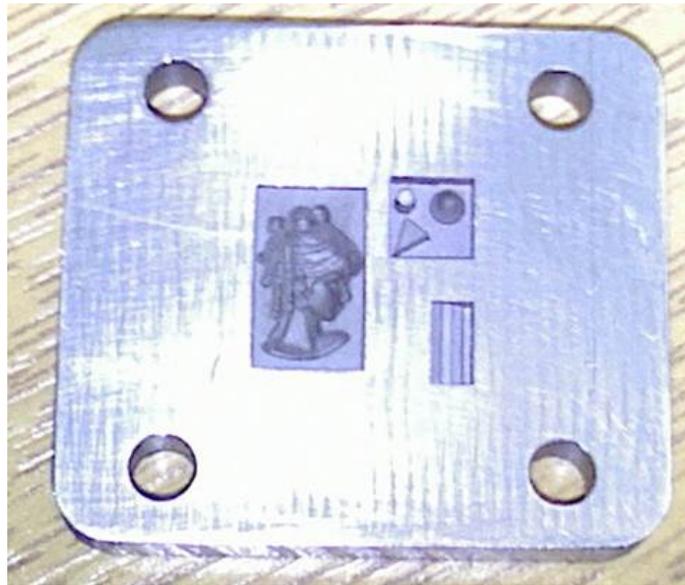
PRODUCING OF MOLD INSERTS WITH MICRO-FEATURES



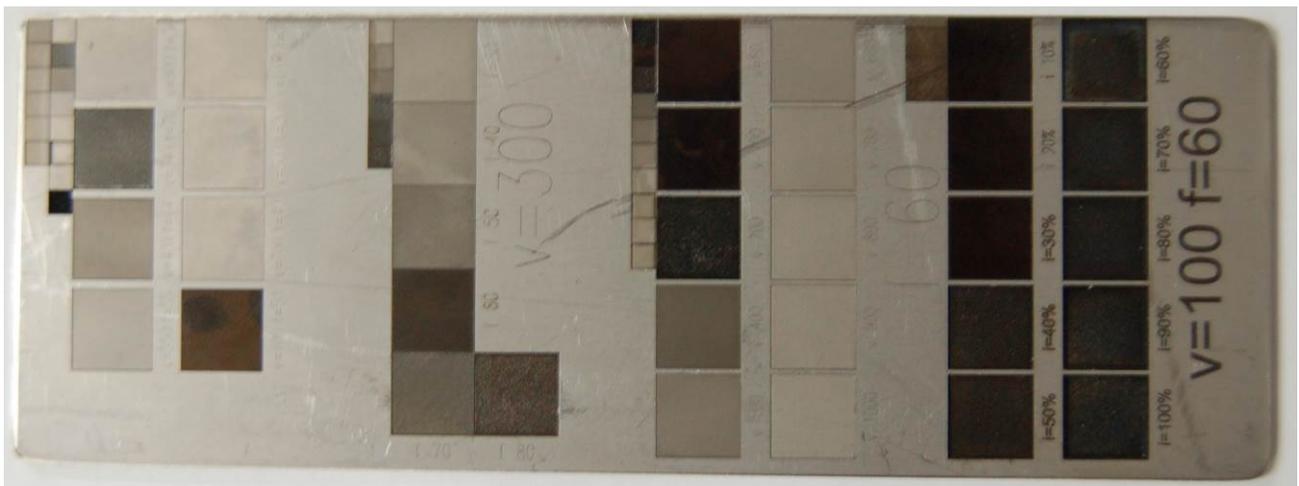
PRODUCING OF COPPER EDM ELECTRODES



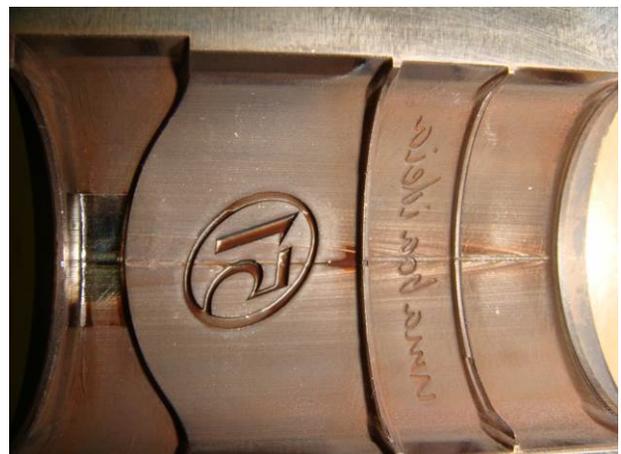
**COMPARATIVE TEST OF THREE GENERATIONS LASER ABLATION SYSTEMS IN COOPERATION WITH
MANUFACTURING ENGINEERING CENER – CARDIFF UK**



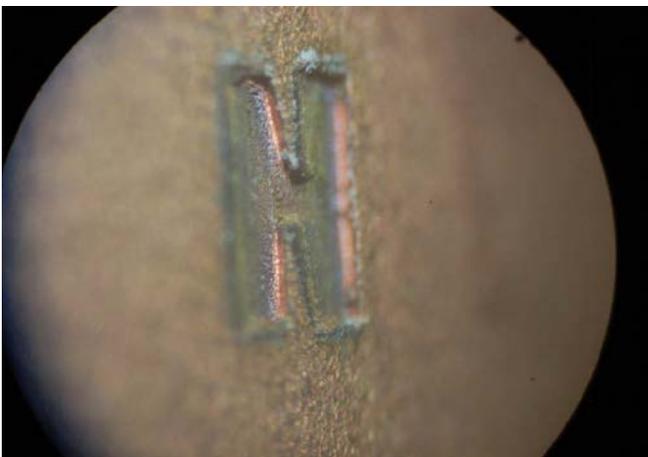
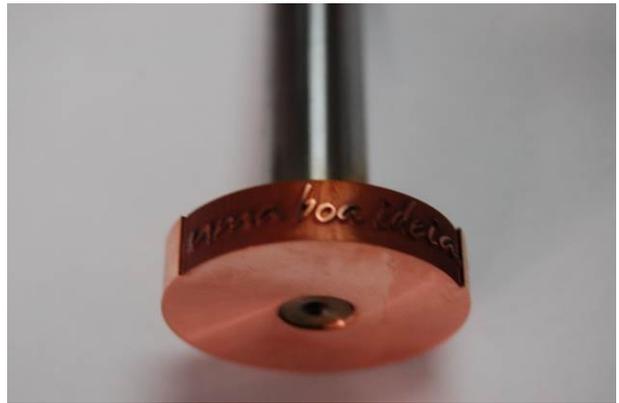
RESEARCH OF ABLATION PARAMETERS FOR STAINLESS STEEL



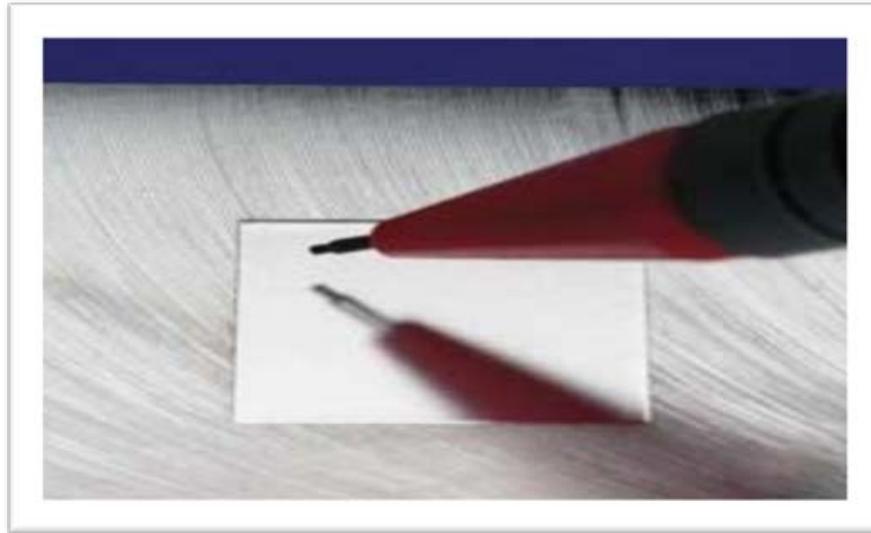
PRODUCING OF MOLDS WITH MICRO-FEATURES



PRODUCING OF COPPER EDM ELECTRODES



APPLICATION OF LASER ABLATION FOR SURFACE IMPROVING



Профил на повърхността: преди (а) и след (б) лазерно полиране

TEXTURIZING RESULTS

