Holo/Or Newsletter – Q1 2022

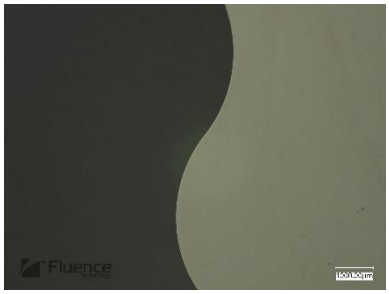
Conferences and publications

High throughput texturing by DLITE and PERLA laser

Our partner Petr Hauschwitz from HiLASE present ed High-speed multi-beam nano structuring techniques at Photonics west (27.1 9:20AM, room 208,level 2 south). This work, done with the DLITE texturing DOE and HiLASE PERLA laser, shows it is possible to build a simple, robust optical setup that textures more than 40,000 points in each laser shot.

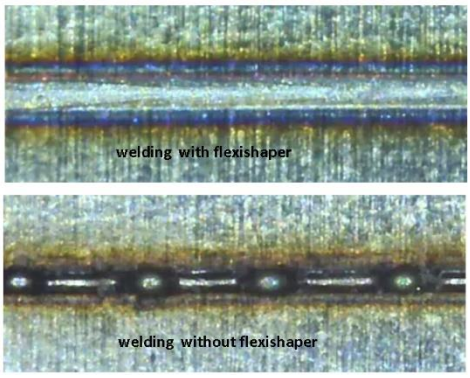
Laser Glass cutting with Deepcleave presented at Photonics Spectra Conference

Our partner Fluence, an fs-laser developer & manufacturer, has presented the glass cutting results achieved with their laser and our DeepCleave module at Photonics Spectra Conference, 10.1.2022. Rates of more than 1m/s were achieved on BK7 with thickness 1.1mm, with good edge quality.



Streamlined Ultrafast Laser Technique Improves Results and Throughput for Cutting Glass

Fast fuel cell foil welding using Flexishaper for automotive industry

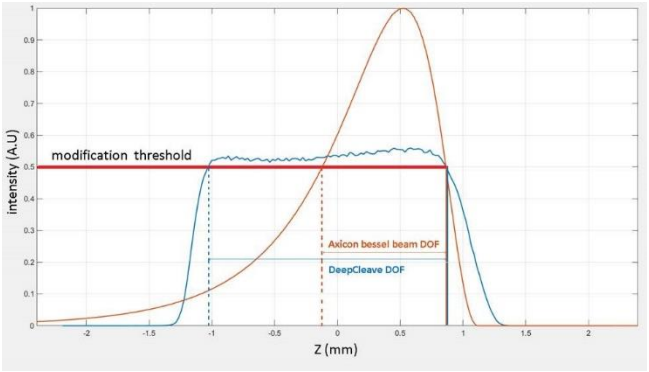


Blackbird photonics has presented at LSE 2022 electromobilty symphosium, showing welding results achived with our Flexishaper solution vs normal gaussian beam welding. Bipolar plate welding speed increases of more than 40% were achieved!

Read more about flexishaper here >>

Applications

Application spotlight: Laser induced etching of glass with DeepCleave



Selective laser induced etching (SLE) is a two stage process that enables etching of deep and narrow holes in transparent materials process. In the first step, an ultra short laser beam is foces into the material, createing a weakened zone, that is then chemically etched in the second step. This enables high aspect ratio holes to be proded with high throughput on transparent substrates, a critical process for many display components.

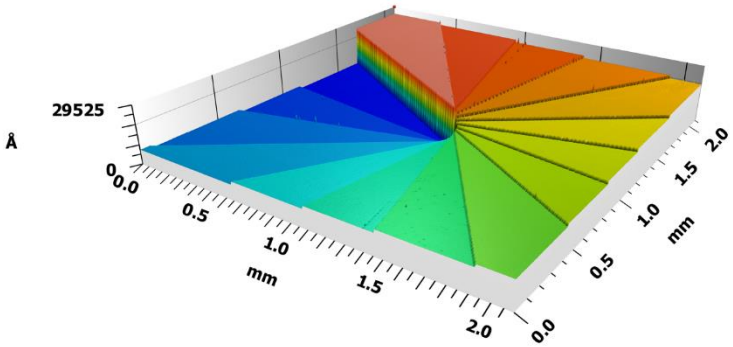
The required hole diameteres are decreasing with advances in miniaturization , requiring a method of focusing the laser very tight spots with depth of focus equal to the glass thickness. Here, our DeepCleave modules shine!

Holo/Or's DeepCleave modules of a <2um spot with depth of focus of 0.25mm- 3mm in air offer flat top performance along the focal axis, making sure that energy is optimally utilized without the power waste of unmodified Bessel beams, enabling faster processing or thicker glass processing with the same power.

Holo/Or now offers the DeepCleave in 3 models, our classic 7mm work distance compact module, the mid-range 15mm work distance module with prortective window (ZT Module -10-I) and the long work distance version with 23mm! (ZT Module -11-I). Now avialble in green as well as the classic IR wavlengths, these modules are optimal for narow hole/ trench LSE. Contact us for more details or get a quote in the product page

New Products

Affordable polymer on glass Spiral phase plates for STED microscopy applications



HOLO/OR has recently developed a **new polymer on glass production process which enables us to offer microscopy grade spiral phase plates at affordable and competitive costs** to meet the growing market's needs.

Vortex phase plates are often used in advanced microscopy, mostly in the STED and laser tweezing applications.

Our new, cost-effective vortex generators have a high LDT, suitable for illumination with > 1000 mW of laser power, are stable at typical microscope operating conditions (-40 to +120 ^{0}C) and can be easily integrated into existing setups due to their small form factor. Unlike other solutions in the market, they are not sensitive to polarization or rotation of the phase plate, making them very easy to integrate into existing microscopy setups. For even easier integration, HOLO/OR can mount these new vortex phase plate elements in 1'' holder frames, that fit most standard mount and tubes . Get a quote here>>

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