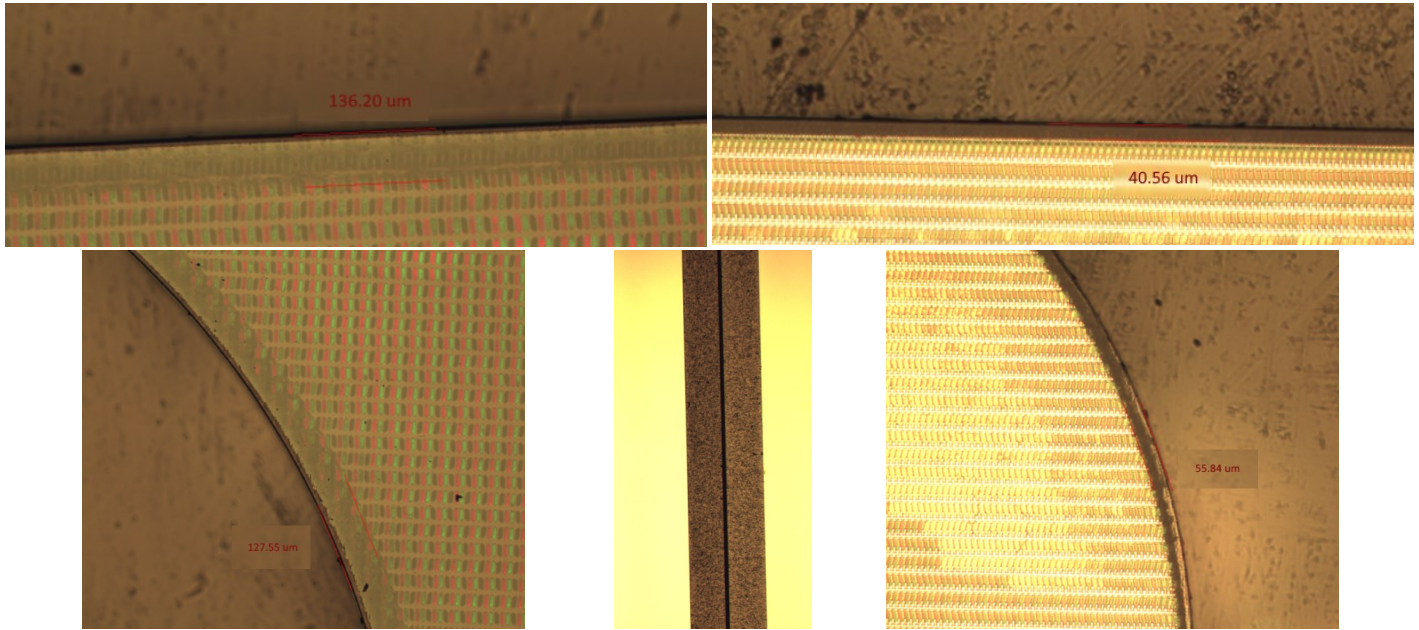


Glass Cutting

Utilizing Photonics Industries' RX Series High Power Picosecond Laser



Sample Information

The material type is an glass. The specific sample glass thickness is 0.4mm. The specific application is shaped cutting.

The picosecond laser material removal process shall cut specific shaped patterns in the glass while maintaining a low heat-affected zone (low HAZ) for optimal edge quality.

System Information

Laser Source: RX 1064-50

Wavelength: 1064nm

Power: 50W

Processing Equipment: Beam Expander 6x, Typical Laser Cutting Head

Test Data

The processing was conducted by cutting both sides of the glass to achieve quality cutting.

The optimal processing parameters were set to a frequency of 100kHz, Pulse Energy Control (PEC) set to 45%, cutting speed of 0.5m/s, pitch 2µm, and burst 2.



Photonics Industries
International, Inc.

RX Series High Power Picosecond Lasers

Available in the Infrared, Green, and Ultraviolet wavelengths.

Picosecond Lasers for Industry and Science by Photonics Industries...

Photonics Industries' RX Series picosecond lasers offer high performance, high precision, and robust form for the most demanding industrial as well as scientific applications. Photonics Industries is proven, with over a thousand picosecond lasers shipped worldwide, to meet and fulfill precision needs in manufacturing, accurate laser ranging, and new, emerging requirements necessitating ever smaller pulse widths.



Features

- High pulse energy picosecond laser:
~1 mJ for IR, >400 µJ for Green & ~200 µJ for UV
- High power picosecond laser with short pulse:
100 W for IR, and short pulses ~7 ps for Green & UV, <10 ps for IR
- Wide range of wavelengths:
1064 nm, 532 nm, 355 nm
- Superior form factor as the most compact, rugged, All-in-One picosecond laser
- High efficiency picosecond laser with low power consumption:
< 600 W typical
- High repetition rates:
Single shot up to 8 MHz
- Excellent TEM₀₀ beam:
Typical M² ≤ 1.2
- Exceptional Beam Pointing Stability:
< 20 µrad
- Exceptional and Versatile Pulse Control:
PEC (Power or Pulse Energy Control)
Burst Mode with programmable amplitude capability
PSO (Position Synchronized Output) support for constant pulse energy regardless of trigger rate

Applications

- Metal, Ceramic, Glass, & Sapphire - Cutting, Drilling, Marking
- Flat Panel Display (FPD) Functional Foils & Display Glass - Cutting, Scribing
- Solar Cells - Scribing, Patterning
- LED - Scribing, Patterning, Dicing
- Medical Device - Cutting, Drilling, Marking
- Glass Reinforced Plastic, & Carbon Fiber - Cutting
- Ink-Jet Nozzle - Drilling
- Printing & Embossing Tools
- ITO Film Removal
- 3D LIDAR
- Nanotexturing

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Main Headquarters: 1800 Ocean Ave, Ronkonkoma, New York 11779, United States

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