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## Application Newsletter



### Application Newsletter-UID Marking Aluminum with the i-Series Fiber Laser

[The Laser Photonics i-Series Fiber Laser](#) was specifically designed for maintenance-free OEM applications. It's the most advanced, reliable, industrial grade Fiber Laser marking system available on the market today. It is easily integrated into an assembly line with or without a PC and has single or dual head configuration. Integrated design with laser, laser control and power supplies are in one housing for each of the two scan heads.

#### UID Marking Application Report:



Aluminum samples were processed using a Pulsed fiber laser (1060nm wavelength, 1mJ @ 50kHz, 50W average) through a 160mm F-theta Lens. The white matrix with the black background was marked using 95% power, at a rate of 5 inches per second, 20 kHz in one pass at 17.1 seconds. The black matrix with the white background was marked using 95% power, at a rate of 25 inches per second, 20 kHz, and in one pass at 11.92 seconds. [For more information about processing your samples, contact us today.](#)

The i-Series is available in Q-switch or CW configurations. It delivers a diffraction limited ( $M2 < 1.05$ ) laser beam directly to the worksite via a metal sheathed single mode fiber cable. These compact service-free lasers are designed to operate under high shock, vibration and dust conditions, with relatively high humidity and temperatures. They do not require routine replacement parts or materials; they require only a low voltage power source. Wall-plug efficiencies up to 50% result in a compact size, reduced utilities, and trouble-free air cooling. Fiber-to-fiber architecture means a robust, monolithic design with no optics to align or maintain, no mechanics to stabilize, and with the focusable power and high power densities needed for the most demanding applications.

In addition to UID marking, consider some of the other [possible applications](#) for the i-Series Fiber Laser Marking Kits:

- Alphanumerics
- Logos
- Serial Numbers
- Schematics
- Lot / Date Codes
- Complex Graphics
- Surface Texturing
- ITO Removal
- Pictures Part Numbers
- Marking "On the Fly"

- 2D Symbologies Linear Barcodes
- Production Line Inline Integration
- Logos Etching (Material Vaporization)
- Circumferential Markings (Mark Round Parts)

**As endless as the application uses for the i-Series Fiber Laser Marking Kits, the materials that can be used are almost as numerous!**

- Stainless
- Aluminum (Cast, Anodized, Polished)
- Carbide
- Nickel
- Plastics
- Painted Plastics
- Backlit Buttons
- Polycarbonate
- Titanium
- Polypropylene
- PVC
- Rubber
- Chrome
- Painted Metal Allow
- Steel
- Multi-coated Materials
- Cast Iron
- Galvanized Metals
- Composites



#### **About Laser Photonics:**

Laser Photonics is the industry leader in developing high-tech fiber and CO<sub>2</sub> laser systems for marking, cutting and engraving applications. Our systems are used by manufacturers in the automotive, aerospace, industrial, defense, electronic and medical industries around the world. [For more information](#) about our systems, please visit our website at [www.laserphotonics.com](http://www.laserphotonics.com) or call us direct at 407-829-2613.

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