Comprehensive Laser Services

Overview

The Hermetic Solutions Group offers state-of-the-art laser services for microelectronic packages, medical implant devices, aerospace components, and other precision components. To perform these services, we use laser-processing modules of the highest quality from standard-setting companies like GE Fanuc, MBRAUN and TRUMPF.

Inert Environment Laser Welding & Sealing

The Hermetic Solutions Group is fully dedicated to providing the highest quality hermetic environment for the welding and sealing of your high reliability electronic packages. To ensure your components are fully protected, we have an ISO Class 7 cleanroom environment equipped with state-of-the-art laser welding and sealing systems and testing centers.

ISO Class 7 Cleanroom

- Positive pressure environment
- HEPA filters
- Laminar flow benches
- Earth grounded
- Independently certified gowning area
- ESD safe flooring

Fully Compliant

- ESD S20.20 compliant
- Welding MIL-PRF-38534E
- Class K flight hardware
- MIL-SPEC-883, MIL-SPEC-202
- Testing capabilities
- MIL gross and fine leak testing
- Pressure bombing per MIL standard 883
- Metallurgical lab testing (with mounting, cross sectioning and high power weld analysis capabilities)
**High Quality, Precision Laser Marking, Etching, and Engraving**

The Hermetic Solutions Group offers precision laser marking services for the aerospace, medical an industrial markets. Whether you need an alpha-numeric serial number or a company name or logo on your part, Hermetic Solutions Group’s laser marker can handle it.

**Laser Marking to Your Specifications**

Whether you need a deep engraving of your parts, or contrast only marking, the laser engraving process is the right choice. With contrast only marking, you’ll get a non-disturbed finish which is ideal for the medical industry and will last for the life of the product. Whereas with deep engraving we can penetrate the surface anywhere from .005” up to .010” deep.

**Materials That Can Be Laser Marked**

With the use of lasers, almost any material can be marked. From plastics and resins to metals and alloys, laser marking is becoming the preferred method of permanently marking parts/products.

**Laser Marking Saves Costs**

With traditional or older marking method, there are costs for tool bits, labels, chemicals and other consumable materials that may not create a non-wear surface. With laser marking there are fewer costs, and the laser creates a non-wear surface so there’s no need to worry about a serial number coming off, or rubbing down.

**Prototype to Production Runs**

Our laser marking systems are setup to handle small lot runs for prototypes, all the way to large lot runs for full scale production. We’ll even work with you on the process to ensure the laser mark you want is the mark you get on every piece.
Laser Cutting and Drilling Services

From flat sheet stock to tube based material, the Hermetic Solutions Group can laser cut and/or laser drill your parts with precision. Whether you need a medical tube or lid for your electronic housing, our laser cutting and drilling services can meet your needs.

Laser cutting allows for the fabrication of intricate shapes/designs without the need for mechanical force or over heating of your parts. When dealing with thin material such as medical tubing and/or devices, any mechanical force or over heating can cause material distortion and laser cutting minimizes these risks. Our lasers can cut up to 0.060” thick material.

Laser cutting and/or drilling is ideal for smaller hole sizes, quicker part runs, more intricate shapes and for use with harder materials. Traditional fabrication machines can’t hold the same tolerances and work with the precision parts that laser cutting and drilling systems can.

Typical Laser Cutting Applications

- Medical products
  - Tubes
  - Cannulas
  - Implantables
- Aerospace housing lids
- Industrial products
- Food grade parts
- And many other intricate applications

Typical Laser Cut Materials

- Stainless steel
- Titanium
- Tantalum
- Nickel alloys
- Thin aluminum
- Carbon steels

At the Hermetic Solutions Group, we work with parts from all industries and a variety of materials. If you don’t see your material or application listed, please contact us to discuss.
OTHER PRODUCTS & SERVICES:

Hermetic Electronic Packaging

We bring customers’ hermetic electronic package designs to life and use unique materials and manufacturing processes to help optimize for weight savings, footprint reduction, thermal transfer and more. Our precision machining capabilities allow us to meet very tight tolerances for Kovar, aluminum and titanium housings. We deliver the standard and custom packaging solutions that ensure the electronics within those devices are unaffected by whatever extreme environmental condition they operate in.

Enabling Components

There’s more to a reliable hermetic package solution than a box and connectors and we manufacture components to ensure a module’s long term viability. We produce: getters to prevent build-up of contaminants; solder preforms that aid in attaching electronic circuitry; ring frames that become integral side walls of a hermetic package; and custom thermal spreaders that ensure heat from a chip or substrate is efficiently dissipated. To top things off, we also manufacture package lids.

Laser Systems

We provide turnkey hermetic sealing and vacuum baking systems with complete control, monitoring and recording of all process parameters.

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