

CALIFORNIA LASERS

Laser and Electron Beam Services



FOR ALL YOUR WELDING NEEDS



Laser Welding

Electron Beam Welding

Laser Cutting

Laser Drilling

Wire EDM

Helium Leak Testing

CNC Machining

WHO IS CALIFORNIA LASERS

CALIFORNIA LASERS provides sub-contract (job shop) Laser and Electron Beam Welding, Laser Cutting, Laser Drilling and Leak Testing services to the rapidly growing medical, aerospace and semiconductor industries.

As a one-stop shop we can be considered an extension of your facility. We have knowledgeable highly skilled personnel and the equipment to process your parts fast and right the first time. Our facility houses the most up-to-date equipment such as Nd:YAG and CO₂ Lasers, Electron Beam Welders and Mass-Spectrometers for leak testing. We offer in house fabrication of tooling, inspection, non-destructive testing, CNC Machining and full CNC with CAD/CAM capabilities on all machines.

At California Lasers we are unsurpassed in our commitment to provide our customers with the highest quality Laser and Electron Beam services and strive to be the one source for all your welding and cutting needs.

LASER WELDING

Laser welding is a high production process that is optimized for specific applications. Our lasers are capable of providing up to 50 joules of pulse energy.



Welding in progress.



Extreme close-up of weld.

Focused power densities of millions of watts per square centimeter can be produced. This energy is now capable of welding, cutting, drilling and marking most metal materials.

Lasers are able to weld with high accuracy, low heat input, extremely high speeds and are capable of producing high quality welds. Lasers can join metals that are not weldable by conventional methods: weld hard to reach areas, weld extremely close to heat sensitive parts and process parts with magnetic fields.

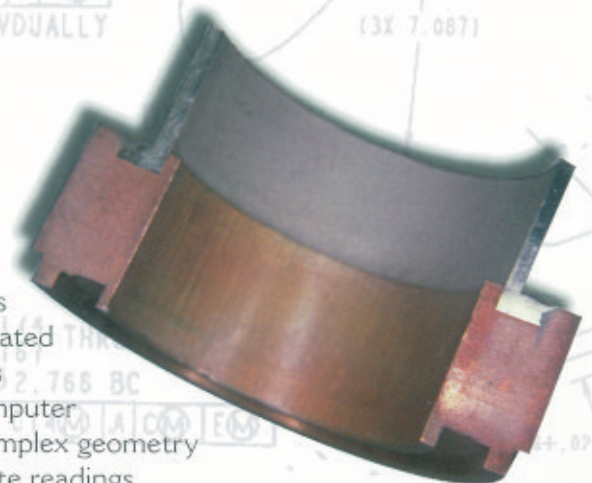
Laser welding is accomplished in the open air with an inert cover gas and is unrestricted by the tight vacuum chamber of the EB Welder.

When laser welding, the amount of heat generated in the part itself is usually maintained at room temperature while the weld is being produced. The reason for this is that the laser is pulsing and has a duty cycle less than 20% which means that the laser may be on for about 20% of the time and off for the balance thus not allowing the heat to be built up in the part.

"Welding is one of the most important materials processing technologies in the medical, semiconductor, aerospace, and defense industries."

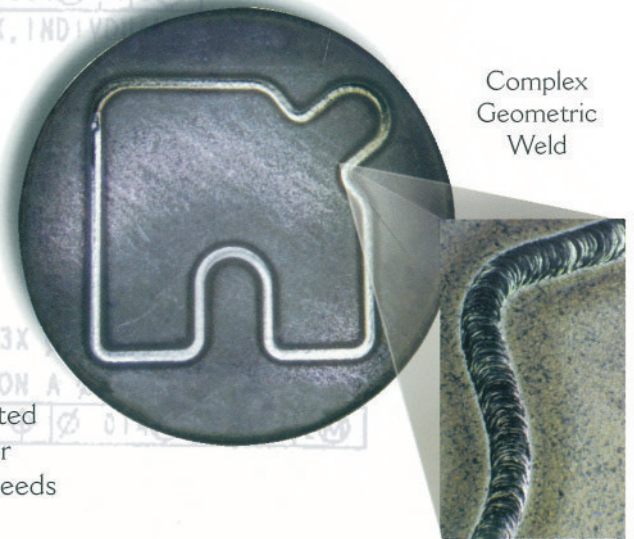
ELECTRON BEAM WELDING

The EBW process provides the solutions to many sophisticated welding problems. At California Lasers we use state-of-the-art fully automated equipment. Each machine utilizes automatic vacuum cycling, computer controls, CNC motion for complex geometry and digital displays for accurate readings of system values.



The EB welding process is done in a high vacuum environment where weld contamination is non-existent. This process can be used to weld almost all metals such as stainless steel, high strength steels, copper, aluminum, titanium, refractory metals and has the ability to weld different types of metals together, such as welding copper to stainless steel.

The EBW process is suitable for any application that requires minimal distortion and shrinkage during welding, welding in a close proximity to heat sensitive components, hermetic sealing, strong structural welds, welding of evacuated enclosures while retaining a vacuum inside the component or where the characteristic and overall integrity of the device needs to be kept intact.



LASER CUTTING

The laser cutting process has the ability to cut a broad spectrum of materials such as metal, plastic, glass, ceramics and silicon. Our machines are equipped with full computer numeric control (CNC), which is programmed through sophisticated CAD/CAM software. This combination of CAD/CAM and CNC capability allows us to laser cut parts from 0.005" to 36" cubed while maintaining very tight tolerances.



Lasers have many advantages over conventional cutting. Laser cutting can produce parts with a complex geometry, cut materials from 0.0005" to 0.125" thick. Lasers have the ability to cut the hardest materials and leave burr-free edges. This process is extremely repeatable and produces parts with virtually no distortion. Laser cutting is also suited for rapid prototyping which provides a cost effective solution for short run production, making it a good alternative for stamping.

Laser cutting outperforms plasma, water jet, NC milling and conventional saws in nearly every cutting process.



LASER DRILLING

Lasers can perform precise high speed drilling in virtually all metals and certain plastics. The wide range of performance capabilities includes drilling holes as small as 0.0003" and as deep as 1/4". The laser permits you to drill holes in exotic alloys not possible with conventional methods. Laser drilling is a non-contact process, thus eliminating drill breakage, drill wear and overhauling.

Lasers are capable of drilling in difficult to access areas, difficult entrance angles, curved surfaces and parts encased in glass. Lasers drill faster than conventional methods and are extremely repeatable.





CALIFORNIA LASERS, INC.

THE ADVANCED LASER & ELECTRON BEAM SPECIALISTS
650 Cochran Street Suite #1 • Simi Valley, CA 93065
800-449-0116 • (805) 579-0111 Fax
www.californialasers.com

