

[Brass](#) is one of those ancient discoveries and has been around since about 300B.C. This binary alloy is a mixture of copper and zinc and popular for its properties of thermal conduction, corrosion resistance, strength, and its machinability. Using laser technology to cut brass in a sheet form is a method that produces very accurate and repeatable results. Some considerations on laser cutting brass:

- The brass sheet thickness and size: Some laser systems need specific sizes of uncut material. Other systems can use smaller pieces. Discussion with your service provider is needed.
- What laser system to use? [Fiber lasers](#) cut brass sheets from thicknesses of about .250mm to 1mm or higher. Plasma lasers cut brass but at much thicker grades of about an inch or thicker.
- Using nitrogen gas during the laser cutting process is needed. Using nitrogen can dissipate heat thus increasing the cut edge quality and reduce any discoloration.
- The CAD files or Computer Aided Design files are needed. These are produced in software and have extensions such as: dxf, step, gerber and others.
- The [tolerance](#) of the project. As laser systems vary in the tolerance they can hold, knowing ahead of time on what tolerance you can expect from +/- .0254mm to .0762mm, for example.
- All [materials](#) needing laser cutting, need to lay flat on the laser bed or table. This ensures a fine focus of the beam and a quality edge cut.
- Post handling-Does your project require secure packaging of each cut part? Options such as gel-paks, custom trays, foam boxes are all considerations available.
- Because of the reflectivity of brass, adjustments to the power and rate at which the laser travels are needed to prevent damage to the optics.
- As brass is a good conductor of heat careful programming of the cut path is needed to prevent heat affected zones from forming.

How To Laser Cut up to 1mm thick Brass

Laser cutting materials are much different from other technologies mainly due to the use of light and various wavelengths of it. Using diodes that take an electric current and transform photons with positive and negative charges is just the start. This resulting energy beam is the basic cutting tool. Fiber lasers vary in wavelength with systems operating from 780nm to 2050nm. For a material such as brass the tool made for fiber laser technology is a good fit. The following are some considerations and tips for cutting 1mm thick brass:

- All laser projects need a CAD or data file. These are generated in design software and have extensions such as: (dxf, step, gerber and others).

- Securing the 1mm plate on the laser bed or table. Movement of the plate can cause the cut to be inaccurate with the beam being out of focus.
- Using nitrogen gas during the laser cutting process is needed. Using nitrogen can dissipate heat thus increasing the cut edge quality and reduce any discoloration.
- Brass has good thermal conductivity, so the cut times can increase. Laser power and the number of lasers cut passes are adjusted by the operator to compensate.
- When laser cutting brass or other highly reflective materials, there can be damage to the optics. Adjustments to the CAD or laser program files to prevent damage by alternating where the beam is cutting and for what duration.

Please read more at:

[How To Cut Brass - A-Laser Precision Laser Cutting](#)

[A-Laser Precision Laser Cutting - Laser Ablation, UV and IR Lasers](#)