

When is Fiber Laser Cutting More Cost-Effective than Stamping Die?

With faster output, greater flexibility and a cleaner finish, fiber laser cutting has revolutionized the metal fabrication industry. The laser's ability to produce higher volumes of metal parts with minimum scrap and little or no need for tooling translates to significant cost savings. The focus being on reducing overall cost, many manufacturers are now switching to laser cutting and CNC brake press for small and medium size runs. If you are looking to improve part quality, performance, and your bottom line, this new technology is worth considering. Our metal fabrication experts at Wisconsin Metal Parts, Inc. (WMPI) have outlined the advantages below. You can count on us to help you spend your money wisely.



6 Big Advantages of Fiber Laser Cutting

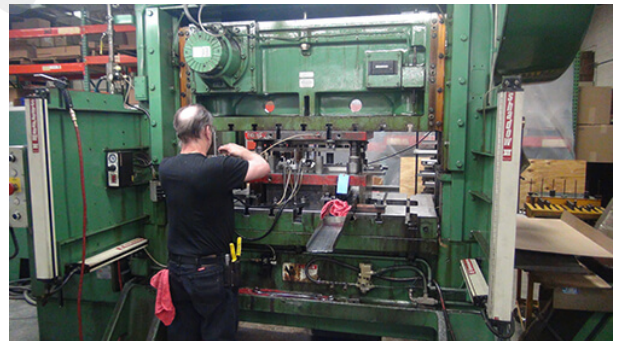
1. More economical for smaller lots:

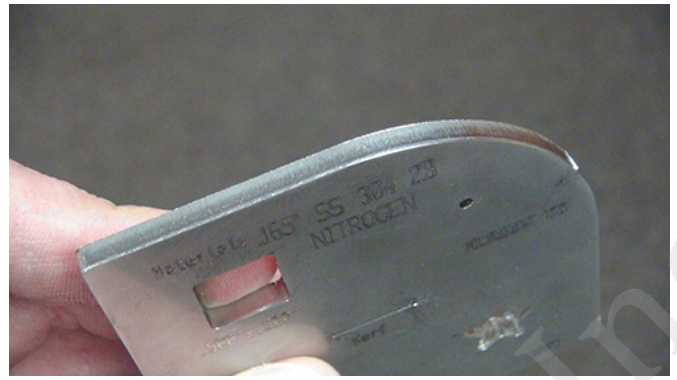
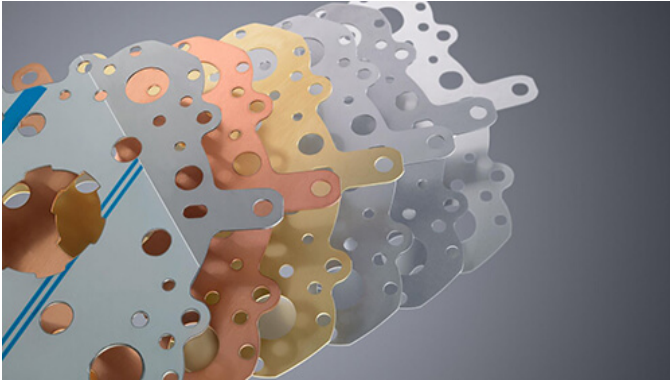
Need to run smaller lots of metal parts to reduce your inventory? Fiber laser cutting can be a more economical option compared to stamping die and even CO2 lasers. With higher machine set up and maintenance expenses that are typically passed on to the customer, metal stamping is generally more cost-effective when spread over a larger volume. Fiber lasers are also more efficient than traditional ones. At WMPI, our new fiber laser technology cuts metal

3 to 5 times faster than a CO2 laser. In some cases, this has allowed us to run upwards of 30,000 parts annually.

- Greater flexibility:** Computer-controlled lasers and a CNC brake press require minimal setup time. Any modification in part design simply requires a program change. A typical stamping die on the other hand, can take 1 to 3 hours (or more) to setup in a press and get running. Our sophisticated 5000-watt Trumpf fiber lasers are among the fastest in the world, and enable us to make geometry and flat blank changes quickly.

- Cleaner finish:** Tolerances and surface finishes are important considerations when using laser technology. A thin beam of fiber laser delivers a cleaner edge than the older metal fabricating technology. At WMPI for instance, we can cut a variety of steel, brass, copper, stainless, galvanized, and aluminum clad materials in a range of thicknesses. In materials that are .25" or thinner, our fiber lasers can usually produce finishes around 63 Ra" and general edge tolerances of +/- .005" comfortably. As thickness increases however, so do the needed finishes and tolerance zones.





4. **No need for tooling:** New fiber laser technology is changing the metal producing industry by allowing higher volumes of parts without tooling. The melting and vaporization of the metal leaves an almost polished edge (with no marks or debris), which requires little to no finishing depending on the finished purpose.
5. **Shorter lead times:** For years, prototyping has been the niche market for lasers. By reducing your risk as new parts progress from the model to full production, laser cutting often serves as a bridge while hard tooling is being built, thereby shortening your time to market.
6. **Guaranteed quality:** No matter how stringent your quality requirements might be, you do not have to worry about meeting them when you use the laser and brake method. We have the advanced Virtek laser scanner to quickly inspect flat blanks. Once the parts are formed, we make sure that each one is checked with a CMM or functional gage. Count on our comprehensive capabilities to serve your needs from end to end—we can perform a simple recording of dimensions on a part print, to first article, or take it all the way to a full Production Part Approval Process (PPAP). Share your questions and concerns with the knowledgeable members of our Quality Department and we will deliver a fully customized inspection plan to guarantee the quality standards you desire.

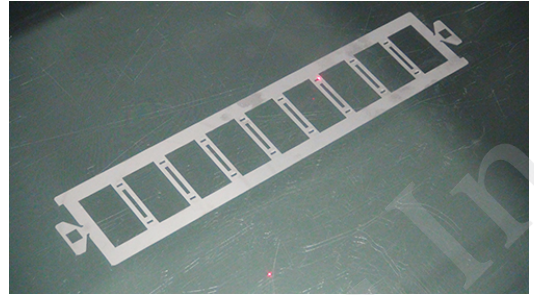
Why Select CNC Brake Press for Tooling

Where tooling is required, a sophisticated CNC brake press offers significant savings in time, material and cost, when compared to traditional finishing processes. We have highlighted the important advantages below.

- **Minimal tooling costs:** At WMPI, if we already have brake tooling that will work for your parts, you may not incur any tooling costs for bending and forming. Even if we need to build a custom solution for your job, the tooling costs are usually very minimal when compared to building hard tooling.
- **Faster and better output:** Our state-of-the-art brakes setup quickly and are faster to run. Equipped with CNC back gaging, parts are located accurately to enhance production quality and repeatability.



- **Tighter tolerances:** Bending tolerances are another factor to consider. While a stamping die will typically hold tighter form tolerances and have better repeatability, newer CNC brake presses can be honed to hold bend tolerances as tight as .005" in some cases. Please see one of their most recent PDF's:
[What tolerances can WMPI hold for fabrication?](#)



Stamp dies are still appropriate in many cases, but new fiber laser technology deserves a second look to see if it will work for your project. Consider working with a company that has experience and strong capabilities in both methods.

Wisconsin Metal Parts, Inc. offers production stamping up to 200 tons, a full-service tool room, metal fabrication, welding, fiber laser cutting, CNC punching, CNC machining and turning, prototyping, and assembly services.

Please contact us if you are interested in exploring laser cutting possibilities for your metal fabrication requirements.