



Thank you for your interest in our Laser Service

## Custom Laser Cutting - About the Tool

Q. What is laser cutting?

A. Laser cutting is a method of manufacturing that utilizes a thin laser beam to cut parts designed in CAD from a number of materials.

Q. What is laser engraving?

A. Laser engraving is similar to laser cutting but is done at higher speeds, lower power, and only takes a thin layer off the top of the material rather than cutting through. The detail is up to 1200 dpi, and the laser will process colors as shades of gray - meaning that it will vary the depth of engraving depending on the color, allowing the engraving of things such as photographs on many materials.

Q. What materials can the laser cut?

A. The laser can cut through most organic materials and plastics. The thickness is limited to about 1/2" in light wood, such as balsa, and 3/8" in hard woods. The laser can cut through 3/8" acrylic. **THE LASER CAN NOT CUT THROUGH METAL OR CARBON.**

***Please see page 3 of this brochure for a list of our standard materials.***

Q. What materials can the laser engrave?

A. The laser can mark on any material that it can cut, plus many more. Please contact us if you have a question about a specific material.

Q. What size material can the laser process?

A. Our 150 watt laser has a bed size of 46" x 34".

Q. What is the kerf (width of the cut) of the laser?

A. The kerf varies with the material density and thickness. The variation is from as little as 0.004 inches (1/32" balsa) to as much as 0.010 inches (1/8 inch birch ply). Generally speaking, two parts that are designed to have the same dimension, for example a tongue and groove, will have a tight clearance fit after cutting.

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## Custom Laser Cutting - Getting a Quote (CAD)

Getting a free quote from your CAD drawings is easy. All that we ask in return for the free quote is that your files meet our setup requirements. We have a minimum order of \$35.

Q. What formats do you accept?

A. The CAD drawings can be provided in standard CAD formats (dxf, dwg) or in vector graphics formats (cdr, eps, pdf). We prefer either dxf or dwg files.



Q. How should the files be setup?

A. The parts should be laid out with each material type and thickness on its own layer. Text to be engraved should be on its own layer called "engrave." If you would like the parts to be left in the sheet, please add 3 to 4 hold-in tabs around each part (0.07 works quite well).

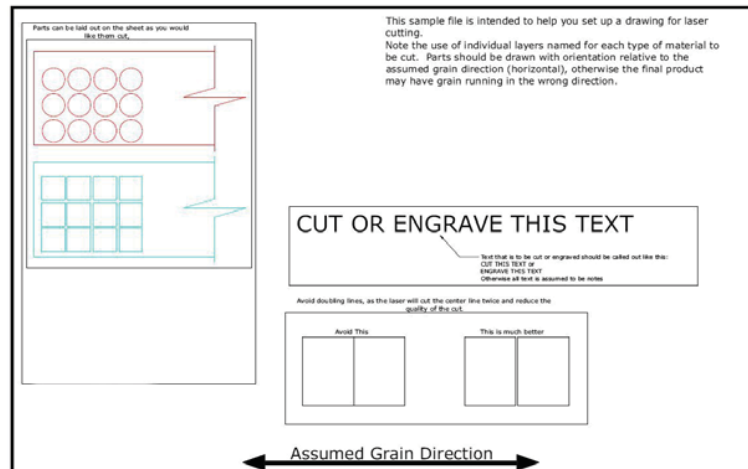
Please see the sample files on our laser cutting page: [www.jrlasersolutions.com/customcut](http://www.jrlasersolutions.com/customcut).

All External CUT lines should be drawn in **RED**  
All TEXT & ETCHING lines should be drawn in **BLUE**  
All INTERNAL CUT lines should be drawn in **GREEN**  
Please use pure RGB colors if possible

SCALE your Drawing & Everything **MUST** be **Polylined**  
No Blocks – NO Groups

Avoid doubling lines, as the laser will cut the center line twice & reduce the quality of the cut  
Parts should be drawn with the orientation relative to the assumed grain direction (horizontal),  
otherwise the final product may have grain running in the wrong direction

**Do not include any lines you do not want CUT or ETCHED on the finished product**



Q. How do I submit files for a quote?

A. [www.jrlasersolutions.com/requestquote](http://www.jrlasersolutions.com/requestquote) For files greater than 2MB, please submit the file by email to [john@jrlasersolutions.com](mailto:john@jrlasersolutions.com). If you have more than one file, please zip the files into an archive and submit the zip file.

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## Custom Laser Cutting - Standard Materials

### Materials:

Listed below are some of the more popular materials that we either carry in stock or can have on hand quickly for your custom order. Non-stocked widths are available upon request. Different woods do cut differently – if in doubt, send us a sample & we will test cut for you.

### Stock Materials:

Wood	Length	Width	Thickness
Balsa	36" - 48"	3" & 4"	1/32", 1/16", 3/32", 1/8", 1/4", 3/8"
Birch Ply	36"	12"+	1/64", 1/32", 1/16", 1/8"
Lite Ply	36"	12"+	1/8", 1/4"
Basswood	24"+	3"+	1/32", 1/16", 3/32", 1/8", 1/4"
Depron	24"+	18"+	2, 3, and 6mm

### Other Materials Available Upon Request:

E = Engrave/Mark C = Cut

Woods	Plastics/Rubber	Other
Poplar (up to 1/4") [EC]	Acrylics (up to 3/8") [EC]	Paper [EC]
Oak (up to 1/4") [EC]	Delrin [EC]	Mat board [EC]
Cherry Veneer (up to 1/4") [EC]	Mylar [EC]	Cloth [EC] Leather [EC]
Maple Veneer (up to 1/4") [EC]	Rubber [EC]	Fiberglass [EC]
Walnut Veneer (up to 1/4") [EC]	Romark [EC]	Coated Metals [E]
		Painted Metals [E]
		Anodized Aluminum [E]
		Ceramics [E]
		Marble [E]

\*Materials that we cannot work with include PVC, Vinyl. Metals can be marked but not cut

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