



Laser Class Notes

Never Operate The Machine Unattended

OUR LASER'S SPECS

Power = 60 watt CO2 laser (not a Fiber laser)
Manufacturer = Epilog (an American Made laser)
Model = Fusion 32
Bed size = 20" x 32" Kerf Size = 0.04mm
Wavelength = 10,600 nm

WHAT YOU CAN CUT

Wood, Plywood, Cork, Acrylic, Fabric, Matte Board
Cardboard, Paper, Leather, Delrin (Acetal), Mylar,
ABS, HDPE, Polycarbonate, Polyethylene, Foam
Core with a white core (no black core foamcore).
Beige linoleum made with sawdust. Rubbers and
unknown plastics will require a burn test (Ask us!).

WHAT YOU CAN ETCH

Glass, Coated Metals, Marble Tiles, MDF, and
everything listed under WHAT YOU CAN CUT.

WHAT YOU CAN NOT CUT

Metals, Vinyl, PVC (polyvinyl chloride), and Plastic
or Rubber that contains Chlorine (bad for you,
corrosive to the laser's electronics too).

FILE FORMATS

The laser cuts files from Corel Draw. If you can open
your file using Corel Draw 12, X5, or X6, you can
probably cut your design file without a problem. For
example, Adobe Illustrator files saved as a PDF will
open correctly in Corel Draw. Corel can open .DXF
.EPS .PDF .SVG & .CDR as well as other formats.

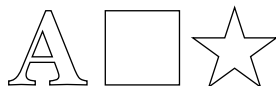
CUT VS ETCH

In order to cut with the laser you must use a vector
line. A pixel-based line (such as .jpg .tif. gif & .png
from Photoshop) will not cut. The stroke line weight
of the drawing must be set to 0.25pt/hairline in Corel
Draw, and 0.001pt in Adobe Illustrator.

Everything in a design file can be etched. In etch
mode the laser acts like an inkjet printer, burning
one consecutive line of pixels at a time. Files that
are created as rasters (Photoshop files) can only
be etched. Files created as vectors (Illustrator or
Corel Draw) can be etched or cut.



These will only etch



These can etch or cut

LINKS

Places to find patterns to cut and modify:
www.epiloglaser.com/resources/sample-club.htm
thingiverse.com - type in laser in the search
makezine.com - type in laser in the search

Boxmaker: java app that makes box outlines
rahul.connectionlab.org/personal-projects/boxmaker/

SketchChair: design flat pack chairs easily
<http://sketchchair.cc/>

Laser User Manual
www.epiloglaser.com/tech-support/laser-manuals.htm

NYC Resistor Laser Wiki
http://wiki.nycresistor.com/wiki/Laser_Power

Corel Draw <http://www.corel.com> Inkscape
<http://www.inkscape.org>

ONLINE SOURCES FOR MATERIALS

McMaster-Carr
<http://www.mcmaster.com>

Midwest Plywood
<http://www.midwestproducts.com>

Revell Plywood
<http://www.towerhobbies.com>

Acrylic and Miscellany <http://www.inventables.com> Acrylic
<http://www.usplastics.com>

LOCAL SOURCES FOR MATERIALS

Dick Blick Stores (several locations in Manhattan)
Midwest plywood, birch ply, bass, balsa, cherry, maple

Utrecht Stores (several locations in Manhattan)
Midwest plywood, birch ply, bass, bass, balsa,

Canal Plastics
345 Canal Street, New York, NY tel. 212-925-1032

Plasticland
315 Church St, New York, NY tel. 212-925-6376

REMEMBER TO LOG YOUR LASER JOBS!
otherwise we won't know when to service the machine