Laser Cutting FAQ

Key People for Support:

Lia Cucuzzella, Laser Cutting Engineer - Project Depot
Sa'Von Thompson, Laser Cutting Technician - ITLL 1B12
Engineering Support Student Staff - LaunchPoint

How many Laser Cutters are at the ITLL, and what types are they?

We operate five Epilog CO_2 laser cutters at the ITLL:

2x Epilog Mini - LaunchPoint

- 40W laser
- 18 x 12 inch bed size

3x Epilog Fusion Pro - ITLL 2B05

- 80W Laser
- 36 x 24 inch bed size

How can I gain access to use the laser cutters, and when may I use them?

Access is granted via completing the **Prototyping Level 1 - Operating the Laser Cutters** workshop. This will teach you the skills you need to create your own parts - using the CorelDraw software to set up your files, selecting settings based on your materials, and running your cuts.

Workshops are typically offered 1-3 times weekly during the Fall and Spring semesters, and you may sign up after completing the **ITLL Tour,** For more info or to sign up, click on the link above, or chat with the Laser Cutting Engineer!

After completing the workshop, when may I use the Laser Cutters?

Our cutters are available for self-servive any time the building is open - for more information, please reference our hours here.

Note: As you must be present to monitor your cut while it runs, we ask that any cuts should be *finished* by the building closing time. Please plan accordingly!

What software is used to operate the Laser Cutters and how may I access it?

The ITLP uses **CorelDraw 2024** as its primary software for the laser cutters. You may import files and images from other softwares into this one before sending to the cutters - you will learn more about this during the Laser Cutting workshop!

CorelDraw is accessible on any of the desktop computers in our space, and on personal devices via CEAS Cloud Computing.

What kinds of files can I laser cut?

Images/Icons (for engravings)

- Google Images
- Noun Project

Simple Shapes

- These can be created inside CorelDraw.

CAD

- Export your own designs from Onshape, Solidworks, Fusion, etc!
- For boxes: use MakerCase! Enter dimensions, and it will generate a file for you.

How do I export files from OnShape or Solidworks for laser cutting?

Be sure to export your file as an **.dxf** (typically done by right-clicking on a two-dimensional face) and make sure that the units are **millimeters or inches.** CorelDraw will prompt you to select which unit system you are using upon importing.

How to import files into CorelDraw

SolidWorks DXF Export Documentation

OnShape DXF Export Documentation

If I created my CorelDraw file on another computer, how do I send it to the laser cutter computers?

Once you have created your CorelDraw file, save it to a storage location which can be accessed on another computer. Some good options are:

- Log into your CU OneDrive account and save your file to the cloud. You may then log into OneDrive on the laser cutter computers, and download your file from there.
- Email the file to yourself (or teammates!)
- Save to a thumb drive.

Note: Although we have students save their files to a shared folder during the workshop, this is a temporary solution, allowing your instructor to access your file on their own account. Once you have access to log into the computers on your own, please do *not* use this folder for your own purposes as it creates unneccessary clutter.

Can I reserve a Laser Cutter?

Our cutters are strictly first-come, first-served.
Hot Tip: There is always a cutter available at 8am!

What materials may I cut on my own and where can I find them?

You may run jobs with acrylic, craft wood, and cardboard on your own - please reference our setting sheets when doing so!

Sourcing Materials

- The ITLL offers 18x12 inch sheets of Baltic Birch wood and clear Acrylic for purchase on our website. These cost $5 per sheet.
- If other colors and/or sizes of wood or acylic are required, these vendors are good choices:
  - Colorado Plastics (Their remnants sale - every last friday of the month - is a great opportunity to source acrylic at a discount!)
  - Johnson Plastics Plus

    - Woodpeckers Crafts
    - McGuckin Hardware
    - Home Depot
- We also recycle PLA from 3D prints to create laser cuttable sheets! These are offered for free at LaunchPoint and are first-come, first-served - chat with the Engineering Support Student on shift.

Can I cut with other materials?

Not by yourself. However, you may chat with the Laser Cutting Engineer to discuss using other materials - oftentimes the engineer will need to ensure that a material is safe to cut, or help you with the intricacies that come with running jobs with some others.

Some examples of materials you may use with Engineer assistance/approval:

- Glass (Engraving Only)
- Anodized Aluminum (Engraving Only)
- Leather
- Rubber
- Foams

Is there a fabrication request process for laser cutting?

We do not run jobs on behalf of students - however, if you have any questions or require assistance, please chat with the Engineering Support Student on shift or the Laser Cutting Engineer! We will be happy to work with you to complete your parts.

Where else can I Laser Cut?

On Campus: Each campus makerspace has their own policies and procedure. Be sure to contact them to see if and how you can gain access to their spaces.

Here are some nearby:

Idea Forge

Aerospace Building

ATLAS BTU Lab

Off Campus:

Boulder Public Library

SolidState Depot (student discounts available)

ExBuild (for higher definition printing)

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