

AI Laser Cutting Guide

This guide is to help you generate laser cutter files using Adobe Illustrator. As CU students, you have access to different fabrication facilities around campus. This guide targets the specifications of the laser cutter in the BTU Lab (<http://btulab.com/about>). The BTU is free, but to use the laser cutter you must apply to become a lab member (<http://bit.ly/BTUapply>) and sign up for a time slot to get help from a “laser master” (<https://bit.ly/BTULaser>).



When determining the size of your artboard and your design you want to consider 1) the size of the laser cutter’s bed, and 2) the size of your material. The BTU laser cutter’s bed is 18” by 32”.

The laser cutter can create three types of cuts: **vector cuts**, **vector etches**, and **raster etches**.

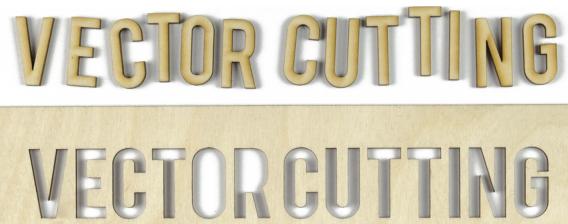
Vector Cutting

Vector Cutting

A vector cut fully slices through the material.

To tell the laser cutter you are making a vector cut:

- The stroke must be **#FF0000** (RGB red)
- Set the stroke width to 0.01 pt



Vector Etching

Vector Etching

In contrast to a vector cut, a *vector etch* does not fully slice through the material. Rather, it engraves it.



To tell the laser cutter you are making a vector etch:

- The stroke must be **#0000FF** (RGB blue)
- Set the stroke width to 0.01 pt

Raster Etching

Raster Etching

Raster etching is like vector etching in that it doesn’t fully cut through the material. However, raster etching is better suited for cutting larger areas rather than lines.



To tell the laser cutter you are making a raster etch:

- Fill an area with any grayscale color (if you use other colors, the laser cutter will automatically convert to grayscale anyway), no stroke is required
- Darker colors make a deeper etch, lighter colors make a shallower etch
- You can use raster and/or vector images to make raster etches