Laser Etch Power Vs. Matieral

This will show you a comparison of the results obtained using a variety of etch powers and materials.

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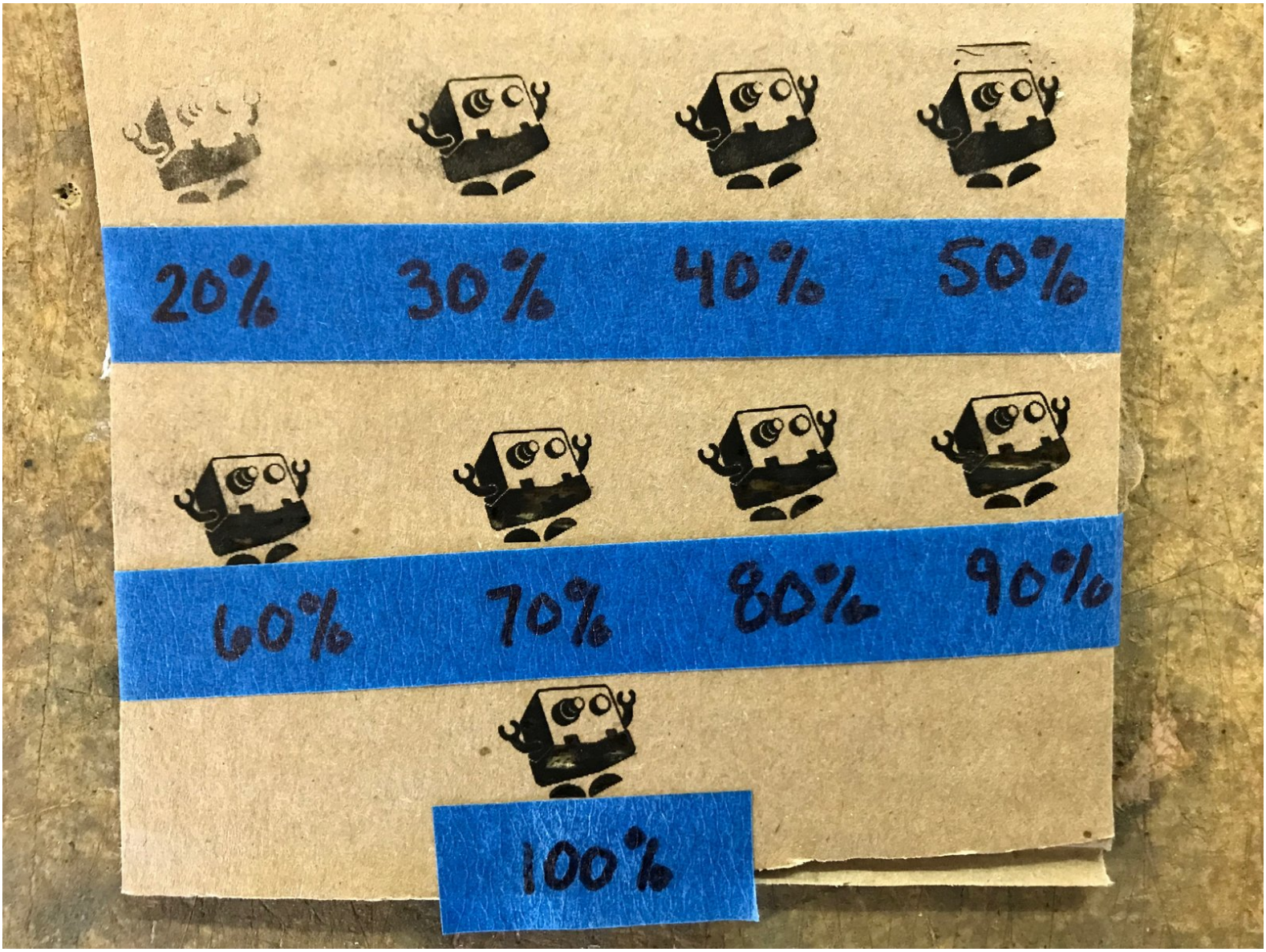


INTRODUCTION

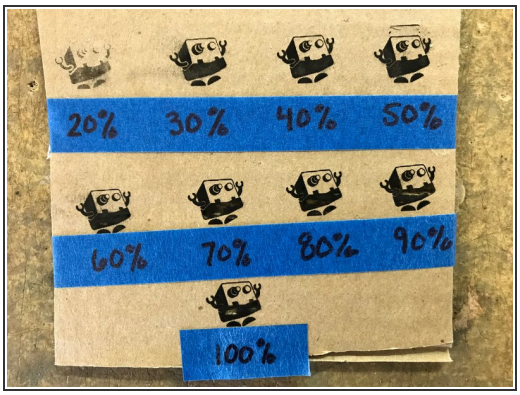
This guide is meant to be a tool to help you get started using the laser engraver. It shows how etch power affects a variety of materials. We etched each material in increments of 10% starting at 10%.

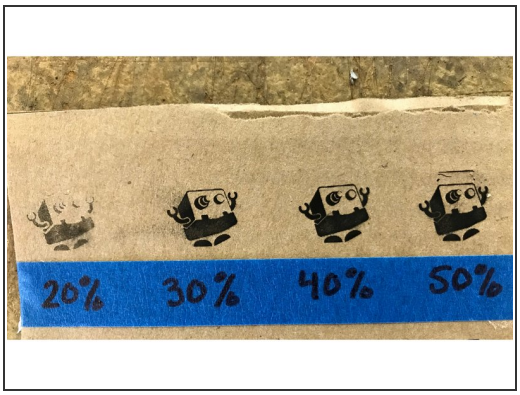
Please Note: If percentages are not represented, it's because the level of etch power did not produce results

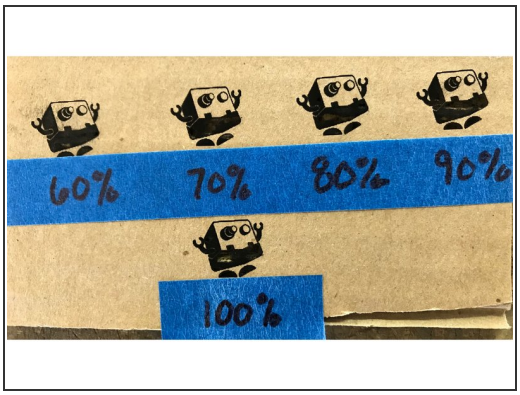
Results may vary

All examples are etched at 100% speed

Step 1 — Etching on Corrugated Cardboard



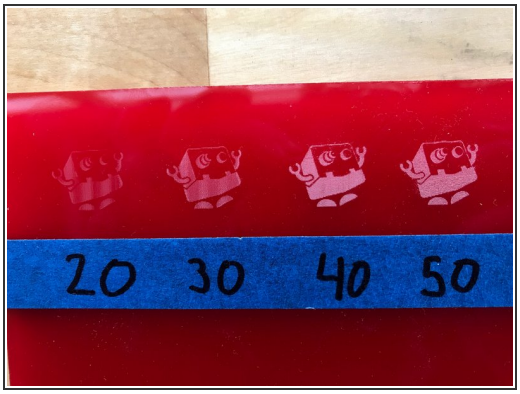




- We found, like with most materials, the higher the etch power the darker the final product.
- Etch power above 50% began to burn through the top layer of cardboard.

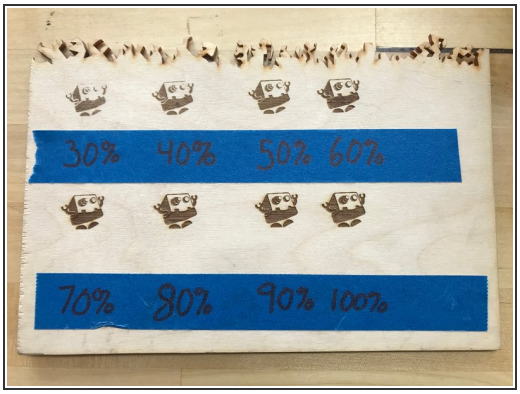
ⓘ Some darker shading may fade by touch. This can be reduced by treating is a clear coat spray immediately after etching.

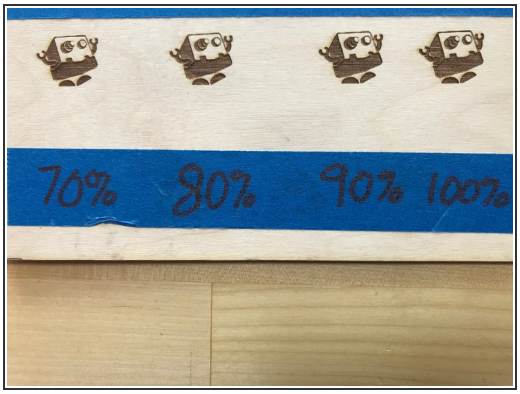
Step 2 — Etching On Acrylic



- The lower etch powers (20%,30%) are where image is visible, but the quality of the image is low.
- Higher etch powers produce a lot of contrast between the etch and the material, however starting at 80% and upwards the crispness of the lines start to decease.
  - In our example take a look at where the arm of the robot meets the body. Around 80% we start to loose some of the definition between the two.
- Mid-range etch powers between 60%-70% produced an image with high contrast and sharp edges.

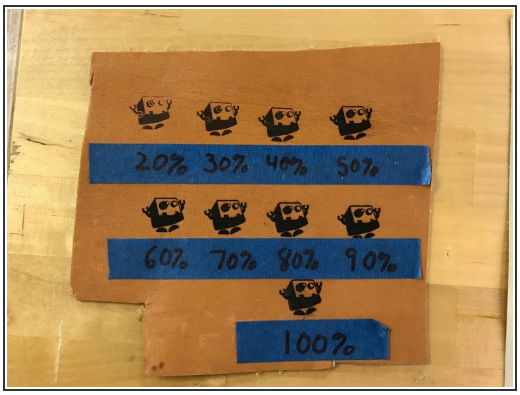
Step 3 — Etching on Wood





- In general the higher the etch power the darker the etch.
- When we etch on wood it actually burns the material making a slight groove where etched.
  - The raised and lower portions of the etching can just barely be felt at 40% power. At 50% power they are visibility noticeable and get more intense as etch power increases.
- Its appears that at around 70% we start to loose some sharpness around the outline of the image.
  - In our example take a look at where the robot's arm meets the body. In the lower etch powers there is a distinct separation between them. At 70% and above, there is less definition. The outline become a little blurry.

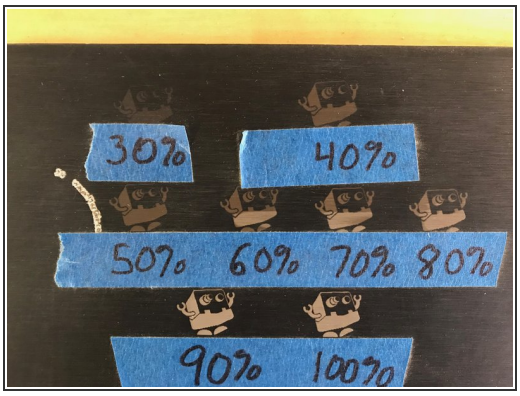
Step 4 — Etching on Leather

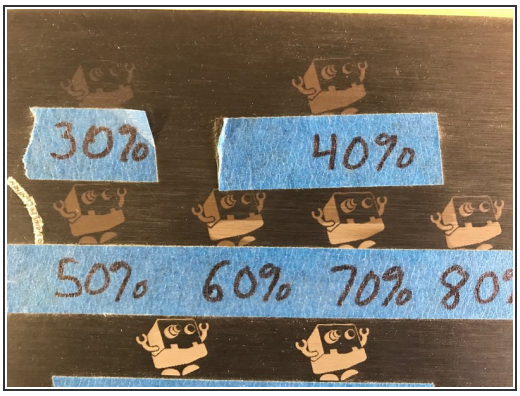


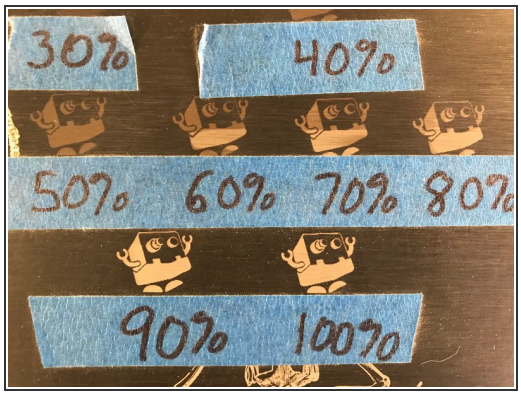
- Once again, higher etch power darker shading.
- Higher etch power also etches deeper into the material.
- Outlines are sharper at 40% and above

ⓘ Higher etch power will give off a leather burning scent.

Step 5 — Etching on Anodized Aluminum







- Shading varies on higher etching power.
- gradient in the anodized aluminum examples could be a result of poor image quality or inconsistencies in anodization itself.