

Tips for cutting acrylic

Please follow these few pieces of advice when cutting acrylic.

- 1) Make sure that you are cutting acrylic... NOT plexiglass. Many people confuse polycarbonate - plexiglass as if it were acrylic. When Polycarbonate is cut by a laser, it produces a yellow and black smoke that is corrosive to metals and nauseous to breath.
- 2) Make sure to use the vacuum table. You will need lots of air flow. Use sheets of paper to cover most of the table and concentrate the air flow to around the acrylic piece. You want to ensure the acrylic will cool off properly.
- 3) Make sure to adjust the air nozzle to have high air flow. As the laser is cutting, the air flow will clear the kerf of debris, fumes, .. and helps to cool the surrounding acrylic. If the surrounding acrylic gets too hot, the material could catch fire and burn down your machine.
- 4) Elevate the acrylic above the vacuum table. Use some other acrylic to create a space gap under the acrylic. As the laser hits the aluminum honeycomb, it will flash back up at the acrylic. The reflected flash may be close enough to the acrylic to burn spurs onto the acrylic. The flash-back leaves marks on the bottom edge of the laser cut acrylic. Elevating the acrylic will remove the flashback effect. You can use scrap pieces of acrylic or "egg crate" from your local hardware store. Egg crate is the light-diffuser plastic that is mounted under fluorescent light fixtures.
- 5) I use 85% power and run quite slow. The speed depends on the thickness and manufacturing. It is good to start at 10 mm/sec speed and adjust from there. Getting a very nice edge on acrylic is a slow process. Some customers have done the cut in two passes... I like to do the cut in one pass.

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