

Laser Engraver/Cutter at Exploration Point!

Exploration Point! offers an Epilog Zing 24 40 watt laser engraver/cutter with a rotary attachment. The laser engraver/cutter is a digital fabrication tool used for computationally engraving and cutting a variety of materials.

How do I get started?

Select your own material to engrave/cut. Please verify that your material is on the approved materials list, see below. The library also offers the following materials to purchase.

- Cardboard 12" x 20" - \$1.00 per sheet (including tax)
- Cardstock - \$.25 per sheet (including tax)

Prepare your design. You can download files from popular sharing sites such as Thingiverse and the Epilog Zing Sample Club or create your own using programs such as Adobe Illustrator, Corel Draw, or Inkscape. For any cut lines, use paths with a stroke weight of 0.001 of an inch or less (hairline).

Library staff must approve the material and design prior to use of the laser. We recommend testing your design on materials that can be discarded (such as cardboard) before using your final product material.

Times to engrave and cut will vary by project. Unfortunately, we are unable to offer time estimates for a specific project, so please allow for additional time.

There is no charge for use of the laser cutter. Customers can bring in their own materials to engrave/cut as long as the material is on the approved list of materials and approved by library staff or they can purchase available materials from the library. Library staff will not create, modify, or correct designs for customers. For safety reasons, library staff will set up and run the laser cutter.

Customers may engrave/cut objects for educational, prototyping, or personal use so long as the objects do not violate library policies and comply with U.S. copyright, patent, and other intellectual policy regulations, which do include specific exceptions for fair use. The equipment is intended for educational and experimentation purposes. It may not be used for production-level engraving/cutting or to produce items for sale or commercial gain without prior permission. Library staff reserve the right to refuse any usage request.

Tech Notes

The laser cutter bed is 12" x 24" and will accommodate material up to 7.5" thick. It is recommended that larger sheets be cut to slightly below these dimensions to ensure a proper fit. The rotary attachment can accommodate cylindrical items up to 5.25" in diameter.

The Epilog Zing 24 40 watt laser engraver/cutter can cut through materials up to 1/4" thick. The laser cutter can NOT cut through metal, though it can engrave coated metals.

Raster Engraving vs. Vector Cutting

Raster engraving is essentially high-resolution printing with the laser. The laser will engrave your design on top of the material and the speed and power settings can be adjusted based on different materials.

Vector cutting uses a narrow beam to follow hairlines (lines less than 0.001 of an inch) in a path to cut through a material. In addition to the adjustable speed and power settings, vector cutting also uses frequency (how rapidly the laser pulses) to cut.

Approved Materials List

- Wood(Engrave & Cut)
- Acrylic (Engrave & Cut)
- Fabric (Engrave & Cut)
- Glass (Engrave)
- Coated or Painted Metals (Engrave)
- Ceramic (Engrave)
- Cloth (Engrave & Cut)
- Marble (Engrave)
- Matte Board (Engrave & Cut)
- Melamine (Engrave & Cut)
- Paper (Engrave & Cut)
- Mylar (Engrave & Cut)
- Pressboard (Engrave & Cut)
- Wood Veneer (Engrave & Cut)
- Tile (Engrave)
- Plastic (Engrave & Cut)
- Cork (Engrave & Cut)
- Corian (Engrave & Cut)
- Anodized Aluminum (Engrave)