



Glowforge Equipment Guide

[Glowforge Safety Guidelines](#) (manufacturer's)

[Glowforge User Manual](#)

[Glowforge User Interface & Walkthrough](#) (3rd party video)

About

The Glowforge is a laser cutter that can cut, score and engrave. You can do precise designs using a vector graphics programs like Inkscape, Adobe Illustrator or Photoshop . Other compatible programs include CorelDraw, GIMP, Autodesk 360 & Sketchup. You can import JPG, PNG, SVG, or PDF files to print, or put your own pen and ink drawing into the Glowforge to be scanned and replicated.

Using the Glowforge

The Glowforge unit's laser cuts and engraves with a beam of high-intensity infrared light. The laser can generate extremely high temperatures in the material being cut or engraved. With the lid closed, safety goggles are not needed. Improperly operating the Glowforge unit can cause fire, eye or skin injury from laser exposure, or exposure to chemicals that may be health hazards. These can result in serious injury or even death.

There is no charge to use the Glowforge. A Hunterdon County Library card is required.

Important

- You must be 18+ to operate the Glowforge, have signed the Makerspace agreement/liability form and complete a brief training session before using.
- Those under 18 must be accompanied by a trained staff member or trained adult (18+).

- Before using the Glowforge you must have read and understood the safety guidelines on this document
- The Glowforge is to never be left alone while in operation.
- If you need to step away, for a VERY BRIEF moment, you must inform library staff. Tap the start button once to pause the print. We will not watch the Glowforge for you, for a long term absence.
- DO NOT change the preset material settings
- User is responsible for their work. Library staff can't refund money or be held responsible for user error.
- Production runs of items may be limited by staff.
- The consequences of not following these guidelines are severe, because not following them can cause serious damage to the space and/or your person

Glowforge safety

- Do not put anything inside the Glowforge that is not laser compatible.
- Do not stack materials; for example attempting to cut two or more sheets of material at a time. Multiple sheets are more likely to burn.
- Clean out leftover bits inside the Glowforge unit when it builds up
- Do not leave things on, or around the Glowforge.
- Do not touch the head or arm of the Glowforge unit while the power is on. If you do so by accident, turn it off, then back on again to prevent the possibility of damage.
- Do not try to service, repair, or modify the Glowforge unit
- In the event of an emergency or malfunction, unplug the power cord on the back of the unit
- When a print is complete, certain materials, like plastics, can remain hot. Allow them to cool down before touching them.

While in use

- **Never leave the Glowforge unit unattended while operating** - always stay within sight.
- Only operate the Glowforge unit when the filter is attached and turned on. If there is an odor check the fan level on the filter and turn it up higher if possible.
- Some materials cause more smoke & fumes than others. To prevent smoke and fumes from escaping the unit, wait for fumes and smell to dissipate before opening the lid. This can take up to two (2) minutes after the job is complete.
- Look inside frequently; the flame should move with the laser. If there is a lasting flame inside the Glowforge unit that does not extinguish when the laser has moved past:
 - Pushing the Teal button on top right will pause the print.
 - Opening the lid stops the machine
 - Pull the plug on the back of the unit if needed.
 - If flame continues and it is safe to do so, extinguish the flame with the fire blanket or a wet towel.
 - If that is not an option, when it is safe to do so, fire extinguisher. - Locate both the fire blanket and fire extinguisher before beginning the print job.
 - If the fire cannot be extinguished, or if it spreads outside the Glowforge, call 911 and evacuate the building.
- Because the operation of this machine is a severe fire hazard and can cause real damage to the building and personal injury the consequences are very severe. **If you are found to be not following these safety procedures, you will be denied access to this piece of equipment.**

Material Size – what will fit

- The material must be flat and with dimensions no more than 12" deep x20" wide x2" thick.
- The maximum size for a design is 11" x 19".
- The bed can hold material 2" thick to engrave with the tray removed, .5" thick with the tray in.
- Cutting max thickness is about ¼", depending on the material



Finding a design

Here are a few sites where you can find or create a design for the laser cutter:

- Browse the [Glowforge community catalog](#). Our premium account gives us access to many free designs.
- [Create your own design](#)
- Choose a pre-uploaded design in the Glowforge account
- Use a website of community designs such as [thingiverse.com](#)
- Purchase from Etsy.com

Using the Glowforge Procedure

- Library Staff must approve the material to be cut/engraved before using the Glowforge
- Follow the instructions for getting the Glowforge on Wifi.
- Choose your design from the Design Library or click the Upload link and import an outside design
- Place your material inside the machine. Check to be sure the material is flat and won't move with a fan on. Use security clips if needed.
- Double-check the correct material has been selected for your project by clicking the materials button in the top left corner

- Check the thickness of your material, ask for calipers from library staff
- Drag your design to your preferred space on the material (Keep in mind that the more consolidated your design, the more usable material you have leftover).
- Turn on the filter unit beside the Glowforge to the highest setting
- Press Print
- Follow all prompts
- Stay beside the machine while it completes your project
- Wait 2 minutes with the filter running, after the print has finished for dust and fumes to be completely extracted from the chamber, then open the lid and remove your project.
- Turn off the filter when fumes have dissipated
- Turn off the Glowforge

Approved materials for the Glowforge

Materials used in the glowforge must be CO2 laser compatible. The library will allow the use of HCL staff approved materials in the Glowforge.

Cuts & Engraves	Engraves Only
<ul style="list-style-type: none"> • Wood (untreated) 	<ul style="list-style-type: none"> • Glass
<ul style="list-style-type: none"> • Fabric 	<ul style="list-style-type: none"> • Coated metal
<ul style="list-style-type: none"> • Leather (real leather only) 	<ul style="list-style-type: none"> • Marble
<ul style="list-style-type: none"> • Paper* 	<ul style="list-style-type: none"> • Anodized aluminum
<ul style="list-style-type: none"> • Plexiglass (Acrylic) 	<ul style="list-style-type: none"> • Titanium
<ul style="list-style-type: none"> • Delrin (Acetal) 	<ul style="list-style-type: none"> • Some phones, tablets and laptops. Some Items have presets available, others must be verified with the device manufacturer

• Mylar	
• Rubber – laser safe, no chlorine	
• Corian	

* Due to charring Makers with paper projects may want to consider using the Cricut Maker 3 or Silhouette cutter.

The following materials are ***not* permitted**:

- Stained woods
- MDF (fibers expand and fill the fume collector quickly)
- Vinyl
- Plastic
- Polycarbonate/LEXAN
- Foam
- Fiberglass
- Materials whose composition can't be verified

Materials Vendors

In addition to the official Glowforge shop.glowforge.com [Proofgrade materials](#), here are a few places we've bought materials that we know print well in the Glowforge.

- [Inventables](#): Acrylic
- [Inventables](#) Two color Acrylic (signs, nametags)
- [Craft Closet](#) Wood, Acrylic, Many items all laser safe
- [The Ring Lord](#): Anodized aluminum dog tags
- [Woodpeckers Crafts](#): Baltic Birch & wood cutouts
- Find a supply not listed here? Please provide a receipt from suppliers who will verify their product is laser compatible when you bring in your material. This allows us to research settings and help insure your print works safely in the printer.

- Check with Makerspace staff if there are other materials you are interested in using not mentioned in this document.

Glowforge (non-premium account access)

Glowforge app, non-premium access is available to library card holders at no cost. Contact library staff if you would like a free account. This gives you access to the Glowforge app outside the library, allowing you to design in the Glowforge app from home then bring your files to the library for printing.

Glowforge Premium Account Access

The Friends of the Hunterdon County Library have funded a [Glowforge Premium account](#) available to users while at the North County Branch Library. Glowforge limits the number of emails that can be associated with this account. To access use the email: hclmakerspace@gmail.com and the current password. Please save files created on your own device or flashdrive. This is a shared community account and files could be deleted or altered inadvertently.