



XUNTA
DE GALICIA

CENTRO DE FORMACIÓN E
RECURSOS DE PONTEVEDRA

Cortadora Láser Mr Beam II Dreamcut + filtro

Formación Inicial

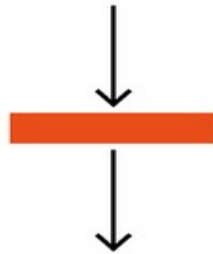


Características

- Gravadora láser de 5W e $\lambda = 450 \text{ nm}$
- Clase 1: produtos láser que son seguros en todas as condicións de utilización.

TRANSMISSION

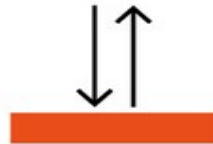
Laser beam goes **through** the material,
(e.g. glass)



no effect on the material

REFLEXION

Laser beam is **reflected** by the material
(e.g. the front side of the mirror)



no effect on the material

ABSORPTION

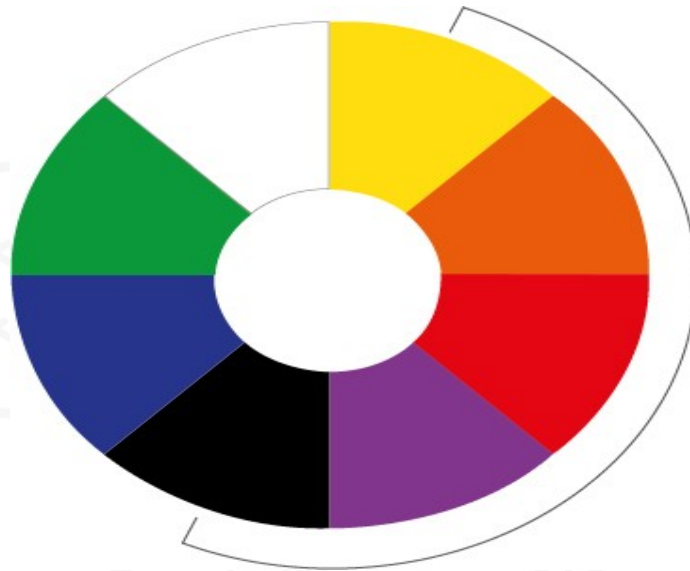
Laser beam is **absorbed** by the material
(e.g. wood, felt, etc.)



desired effect:
material is being
laser-cut or engraved

Importancia da cor

- As cores complementarias ao azul absorben a maior parte do raio do láser.



absorbs the laser light
particularly well

<https://support.mr-beam.org>

[Ir a tutoriais montaxe](#)

[Ir a conexión](#)

Montaxe I

Comprobación de compoñentes



Montaxe II

Retirar elementos de protección



Montaxe III

Colocar o cabezal de corte



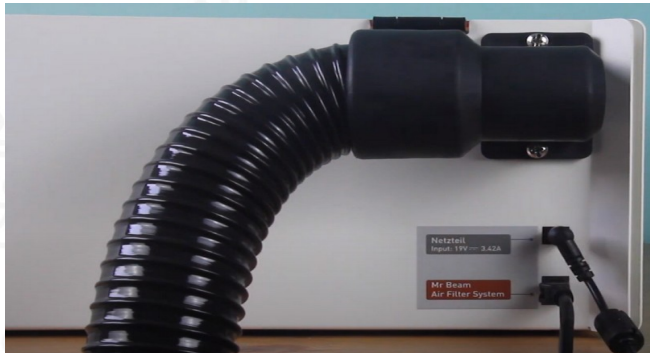
Montaxe IV

Conectar cable flex e mangureira ao cabezal



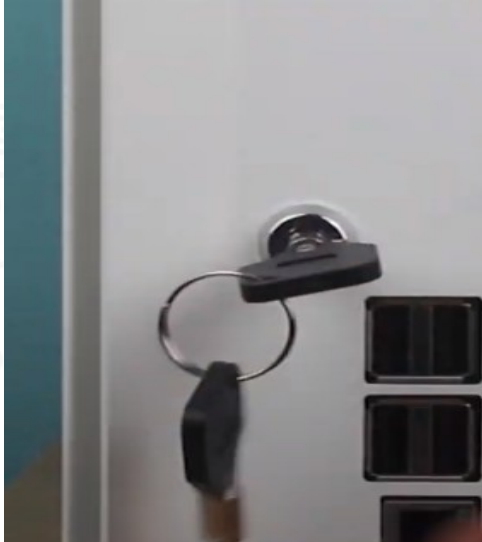
Montaxe V

Filtro. Aparafusar tubo e conectar cables



Posta en marcha

Xirar a chave e pulsar o botón de acendido



Requisitos de conexión

- Aplicación web a través do navegador Google Chrome.
 - find.mr-beam.org
 - mrbeam-XXXX.local
 - 10.250.250.1

10.250.250.1



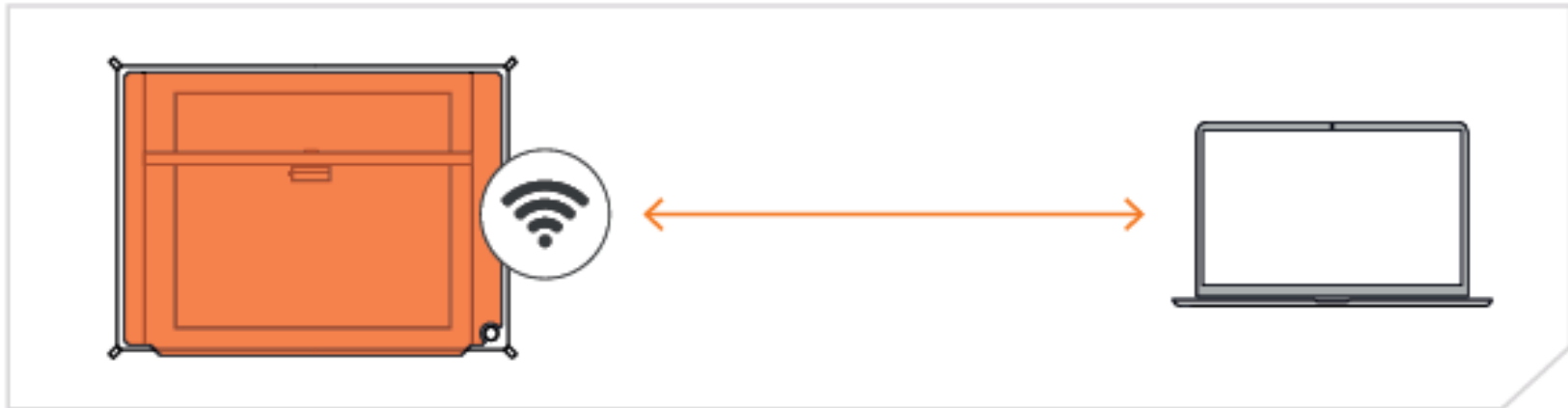
Opción 1: Conexión mediante WLAN

Conexión Wifi

- **PASO 1:** Conectarse á rede wifi MrBeam-XXXX

Nombre: MrBeam-XXXX

Contraseña: mrbeamsetup



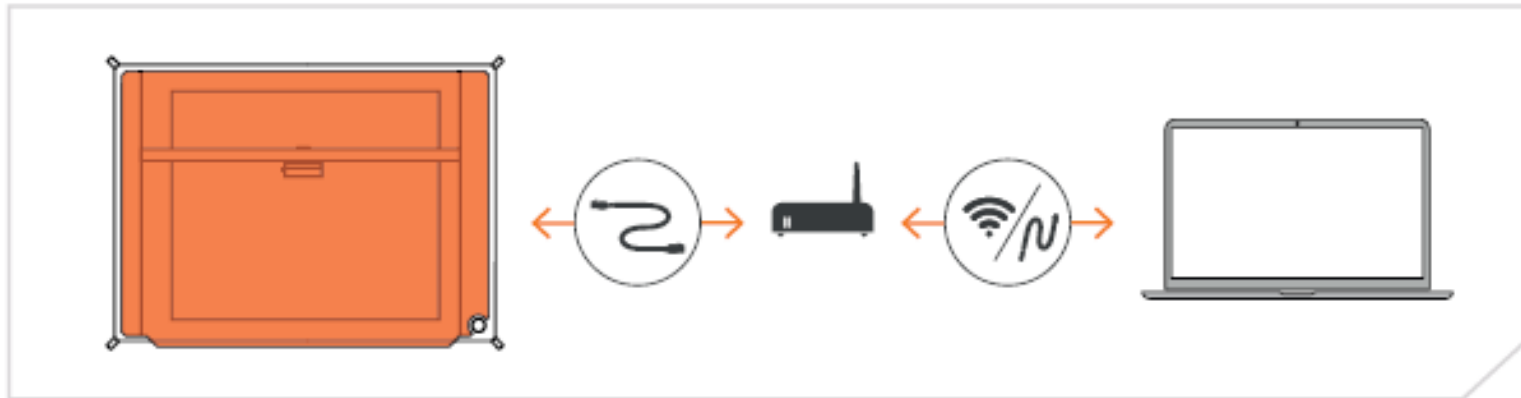
Opción 1: Conexión mediante WLAN

- **PASO 2:** Cargar a aplicación web
 - Escribir na barra de direccións de Chrome:
 - find.mr-beam.org
 - mrbeam-XXXX.local
 - 10.250.250.1

IMPORTANTE: Para ter acceso a Internet debes conectar por cable o PC.

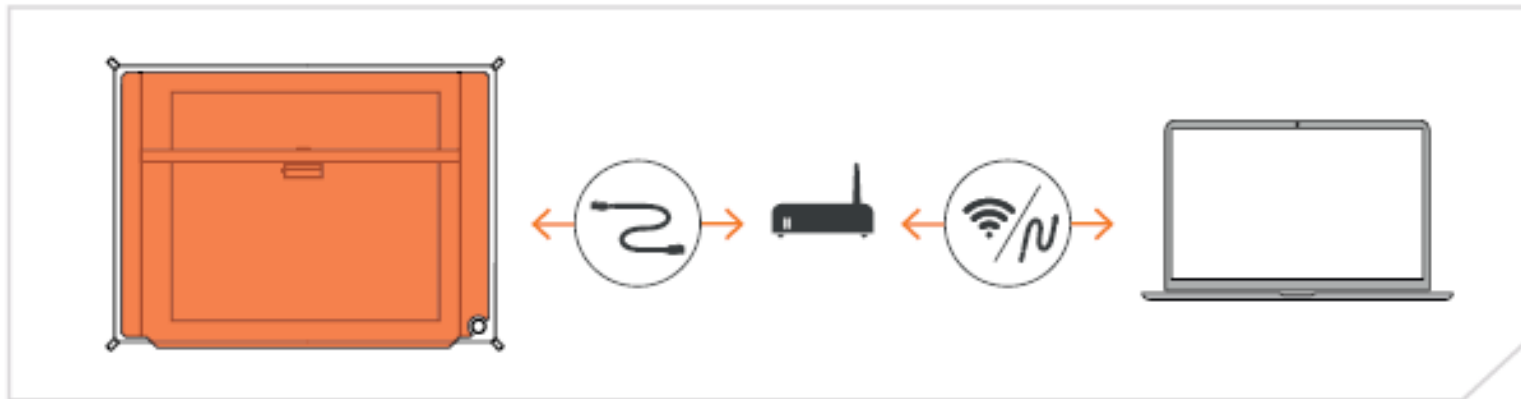
Opción 2: Conexión cable + router

- **PASO 1:** Conectar a cortadora ao router mediante un cable de rede (Ethernet)



Opción 2: Conexión cable + router

- **PASO 2:** Asegurarse de que o PC tamén esté conectado ao router por medio de WLAN ou cable.



Opción 2: Conexión cable + router

- **PASO 3:** En canto se encenda a luz laranxa xa se pode acceder o aplicativo a través do navegador Chrome
 - Escribir na barra de direccións de Chrome:
 - `find.mr-beam.org`
 - `mrbeam-XXXX.local`
 - `10.250.250.1`

Opción 3: Conexión WLAN + router

- **PASO 1:** Conectar a cortadora ao router mediante un cable de rede (Ethernet)



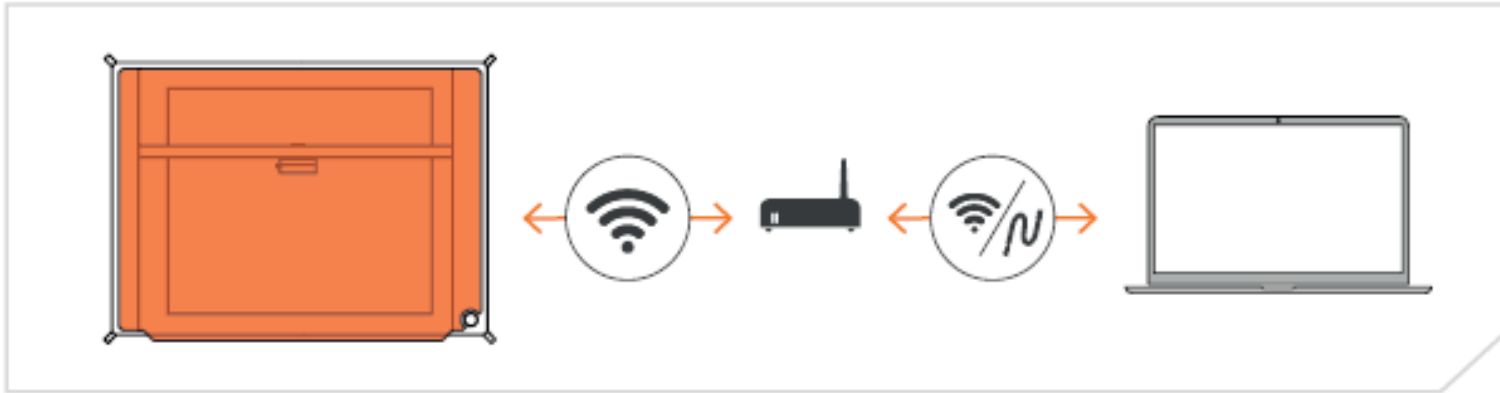
Opción 3: Conexión WLAN + router

- **PASO 1:** Conectar a cortadora ao router mediante un cable de rede (Ethernet)



Opción 3: Conexión WLAN + router

- **PASO 2:** Buscar o dispositivo en find.mr-beam.org para conectarse á MrBeam.



Opción 3: Conexión WLAN + router

- **PASO 3:** No cadro de diálogo de benvida ten a posibilidade de conectar a Mr Beam á rede WLAN introducindo a contrasinal da rede.




Primeira conexión da Mr Beam

Cadro de benvida da Mr Beam

Buscar o dispositivo en find.mr-beam.org

Welcome Dialog

Start
Verbindung
Dein Nutzerkonto
Zu deiner Sicherheit
Analytics
Beenden



Richte Dein Benutzerkonto ein

Gib Deine E-Mail-Adresse und Dein Passwort ein. **Bitte vergiss diese Zugangsdaten nicht.**

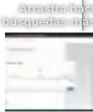
Aus Sicherheitsgründen kannst Du Deinen Mr Beam II nur nach Anmeldung mit einem Benutzerkonto nutzen. Solltest Du Deine Zugangsdaten einmal vergessen haben, musst Du das Mr Beam Support Team kontaktieren um Dein Gerät zurückzusetzen.

In den Einstellungen kannst Du weitere Nutzerkonten anlegen z.B. für Familienmitglieder, Kollegen oder Freunde.

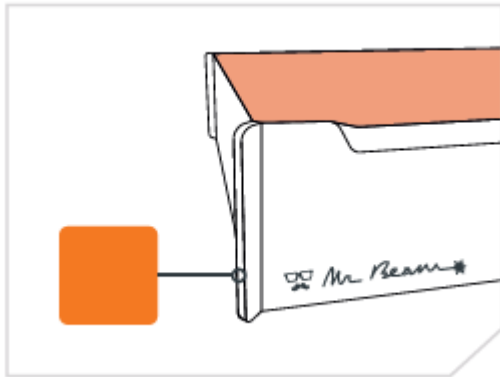
E-Mail-Adresse

Passwort

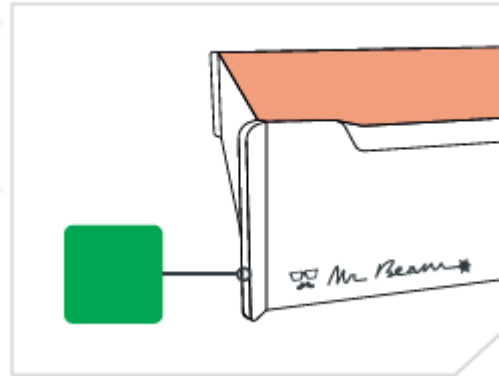
Passwort bestätigen



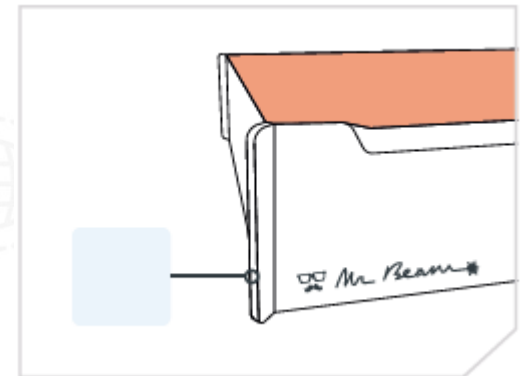
Significado cores



Mr Beam está conectada, ten conexión e está lista para empregarse.



Mr Beam está lista para conectarse.



Mr Beam está conectado á rede local, pero sen conexión a internet.

Fluxo de traballo

[Seleccionar material](#)

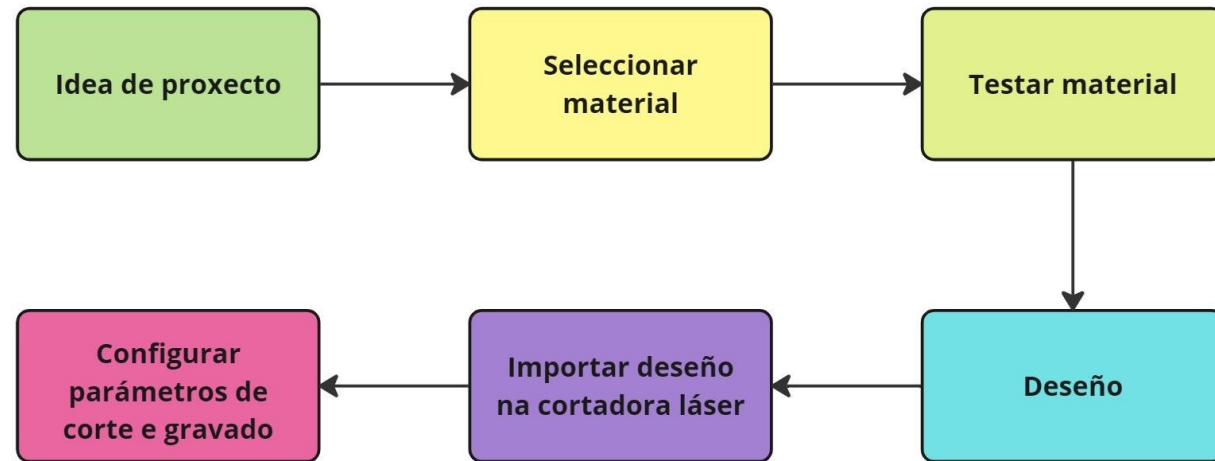
[Testar o material](#)

[Deseño](#)

[Software cortadora láser](#)

[Configurar parámetros corte e gravado](#)

[Proxectos de exemplo](#)



Seleccionar material

Derivados da madeira

- Contrachapado: álamo ata 4 mm, bidueiro ata 3 mm, madeira de balsa ata 4 mm
- DM ata 3 mm



Materiais derivados da celulosa

- Cartón, ata 5mm
- Papel fotográfico
- Cartolina



Imaxe de www.pexels.com

Plásticos

- Acrílico (algunhas cores, ata 3mm).
- Goma EVA (ata 20mm)
- Polipropileno (0,8 mm).



Fonte: www.amazon.es

Tecidos

- Feltro (ata 6 mm)
- Xersei
- Algodón
- Liño



Coiro e látex

- Coiro natural (ata 1mm)
- Coiro artificial (ata 1mm)
- Coiro vegano (ata 1mm)
- Látex e látex natural (ata 1mm)



Materiais preferidos para gravado

- Madeira e contrachapado, tecidos, papel e cartón, pedra, goma de selar, coiro, acrílico, espello, aluminio anodizado, outros metais pintados



Materiais que non podemos cortar/gravar

- Materiais transparentes, reflectores, que conteñan PVC, vinilo, fibra de vidro, fibra de carbono ou que conteñan cloruro ou fluoruro.



[Voltar](#)

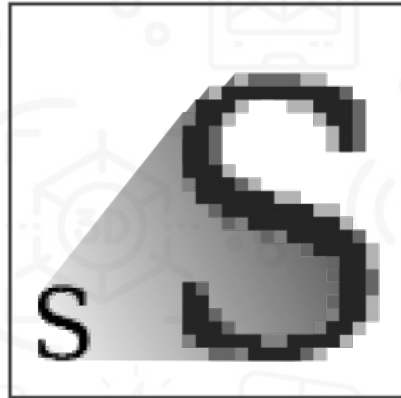
CC BY-SA 4.0. Helene.3160. Font Wikipedia

<https://support.mr-beam.org/en/support/solutions/articles/4300614408-materials-you-should-not-lasercut-or-engrave>

Deseño

Tipos de ficheiros en deseño dixital

- Imaxe de mapa de bits
- (.bmp, .jpg, .png)
- Imaxe vectorial
- (.svg, .dxf)



Matriciel

.jpeg .gif .png



Vectoriel

.svg

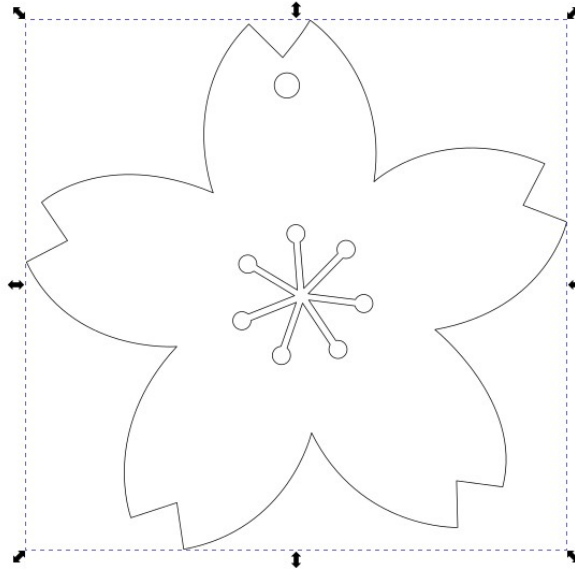
Imaxe de mapa de bits (.bmp, .jpg, .png)

- Imaxe composta por pixels (p.ex: fotografía)
- Pode perder definición se ampliamos
- Soamente pode utilizarse en función **gravado** (cada cor está asociada a unha potencia do láser)



Imaxe vectorial (.svg, .dxf)

- Imaxe composta por formas xeométricas (p.ex: un logotipo)
- Pódese ampliar indefinidamente
- Pode utilizarse en función **gravado** ou **corte**



As imaxes vectoriais pódense descargar ou deseñar

3axis.co

Search

Buy Laser Cut File formats 3D Puzzle Boxes Wood Cutouts Decor Events & Occasions Kids Office Jewelry Library

Laser Cut Christmas

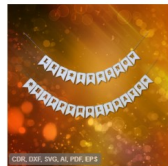
Free laser cut Christmas templates. 3axis.co have 501 Christmas laser cutting files for free to download.



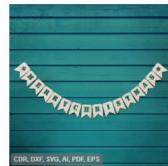
Laser Cut Christmas Star SVG File



Laser Cut Christmas Ball Merry Christmas 3mm Acrylic SVG File



Laser Cut Let It Snow Christmas Bunting Happy Holidays Bunting Free Vector



Laser Cut Merry Christmas Bunting Decoration Free Vector



Laser Cut Merry Christmas Bunting Free Vector



Laser Cut Wooden Christmas Ornament Ball Blank Unfinished Craft Decoration Free Vector



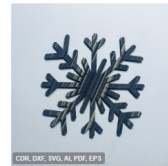
Laser Cut Wooden Christmas Round Bauble Craft Blank Free Vector



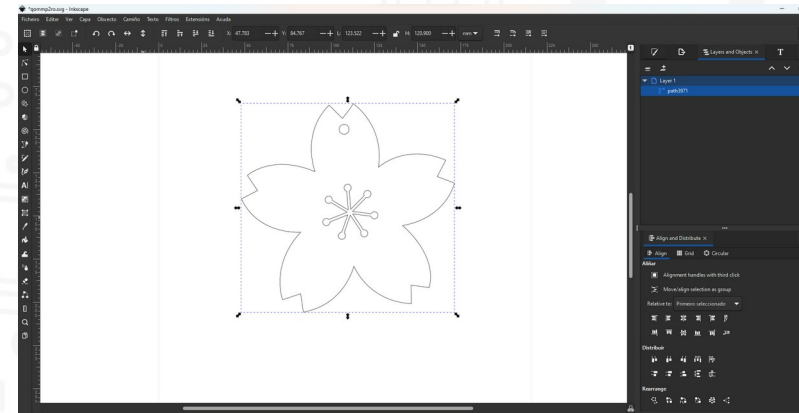
Laser Cut Personalized Stocking Christmas Ornament Free Vector



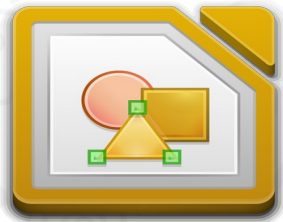
Laser Cut Wooden Triangle Christmas Tree Free Vector



Laser Cut Unfinished Wood Snowflake Cutout Craft Free Vector



Software libre de diseño vectorial



Libre Office Draw



INKSCAPE



Deseño vectorial con aplicacións web



Tinkercad

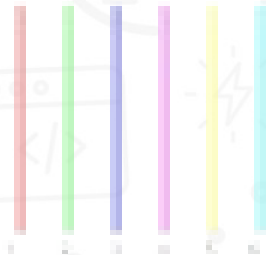


Onshape

Testar material

Primeira vez dun material

- Grades de test de material
- Para test de corte trazar varias liñas de cores
- Para gravado facer grade con recadros de cores
- Asignar a cada liña potencia, velocidade e pasadas
- Asignar a cada recadro velocidade e potencia
- Gardar a configuración para novo material

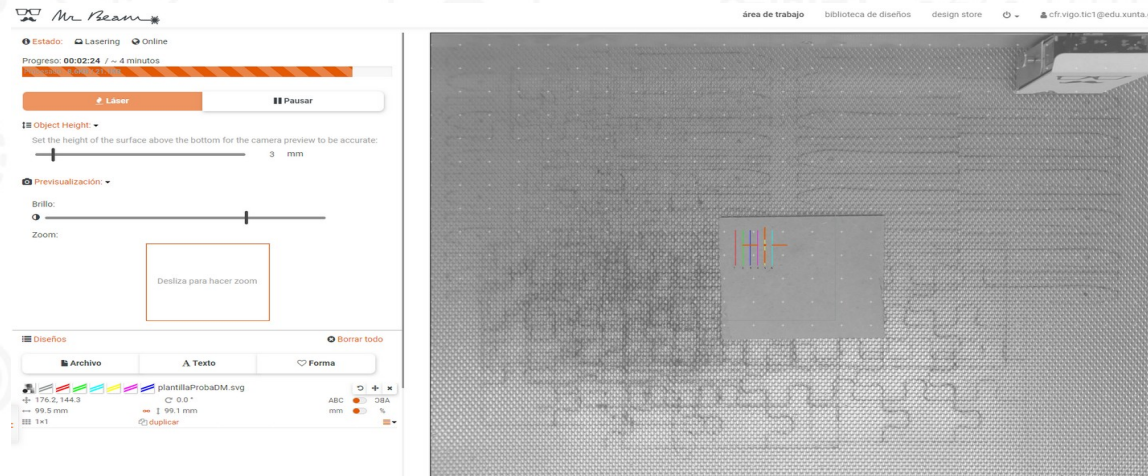


[Voltar](#)

Software cortadora láser


Software Mr Beam

- Abrir a tapa ata a posición máis elevada
- A imaxe tómake cada 5 segundos
- Área de traballo de 500 x 390 mm



Software Mr Beam

Área de traballo



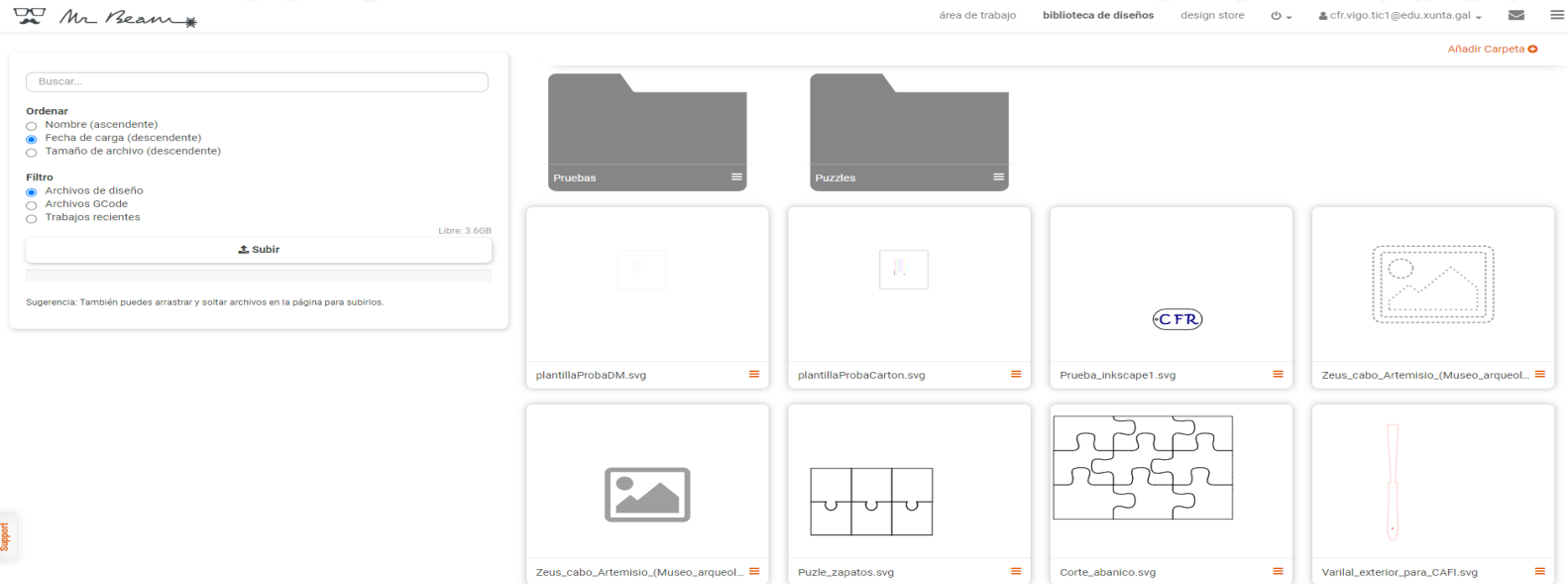
The screenshot displays the Mr Beam software interface. On the left is a control panel with the following elements:

- Mr Beam logo and navigation icons.
- Status: Estado: Lasering Online.
- Progress: Progreso: 00:03:22 / ~ 4 minutos.
- Buttons: Laser (active) and Pausar.
- Object Height: Object Height - Set the height of the surface above the bottom for the camera preview to be accurate: 3 mm.
- Previsualización: Brillo (slider) and Zoom (slider).
- Designs: Diseños - Borrar todo. Includes tabs for Archivo, Texto, and Forma.
- Design list: plantillaProbaDM.svg with dimensions 195.3, 149.6 mm and 99.5 mm. Includes a 'duplicar' button.
- Support icon.

The main work area on the right shows a dark, textured surface with a central rectangular area containing a grid of colored lines (red, blue, green, yellow) and a small white box with a red border. The browser address bar at the top right shows: área de trabajo biblioteca de diseños design store cfr.vigo.tic1@edu.xunta.gal

Software Mr Beam

Biblioteca de diseños



The screenshot shows the Mr Beam design library interface. At the top left, there is a search bar with the text "Buscar...". Below it, the "Ordenar" (Sort) section has three options: "Nombre (ascendente)", "Fecha de carga (descendente)" (selected), and "Tamaño de archivo (descendente)". The "Filtro" (Filter) section has three options: "Archivos de diseño" (selected), "Archivos GCode", and "Trabajos recientes". A "Subir" (Upload) button is located below the filter section, with a "Libre: 3.6GB" indicator. A suggestion text reads: "Sugerencia: También puedes arrastrar y soltar archivos en la página para subirlos." The main area displays a grid of design thumbnails. Two folders are visible at the top: "Pruebas" and "Puzzles". The grid contains eight thumbnails, each with a title and a menu icon (three horizontal lines):

- plantillaProbaDM.svg
- plantillaProbaCarton.svg
- Prueba_inkscape1.svg
- Zeus_cabo_Artemisio_(Museo_arqueol...
- Zeus_cabo_Artemisio_(Museo_arqueol...
- Puzle_zapatos.svg
- Corte_abanico.svg
- Varial_exterior_para_CAFI.svg

Configurar parámetros corte e gravado

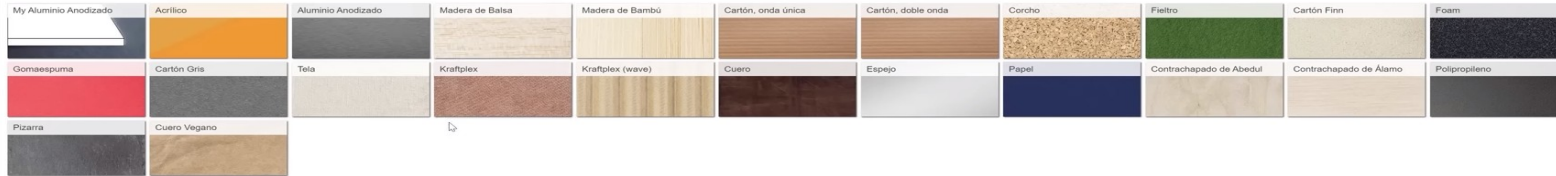
Configuracións de corte/gravado

Seleccionamos o material, cor e grosor no aplicativo de Mr Beam

Material

ⓘ Estas configuracións predeterminadas son solo una guía, es posible que tengas que ajustarlas a tu propio material.

Material ☑ Configurar materiales



Seleccionamos velocidade, potencia e número de pasadas para cada operación

Material

ⓘ Estas configuracións predeterminadas son solo una guía, es posible que tengas que ajustarlas a tu propio material.

Material: Color: Grosor:

⚠ Ten cuidado con las igniciones. ¡Nunca realices un trabajo a menos de 180 mm/min!

📄 info

Asignación de parámetros

Omitir
Drag out and engrave symbols on this row to skip them.

Grabado

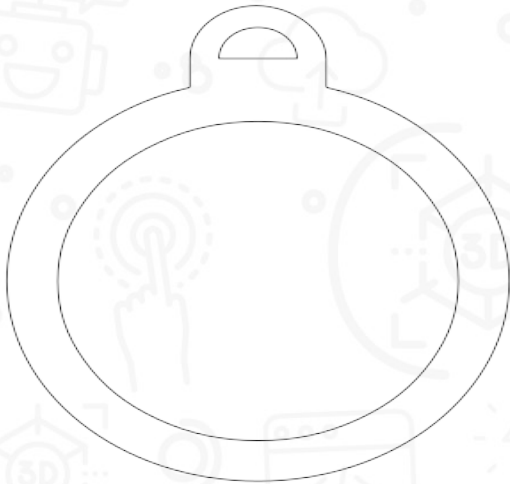
Rango de intensidad: %
Rango de velocidad: mm/min
Compresor: min max

Corte1

Intensidad: %
Velocidad: mm/min
Compresor: min max
Pasadas:

Proxectos de exemplo

Exemplos Inkscape



Bola nadal



Bernando

Logo



Imaxe SVG.repo



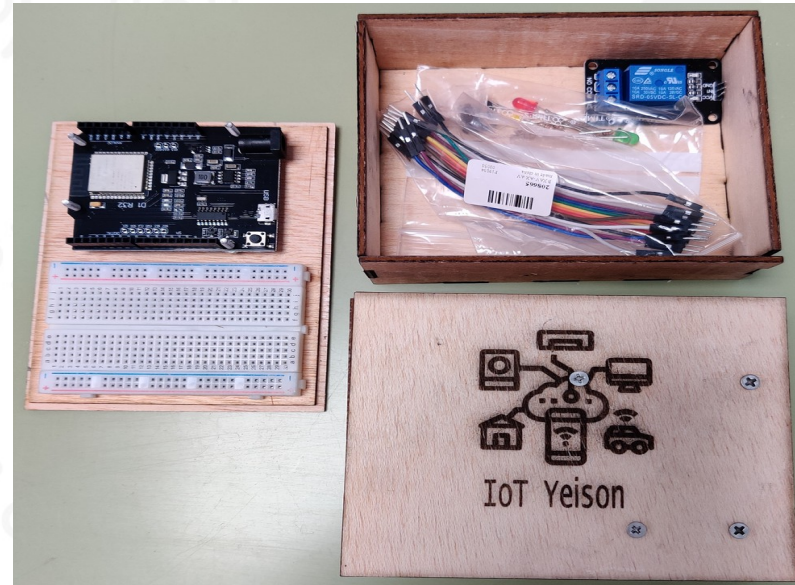
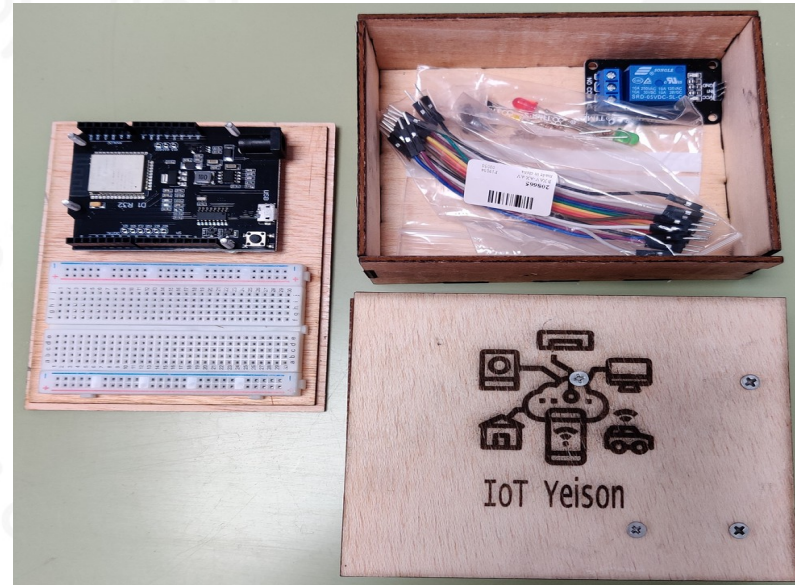
XUNTA
DE GALICIA

POLOS CREATIVOS

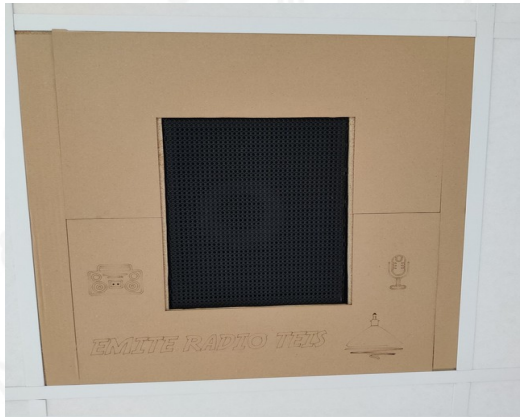
Exemplos



Exemplos



Exemplos



Exemplos

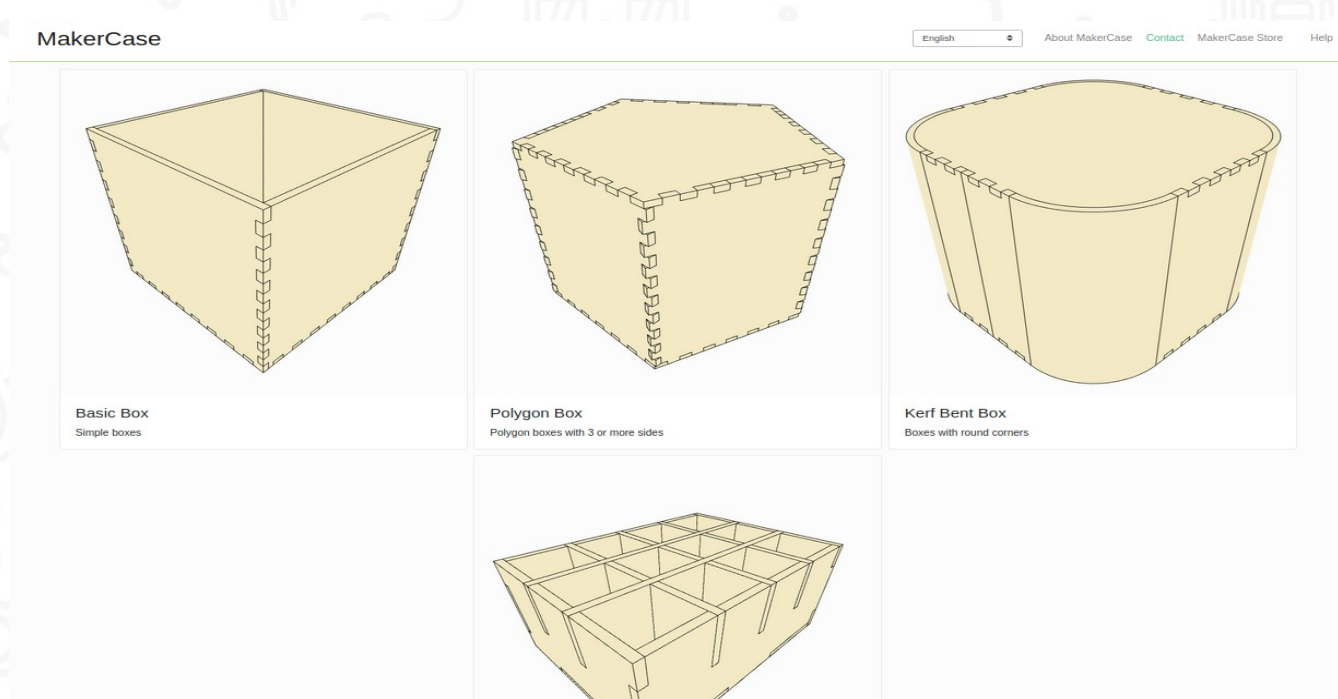


Exemplos





Makercase

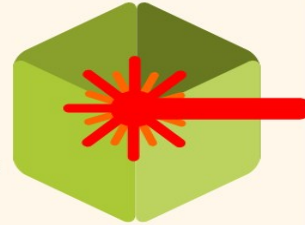


Boxes.py

BOXES.PY

Create boxes and more with a laser cutter!

Boxes.py is an Open Source box generator written in Python. It features both finished parametrized generators as well as a Python API for writing your own. It features finger and (flat) dovetail joints, flex cuts, holes and slots for screws, hinges, gears, pulleys and much more.



- ▶ Boxes
- ▶ Boxes with flex
- ▶ Trays and Drawer Inserts
- ▶ Shelves
- ▶ WallMounted
- ▶ Hole patterns
- ▶ Parts and Samples
- ▶ Misc
- ▶ Unstable





Templatemaker

about contact help follow me privacy license

Bag

Heart Shaped Box

Polygonal Box

Tube-shaped (or prismatic), polygonal box with assueted, integrated lid.



Puzles

<https://gists.rawgit.com/Draradech/35d36347312ca6d0887aa7d55f366e30/raw/b04cf9cd63a59571910cb226226ce2b3ed46af46/jigsaw.html>

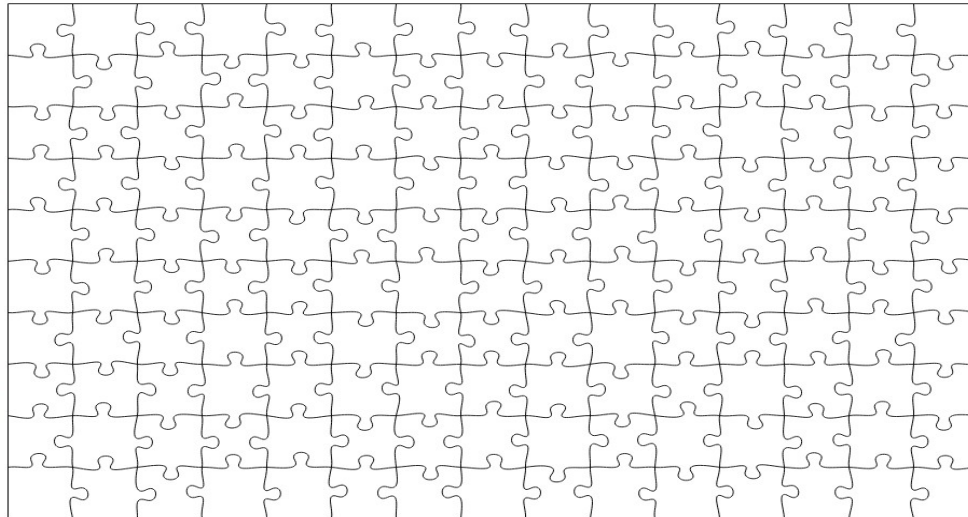
Seed:

Tab Size:

Jitter:

Tiles: x

Size: x mm [Download SVG](#)





Creador de labirintos

<https://adashrod.github.io/LaserCutMazes/welcome>

Laser-Cut Maze Designer

Home Maze Designer Help About

Welcome to the Laser-Cut Maze Designer, by Aaron Rodriguez

With this tool and a laser cutter such as a Glowforge or an Epilog, you can create your own wooden toy maze. You can then assemble it and play with it by rolling around a small marble through the hallways.

Laser-Cut Maze Designer

Get started here

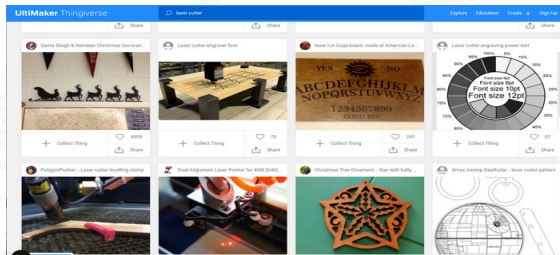
© 2018 Aaron Rodriguez

Home Maze Designer Help About

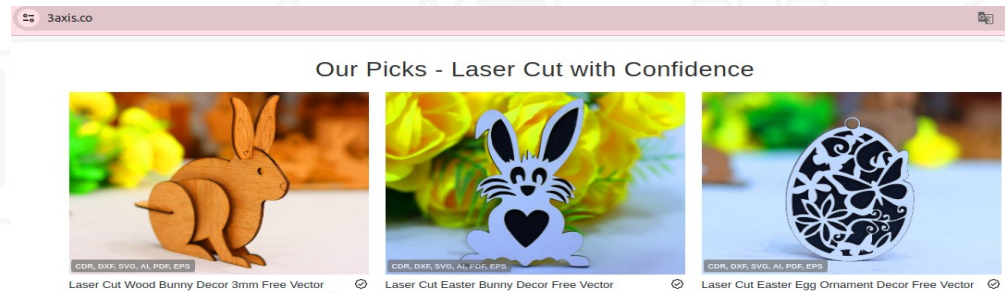
The screenshot displays the website for 'Laser-Cut Maze Designer'. At the top, there is a navigation bar with 'Home', 'Maze Designer', 'Help', and 'About' links. Below the navigation bar, a central video player shows a person interacting with a wooden maze on a checkered floor. To the left of the video, there is a list of maze components, each labeled with a number (e.g., 10, 7, 5, 2, 1). To the right, there is a detailed view of the maze's internal structure. The website footer includes the copyright notice '© 2018 Aaron Rodriguez' and a secondary navigation bar with 'Home', 'Maze Designer', 'Help', and 'About' links.

Repositorios

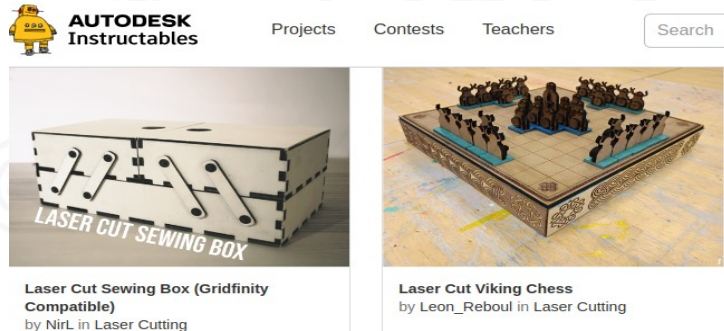
<https://www.thingiverse.com/>



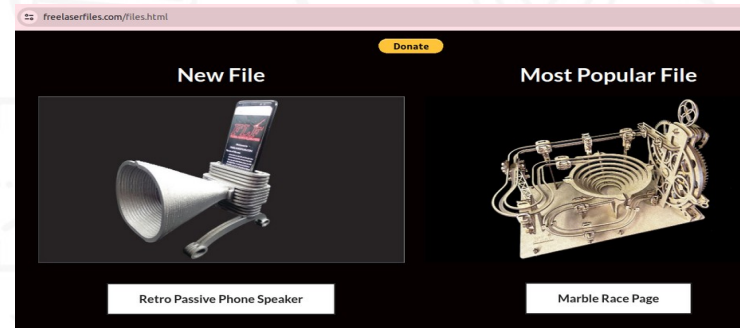
<https://3axis.co/>



<https://www.instructables.com/>



<https://www.freelaserfiles.com/files.html>



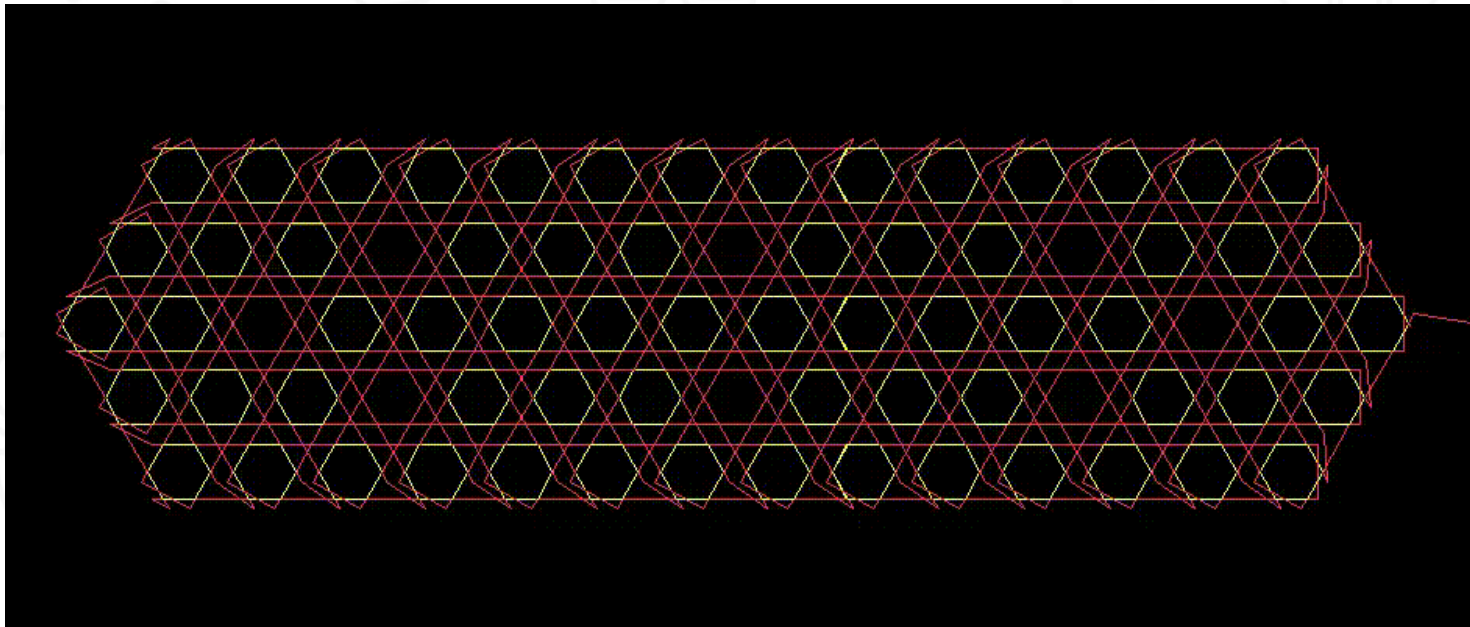
Mantenimento

- % de uso de cada compoñente
- Cambio filtro
- Limpeza de cabezal

Videotitoriais

- [Lista de reprodución para a posta en marcha](#)
- Posta en marcha da cortadora, en español:
https://youtu.be/_HICnjCpURY?feature=shared
- Luces de estado <https://youtu.be/x9lSeUrsznk>
- Enfoque
 - <https://youtu.be/oj5ietr3-xQ>
 - https://youtu.be/_4Tl4ZxrrkY

Ánimo e ao Láser



Source: https://www.jetcam.net/images/jet-cut_gif.gif. CC BY-SA 4.0