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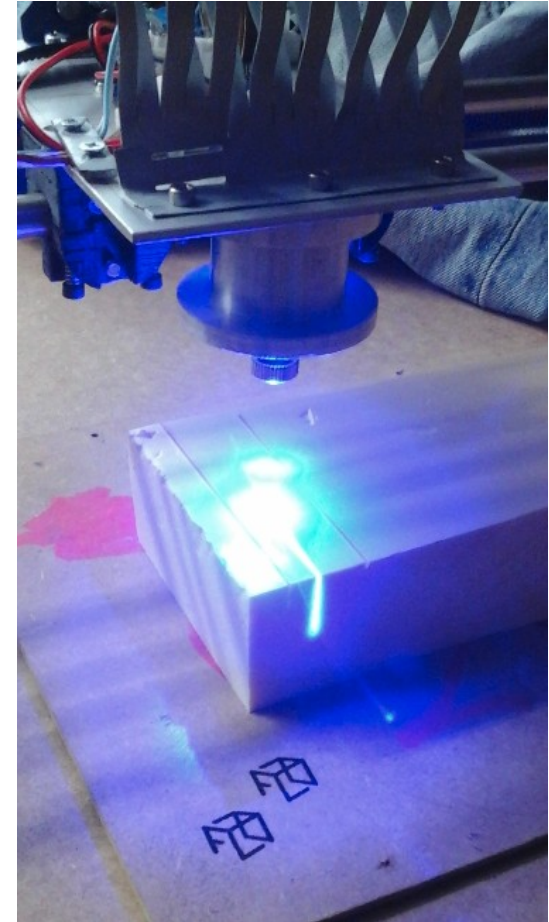
Taller Grabado láser

<https://www.youtube.com/watch?v=Sb8SAIcZjOQ>

<https://www.youtube.com/watch?v=5qdzF8TaEHY>

Esta presentación y las extensiones inkscape:

http://fablabsantander.org/files/talleres/grabado_laser/grabado_laser.zip



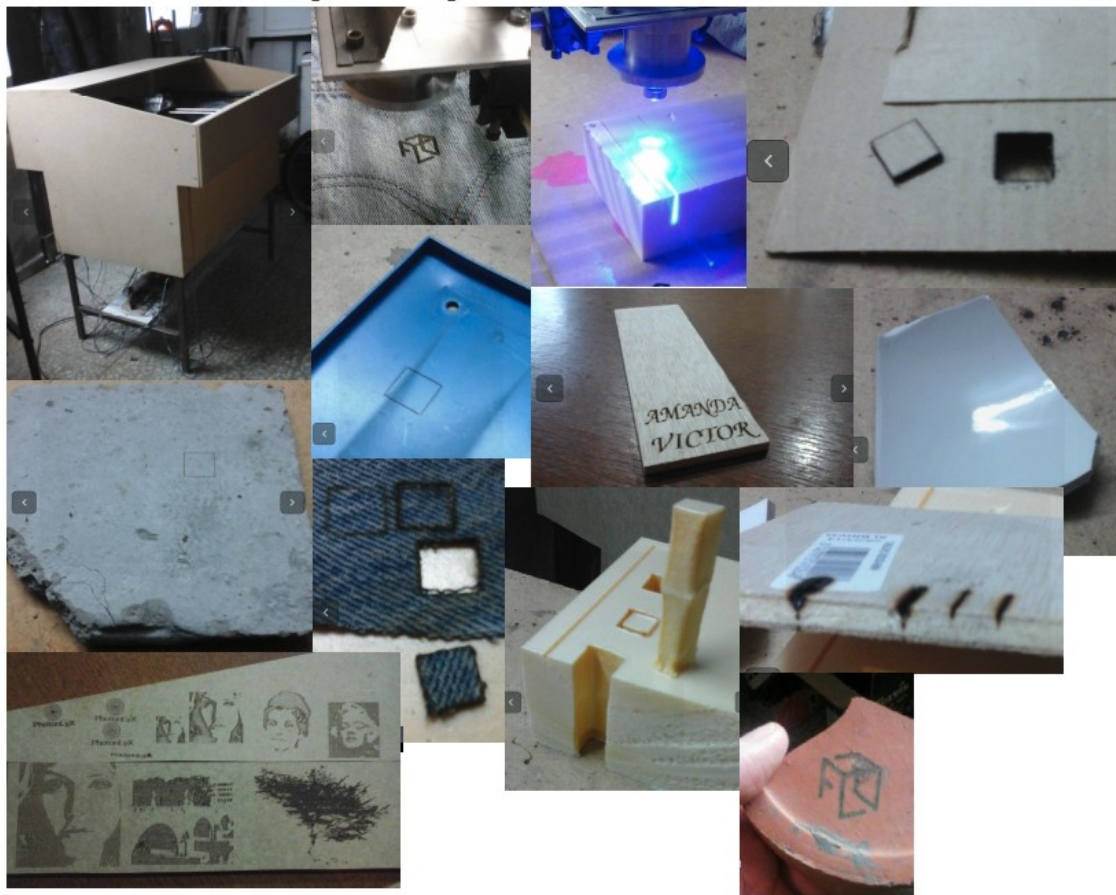
Grábado láser



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Materiales



Madera, tela, cartón, papel, goma eva, cuero, cerámica, etc

Grábado láser

Based on 9mm 445nm
Laser Diode

Material	Thickness	Cut ¹	Engrave ¹	Comment
Paper Tests				
Paper (any color)		Yes	Yes	Tested up to 220 GSM White.
Card (any color)		Yes ³	Yes	
Brown Paper	0.3mm	Yes	Yes	Cut. One pass.
White Business Card	0.4mm	Yes	Yes	Cut. One pass.
Corrugated cardboard	3.8mm	Yes	Yes	Cut. One pass. (2 sided cardboard)
Grey Card (notebook)	0.88mm	No ³	Yes	2 passes almost cut through.
Wood Tests				
Bass wood	1.45mm	Yes	Yes	Cut. One pass.
Walnut	1.51mm	No ³	Yes	2 passes almost cut through.
Balsa	5mm	Yes	Yes	Cut. One pass.
Plywood (3 ply dense)	0.5mm	Yes ³	Yes	Cut. Two passes.
Plywood (3 ply light)	2.8mm	Yes	Yes	Cut. One pass.
Foam Tests				
Foam Core (Black)	5.5mm	Yes	Yes	Cut. One pass.
Foam (LD45 Black)	5.2mm	Yes	Yes	Cut. One pass.
Foam (LD45 Black)	10.4mm	Yes	Yes	Cut. One pass. (kerf increased with depth)
Blue Foam	3mm	Yes	Yes	Cut. One pass. (kerf increased with depth)
Metal Tests				
Brass (masked)		No	No	No effect.
Anodised Aluminium		No	Yes	Lightens anodisation (See pic)
Copper circuit board		No ²	No	No effect.
Plastic Tests				
Acrylic (clear)	2mm	No	Yes	Cuts through but rejoins.
Acrylic (clear)	1.5mm	No ²	Yes	Cuts through but rejoins.
Acrylic (white)	2mm	Yes	Yes	Cut. One pass.
Acrylic (black)	3mm	No	Yes	2 passes. Didn't cut through
Corrugated Plastic (black)	2.1mm	Yes	Yes	Cut. One pass.
Mylar (white)	0.35mm	No	Yes	Marks surface but does not cut through.
Mylar (white)	0.35mm	Yes ^{2,4}	Yes	Cut edge not clean. Needs experimentation.
Styrene (white)	1.5mm	No	Yes	Not successful.
Styrene (black)	1.5mm	Yes	Yes	Cut. One pass.
Other Material Tests				
Cork sheet	2.9mm	No	Yes	Engraves but doesn't cut well.
Kevlar	1.8oz	Yes	No	Cut. Two passes.
Leather	2mm	Yes	Yes	Cut. Two passes.
Glass		No	No	Dangerous. Reflective
Thermark Tests				
Aluminium	1mm		No	No bonding.
Aluminium	0.41mm		No	No bonding.
Pewter			No	No bonding.
Stainless steel shim	0.1mm		Yes ⁴	Bonded

Warning: Laser cutting produces fumes. With certain materials, such as plastics, these fumes may be toxic or damage the LazerBlade. Proper ventilation is essential. Details can be found in our operation instructions.

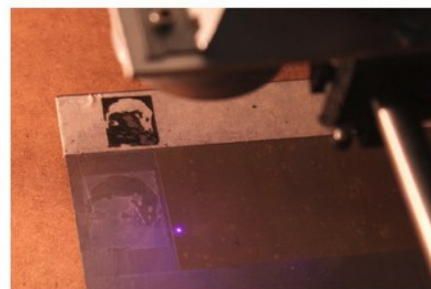
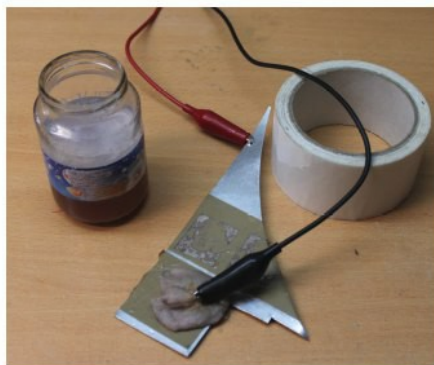
1. density, color and thickness of material will affect results.
2. with masking (the process of laying a thin dark material or coat paint over surface)
3. multiple or front & back passes may be required.
4. mixed success.



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Gravar metal



Grábado láser

Programas que se usan

- Inkscape con los modulos
 - Escaneo (photos, iconos)
 - Trazo/corte con dibujos vectoriales
- CableRap para retratos y grabados de fotos en plan artistico

Configurar inkscape

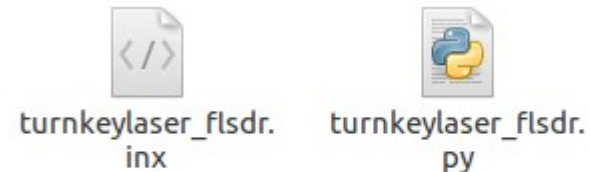
Hay que instalar la extensiones de inkscape aquí:

Linux: /usr/share/inkscape/extensions/

Windows: C:\Program Files\Inkscape\share\extensions

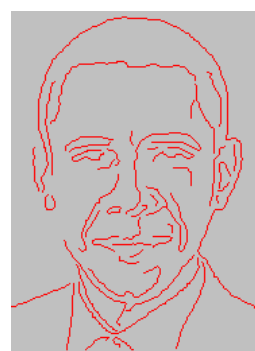
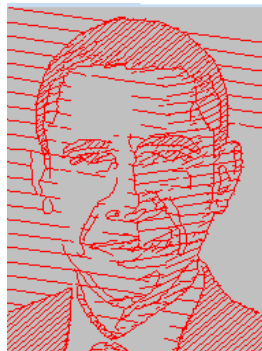
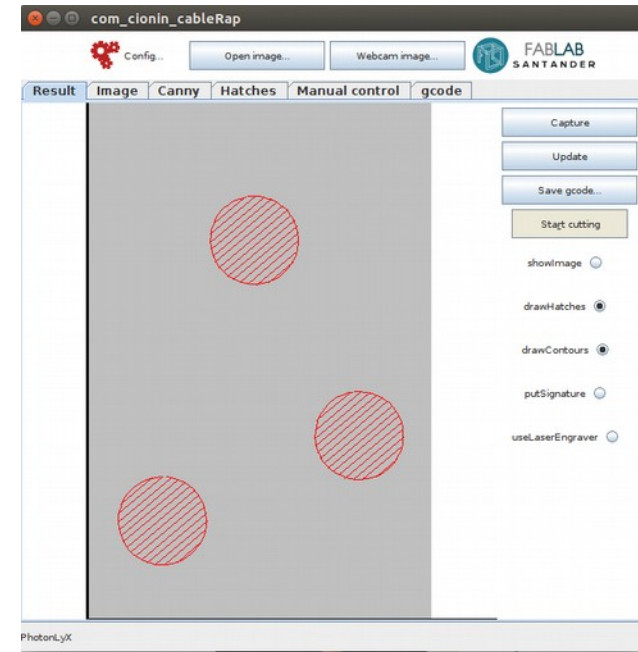
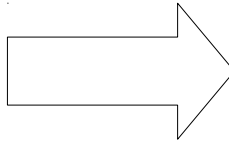
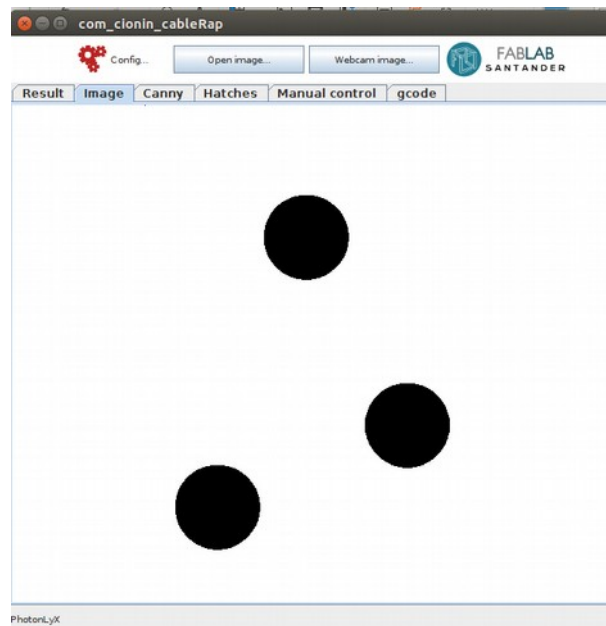
turnkeylaser_flldr.inx turnkeylaser_flldr.py

He modificado estas extensiones para la grabadora que funciona con GRBL:



Usar CableRap

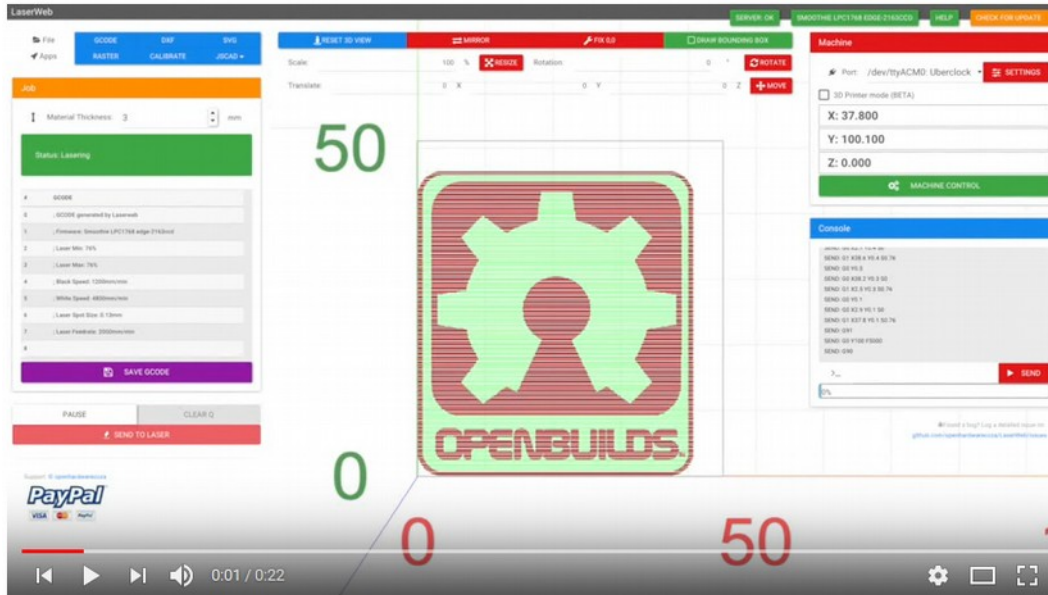
Cable esta pensado para un “plotter” pero le he adaptado para grabar con laser.



Grábado láser

Laserweb de Openbuilds

Node.js (javascript)



A estudiar....

Grábado láser



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A gravar !