

Introduction to CO2 Laserable Materials

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Laserable Materials

CO2 - 10,600 μ m

- Wood
 - Plywood
 - MDF
 - Massive wood
 - ...
- Plastics
 - Acrylic
 - Derlin/POM
 - Rubber
 - ...
- Textiles
 - Fabric
 - Cloth
 -
- Paper based
 - Cardboard
 - Paper
 -

NOT Laserable Materials

(toxic/damage the machine etc)

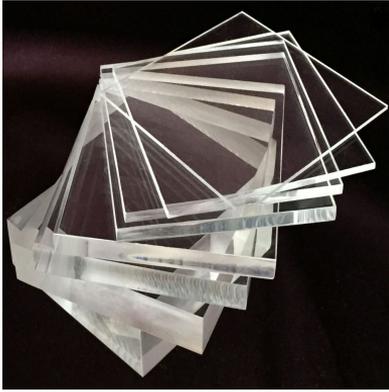
- Leather and artificial leather that contains chromium (VI)
- Carbon fibers (Carbon)
- Polyvinyl chloride (PVC)
- Polyvinyl butyrale (PVB)
- Beryllium oxide
- Any materials containing halogens (fluorine, chlorine, bromine, iodine and astatine), epoxy or phenolic resins

Additional material libraries:

https://dallasmakerspace.org/wiki/Laser_Cutter_Materials

<https://www.epiloglaser.com/how-it-works/laser-material-compatibility.htm>

Acrylic (Poly Methyl Methacrylate or PMMA)

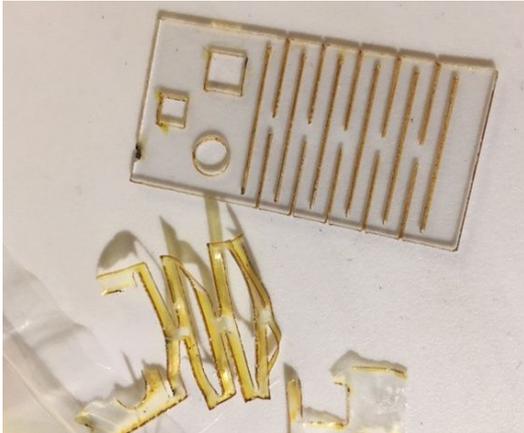


Pros of Cast Acrylic	Pros of Extruded Acrylic
<ul style="list-style-type: none">• Greater range of thickness• Lightweight and rigid• Low water absorption• Excellent optical properties• Good electrical and UV resistivity• Excellent resistance to long-term exposure to sunlight and weather	<ul style="list-style-type: none">• Thermoformable• Cheaper than cast acrylic• Excellent optical properties• More impact resistant than glass• Good electrical and UV resistivity

Unlabeled plastic sheets - How to identify them?

<https://www.mtec.or.th/wp-content/uploads/2018/04/Polymer-Identification.pdf>

https://www.ehow.co.uk/how_8674192_identify-acrylic-polycarbonate.html



Laser cut plastics testing:

<https://www.neverstopbuilding.com/blog/laser-cutter-plastics-testing>

Medium Density Fiberboard - MDF



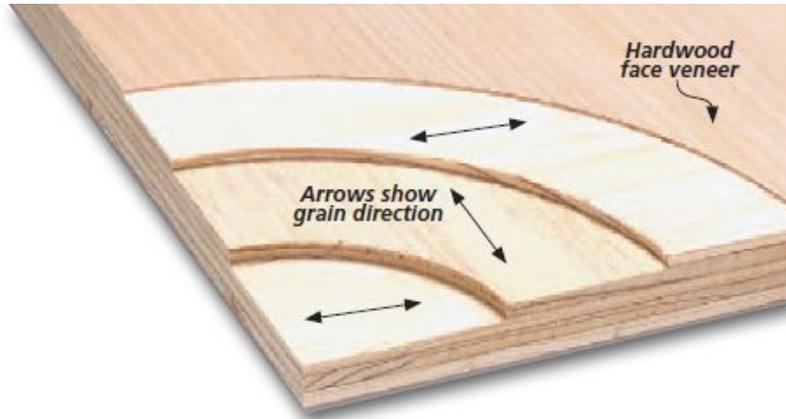
HDF=stronger and more water resistant MDF



Plywood



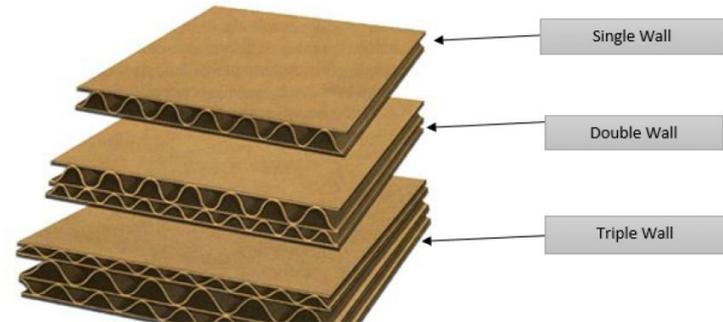
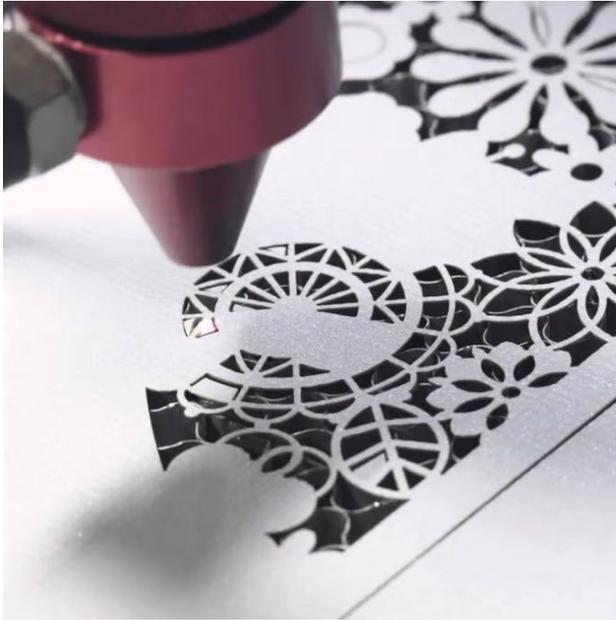
Poplar Plywood=very light,
cheap, easy to cut cleanly



POM - (Polyoxymethylene)

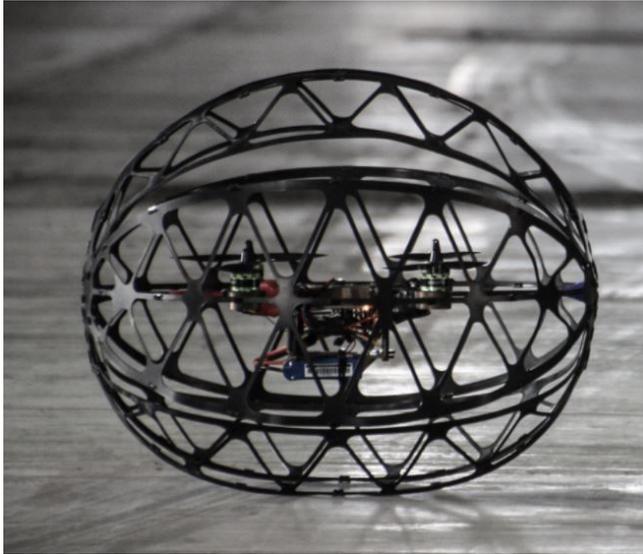


Paper and Cardboard



And many others...!

Polypropylene 0.8mm



Marking of marble:



Textiles:

