

CORRUGATED SHEETS

Fab Lab Tulsa

For:
2D Design

Machine:
Laser Cutter

Thickness:
.125"

Color Options:
Brown



Material Profile

Description

Single walled corrugated cardboard

Design Notes

Brown cardboard finish with visible corrugations. Large simple shapes work best. Cardboard has a high thickness tolerance. Raster engraving is possible although not recommended. Some burning marks will be visible on one side of the material.

Typical Uses

Packaging and prototyping

Environmental Info

100% recyclable

Adhesives, Joints, and Fastenings

Can be easily joined with a wide range of glues and tapes or with slotted joints.

HARDBOARD SHEETS

Fab Lab Tulsa

For:
2D Design

Machine:
Laser Cutter
ShopBot

Thickness:
.125"

Color Options:
Natural



Material Profile

Description

Hardboard is a particle board formed from wood fiber pulp produced by refining wood chips. Wood fibres and bonding agents are hot pressed in sheet form into high density panels.

Design Notes

Hardboard is a dark brown, lightweight, strong and durable, high density wood fibre panel product with a smooth finish on both sides.

Typical Uses

Great for use in general construction, floor overlays or furniture.

Environmental Info

Unlike other composite wood panels that utilize formaldehyde based resins to bind fibers together, hardboard only uses natural ingredients which makes it an environmentally friendly, green product.

Adhesives, Joints, and Fastenings

Construction adhesives will bond boards well. Follow the adhesive manufacturer's instructions for application processes. Screw joints should be pre-drilled to avoid splitting.

ACRYLIC SHEETS

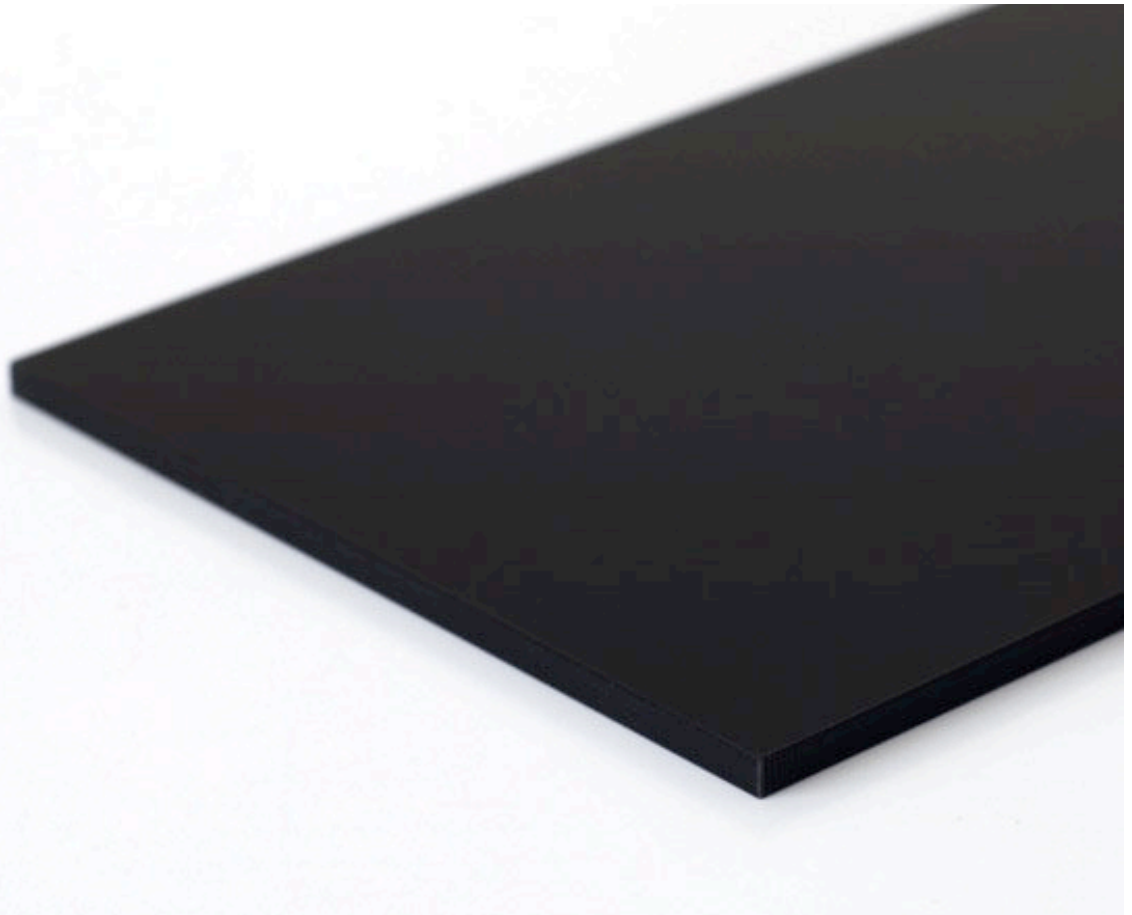
Fab Lab Tulsa

For:
2D Design

Machine:
Laser Cutter
ShopBot

Thickness:
.125"
.250"

Color Options:
Clear
Black
Blue
Red
Green
Yellow
White



Material Profile

Description

Acrylic is a thermoplastic

Design Notes

Acrylic is hard and stiff for a plastic. It is sensitive to stress concentrations sharing a certain fragility with glass. This is most evident if parts are small or thin. Details should not be smaller than 0.04" as they are likely to be too fragile. Acrylic retains detail when laser cut and engraves well. Adding radii to corners can reduce the risk of breaking. Acrylic has a thickness tolerance of +/-15% of the material thickness. It can scratch easily and should be cleaned with a mild solution of dish detergent and warm water. Never clean with other cleaners not suitable for acrylic or with a dry cloth.

Typical Uses

Acrylic is commonly used as signage, glazing and in building applications, sale displays, display cabinets, machine guards, furniture inserts, aquariums, jewelry and tableware, and more!

Environmental Info

Acrylic is non toxic and recyclable in some areas.

Adhesives, Joints, and Fastenings

Acrylic can be joined with epoxy, Weldon 3, 16 and 40, dichloromethane and chloroform. Screw joints should be pre-drilled to avoid splitting.

"Materials." Ponoko. February 22, 2011 <<http://www.ponoko.com/make-and-sell/materials>>

RUBBERBLOCKS

Fab Lab Tulsa

For:
2D Design

Machine:
Laser Cutter

Thickness:
.250"

Color Options:
Natural



Material Profile

Description

A pink eraser-like material that is flexible, durable, and will not crack, crumble, or break.

Typical Uses

Custom stamps.

Adhesives

Look for a product called "Goop" (either Plumber's Goop or Household Goop), or a silicon adhesive (such as made by GE). These are water-resistant and temperature-resistant, and will bond different textured surfaces quite well. These adhesives are flexible, so they "give" a bit when stressed instead of pulling apart.

CALENDARED VINYL

Fab Lab Tulsa

For:
2D Design

Machine:
Vinyl Cutter

Area
15" x 50yds
24" x 50yds

Thickness:
3.2mm

Color Options:

Black
White
Red
Blue
Green
Yellow



Material Profile

Description

An intermediate flexible, high gloss calendared vinyl

Design Notes

- Medium durability and outdoor performance (up to 5 years)
- Dimensionally stable liner for easy converting
- High gloss finish
- Permanent clear Acrylic adhesive
- Excellent conversion on CAD plotters
- Easy cutting & weeding
- Good dimensional stability
- Good UV, temperature, humidity, and salt-spray resistance

Typical Uses

Trucks, Trailers, Cars & Vans, Banners, Architectural Signage, Directional Signage, Trains & light rail Buses, Outdoor advertising. It can also be used for Silk Screening and Stenciling.

Environmental Info

100% recyclable

MACHINABLEFOAM

Fab Lab Tulsa

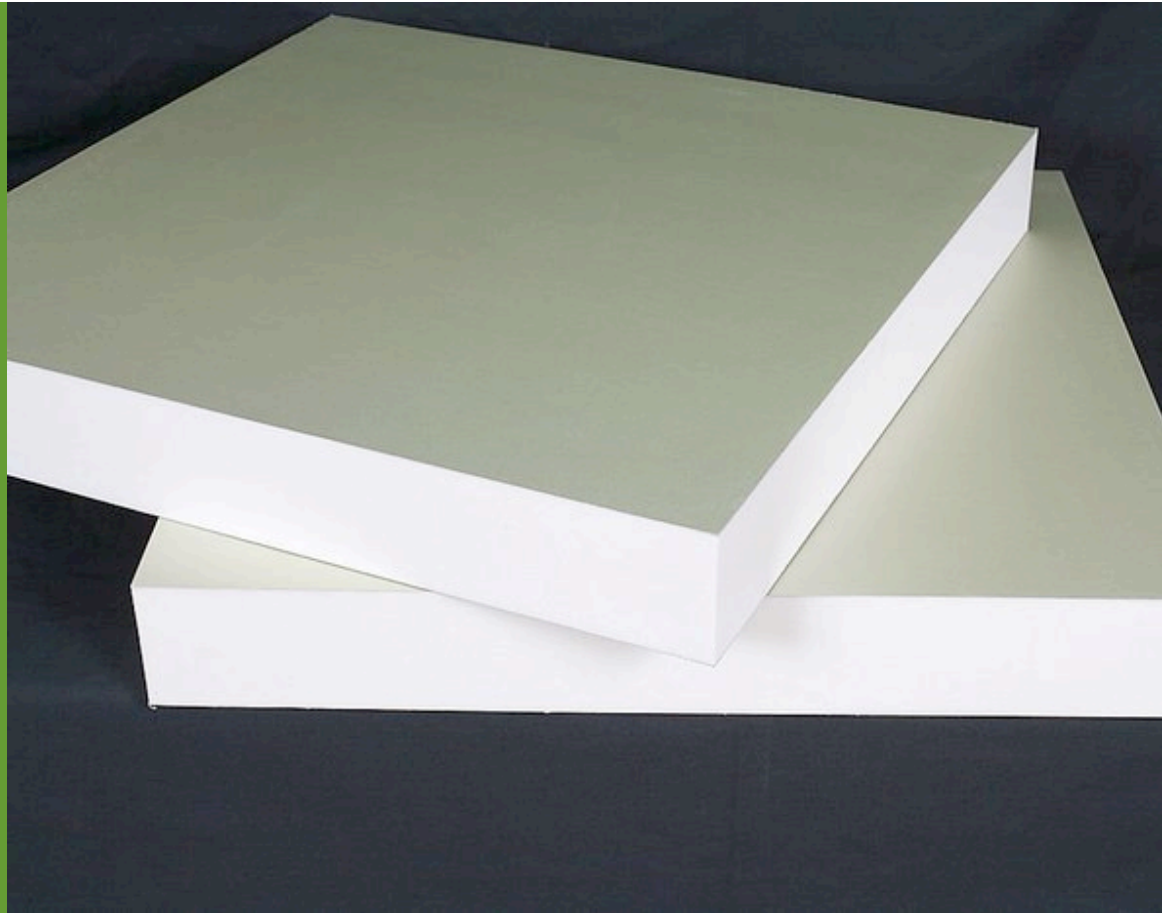
For:
3D Design

Machine:
ShopBot
Mini-Mill

Dimensions:
1" x 6" x 4"
1" x 6" x 8"
* 2" x 6" x 4"
* 2" x 6" x 8"

* Layered From 1" Blocks

Color Options:
Cream



Material Profile

Description

Ultra-Machinable High-Strength Urethane Foam.

Design Notes

Suitable for the most demanding thin-wall prototyping, this material can be sanded and is virtually nonabrasive. Tolerance on all dimensions is +1". Density is 48 lbs./cu. ft., hardness is Shore D63, and softening point is 248° F. All dimensions have a $\pm 1/8$ " tolerance.

Typical Uses

Machinable Foam can be used to produce accurate molds and prototypes. Use for prototypes where a grain-free material is desired. It can be bonded with epoxy, super glue, contact cement, or polyurethane and acrylic adhesives.

Environmental Info

100% recyclable

MACHINABLEWAX

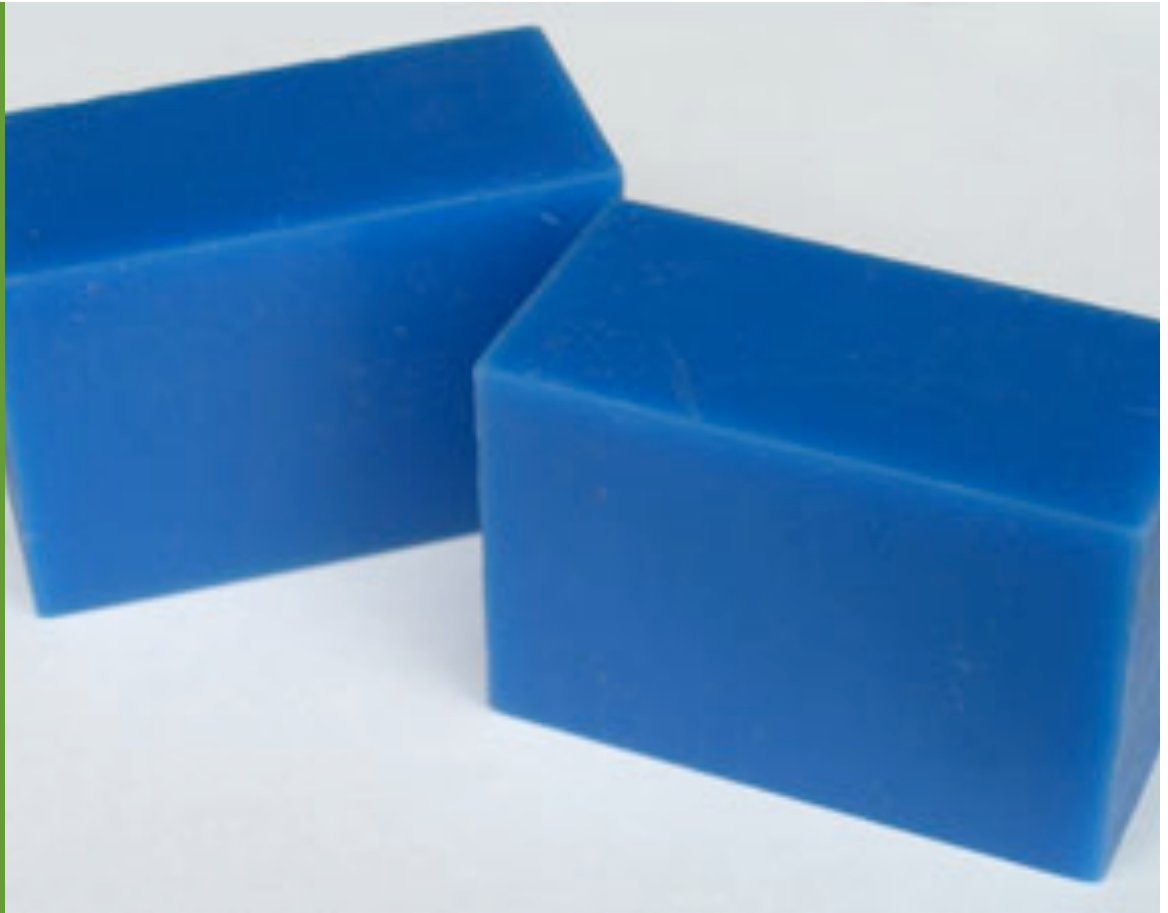
Fab Lab Tulsa

For:
3D Design

Machine:
Mini-Mill

Dimensions:
1.25" x 3.5" x 12"

Color Options:
Blue
Purple



Material Profile

Description

Nonabrasive wax.

Design Notes

Extremely hard, hybrid plasticized wax blend. It can be turned, milled, drilled, tapped, carved, and sawed easily without tool wear. Softening point is 222° to 244° F. Hardness is Shore 50D-52D. All dimensions have a $\pm 1/8$ " tolerance.

Typical Uses

Machinable Wax can be used to produce accurate molds and prototypes

Environmental Info

100% recyclable

MDFSHEETS

Fab Lab Tulsa

For:
2D Design

Machine:
ShopBot
Mni-Mill

Thickness:
.750"

Color Options:
Natural



Material Profile

Description

A particle board pressed into a panel with the addition of resin and wax

Design Notes

MDF has a smooth sanded finish. It is sensitive to moisture.

Typical Uses

MDF is typically used joinery and furniture applications

Adhesives, Joints, and Fastenings

Construction adhesives or wood glues will bond boards well. Follow the adhesive manufacturer's instructions for application processes. Screw and nail joints should be pre-drilled to avoid splitting particularly near the edge.

PARTICLEBOARD SHEETS

Fab Lab Tulsa

For:
2D Design

Machine:
ShopBot
Mni-Mill

Thickness:
.750"

Color Options:
Natural



Material Profile

Description

Engineered wood manufactured from wood particles, such as wood chips, sawmill shavings, or saw, and a synthetic resin or other suitable binder, which is pressed and extruded.

Design Notes

Particle Board can potentially warp which can affect the flatness of parts. It is sensitive to moisture.

Typical Uses

Home furnishings such as shelving, entertainment centers and bookcases.

Adhesives, Joints, and Fastenings

Construction adhesives and wood glues will bond boards well. Follow the adhesive manufacturer's instructions for application processes. Screw and nail joints should be pre-drilled to avoid splitting particularly near the edge.

MACHINABLE PCB

Fab Lab Tulsa

For:

Circuit Board
Design

Machine:

Desktop CNC

Thickness:

.062"



Material Profile

Description

FR1 copper clad laminated sheet

Design Notes

FR1 has a TG (glass transition temperature) of 130-degrees

Typical Uses

Machinable PCB can be used to create circuit boards