



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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# FILL UP ON FILAMENT

LulzBot offers a multitude  
of 3D printing materials.





**Print with more materials than other desktop 3D printers.**

LulzBot TAZ 3D printers allow you the freedom to print with much more than your run-of-the-mill plastic. Polycarbonate, stone, high impact, rubber-like, translucent, glow in the dark, water soluble, wood – it's all good. More filament variety means more options, maximizing the value, utility, and longevity of your 3D printer.

**PLASTIC, STONE, OR WOOD – IT'S ALL GOOD.**

# PLA – POLYLACTIC ACID

Thermoplastic aliphatic polyester derived from renewable resources, like plant-based starches.

- » Transitions quickly from liquid to solid
- » Biodegradable with a pleasant, sweet odor
- » Sticks to almost any bed surface

**PLA** is one of the most commonly used 3D printing materials. It's affordable and easy to use. It adheres to itself well, so high printing speeds are possible. PLA is susceptible to heat and is not ideal for a high temperature environment, such as long term outdoor use.



Available sizes: 3mm; 1kg reel

Available in these colors:



## PLA 3D printer settings:

Extrusion temperature: 175-200°C. Bed temperature: 45-70°C.

PLA will stick well to the Lulzbot bed, and ABS/acetone glue or painter's tape will help keep larger parts stuck down. PLA tends to ooze a bit more, so it will require longer retraction lengths.

Download Slic3r settings  
for LulzBot TAZ.



# ABS – ACRYLONITRILE BUTADIENE STYRENE

The most commonly used thermoplastic.

- » Prints well on PET film with a light acetone/ABS top coat
- » Can be recycled
- » Used to make anything from musical instruments to automotive components

ABS adheres well, so high printing speeds are possible. We use this material – think LEGO or the plastic used to make kids' lunchboxes – to make almost every plastic component on LulzBot 3D printers because of its ease of printing and resistance to high temperatures.



**Available sizes:**  
3mm; 1kg and 5lb reels

**Available in these colors:**



**ABS 3D printer settings:**

Extrusion temperature: 225-230°C.

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for LulzBot TAZ.*



# LAYBRICK

Mineral-based filament.

- » Prints easily, similar to PLA
- » Ideal for architectural models because of near-zero warping
- » Can have a smooth finish or a rough texture based on the extrusion temperature

**LayBrick** contains superfine milled chalk and is brittle compared to other 3D printer filaments. Objects made with LayBrick are paintable and grindable and do not need to be printed on a heated bed.



Available sizes: 3mm; .25kg coil

Available in these colors:



**Laybrick 3D printer settings:**

Extrusion temperature: 185-215°C.

Higher temperatures producing a rough, sandstone-like texture.

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for LulzBot TAZ.



# HIPS – HIGH IMPACT POLYSTYRENE

Easy-to-print and low-warp filament.

- » Easy to paint and glue
- » Great for printing lightweight parts
- » Frequently used for pre-production prototypes because of its dimensional stability

**HIPS**, affordable and versatile, is one of our lightest materials. It's very similar to ABS in its printing properties.

 **HIPS 3D printer settings:**  
Extrusion temperature: 220C-230°C).  
Bed temperature: 50-60°C.

*Download Slic3r settings  
for LulzBot TAZ.*



**Available sizes:** 3mm; 1kg reel

**Available in these colors:**



# POLYCARBONATE

Incredibly strong polymer.

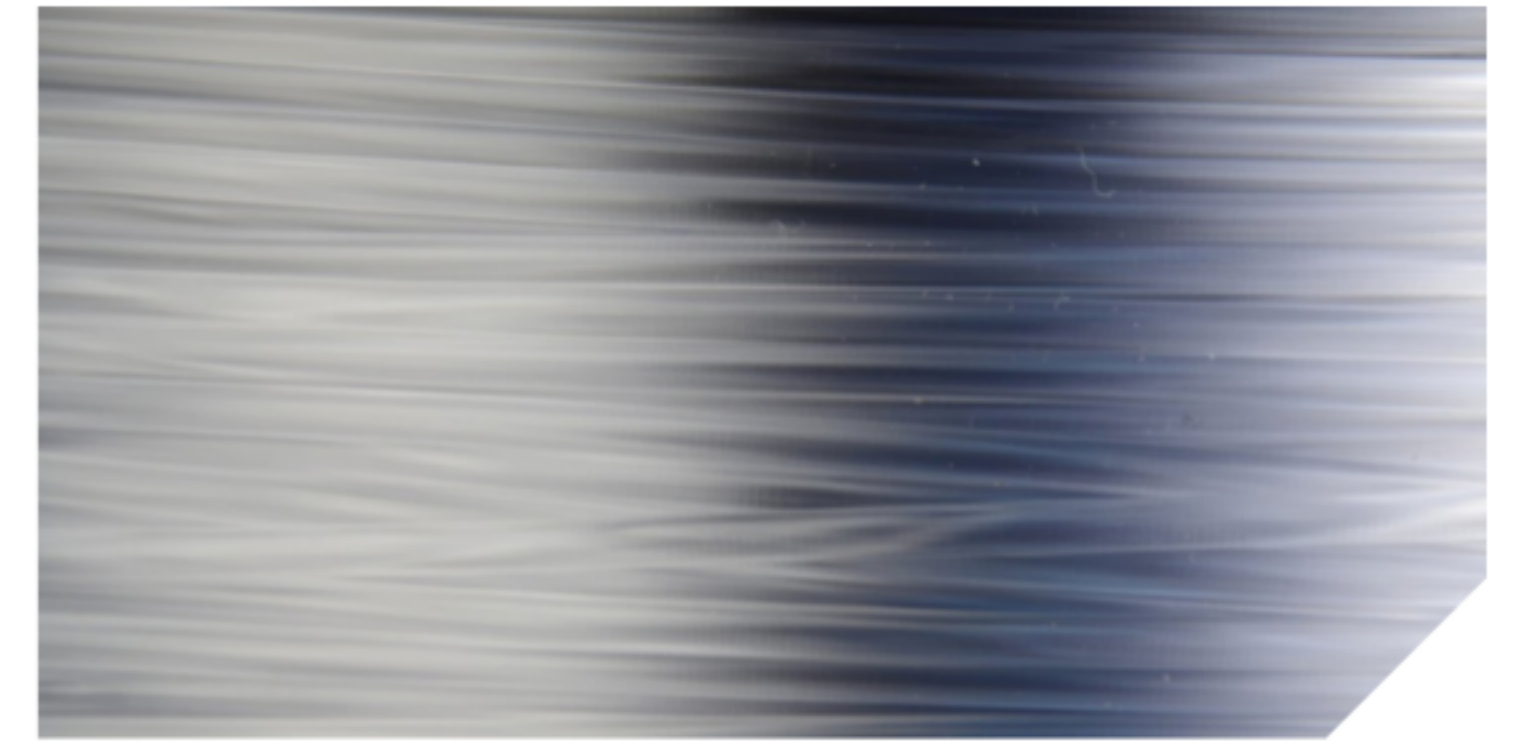
» Impact and temperature resistant

**Polycarbonate** is so strong it's used in the making of bulletproof glass. This filament can print with modifications to the Budaschnozzle hot end.

 **Polycarbonate 3D printer settings:**  
Extrusion temperature: 300°C.

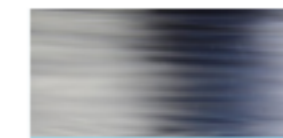
With modifications to the hot end, it can safely extrude and print.

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for LulzBot TAZ.*



**Available sizes:** 3mm; 1kg reel

**Available in these colors:**





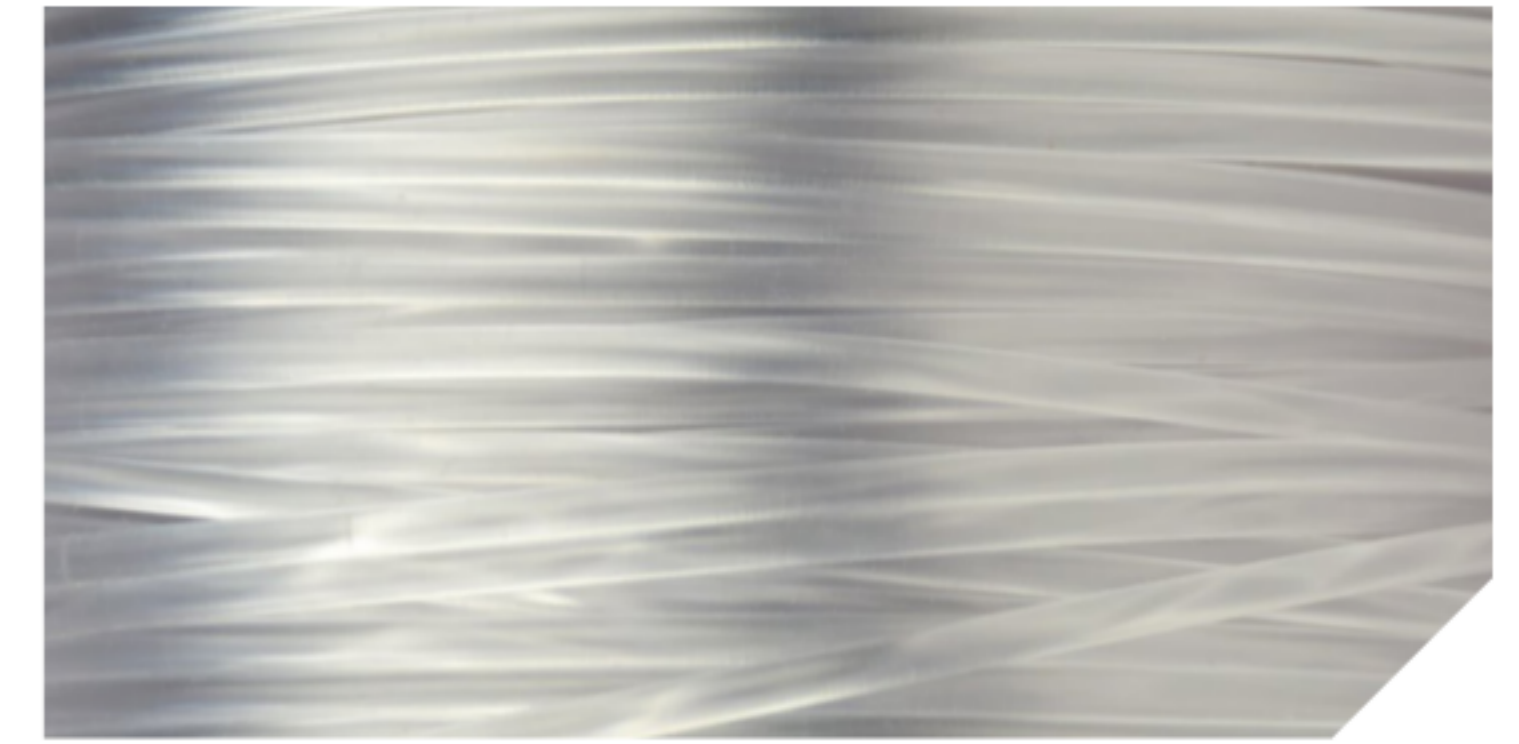
# T-GLASE (PETT)

Clear, flexible material.

» Ideal for printing large, flat surfaces

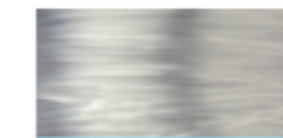
» Has impressive bridging capabilities


**T-Glase** (Tee glass) is made of high-strength polyethylene terephthalate polymer (PETT) and is nearly identical to the material used to make plastic bottles. T-Glase prints easily onto acrylic, glass, and PET film and doesn't degrade at extrusion temperature. T-Glase is a more physically flexible alternative to translucent PLAs for LED covers and other lighting needs.



**Available sizes:** 3mm; 1 lb reel

**Available in these colors:**



 **T-Glase 3D printer settings:**  
Extrusion temperature: 212C-230°C).

Print speed and part clarity depend on extrusion temperature, so print at 212°C and slow (25mm/s) speeds for clearer parts, or bump the extrusion temperature up to 230°C to allow print speeds around 50-60mm/s.

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for LulzBot TAZ.



# LAYWOO-D3

A mixture of recycled wood fibers and polymer binders.

- » Can be made to appear rough or be easily sanded smooth
- » Paintable, grindable, carvable, and stainable
- » No warping tendencies when printed on a heated bed

**Laywoo-D3** (Laywood) is a wood filament that prints easily, similar to PLA, and has a wood smell when printing. It can be printed on a non-heated bed and has very little warp.



**Available sizes:** 3mm; .25 kg coil

**Available in these colors:**



## Laywoo-D3 3D printer settings:

**Extrusion temperature: 175-230°C. Bed temperature: 60-70°C.**

Hotter temperatures will extrude a darker filament. Using variable temperatures during a print, a faux wood ring pattern can be generated.

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for LulzBot TAZ.



# NYLON

Specifically engineered for 3D printing.

- » Can add color with most common clothing dyes

**Nylon** has excellent surface bonding and is tear resistant. This high-strength nylon is chemically resistant to alcohols, resins+MEK, oils, acetones, most alkalines, and most two-part casting compounds.



## Nylon 3D printer settings:

Extrusion temperature: 238°C. Bed temperature: 60-70°C.

Print with a standard extruder at slow (~20mm/s) on a Garolite sheet for best results. Taulman 645 has a slightly higher viscosity than other printing materials, so as the layer height exceeds 50% of the nozzle diameter, printing speed should be adjusted downward approximately 10 to 20%.

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## Available sizes:

Taulman 645: 3mm; 1 lb reel

Taulman 618: 3mm; 1 lb reel

## Available in these colors:

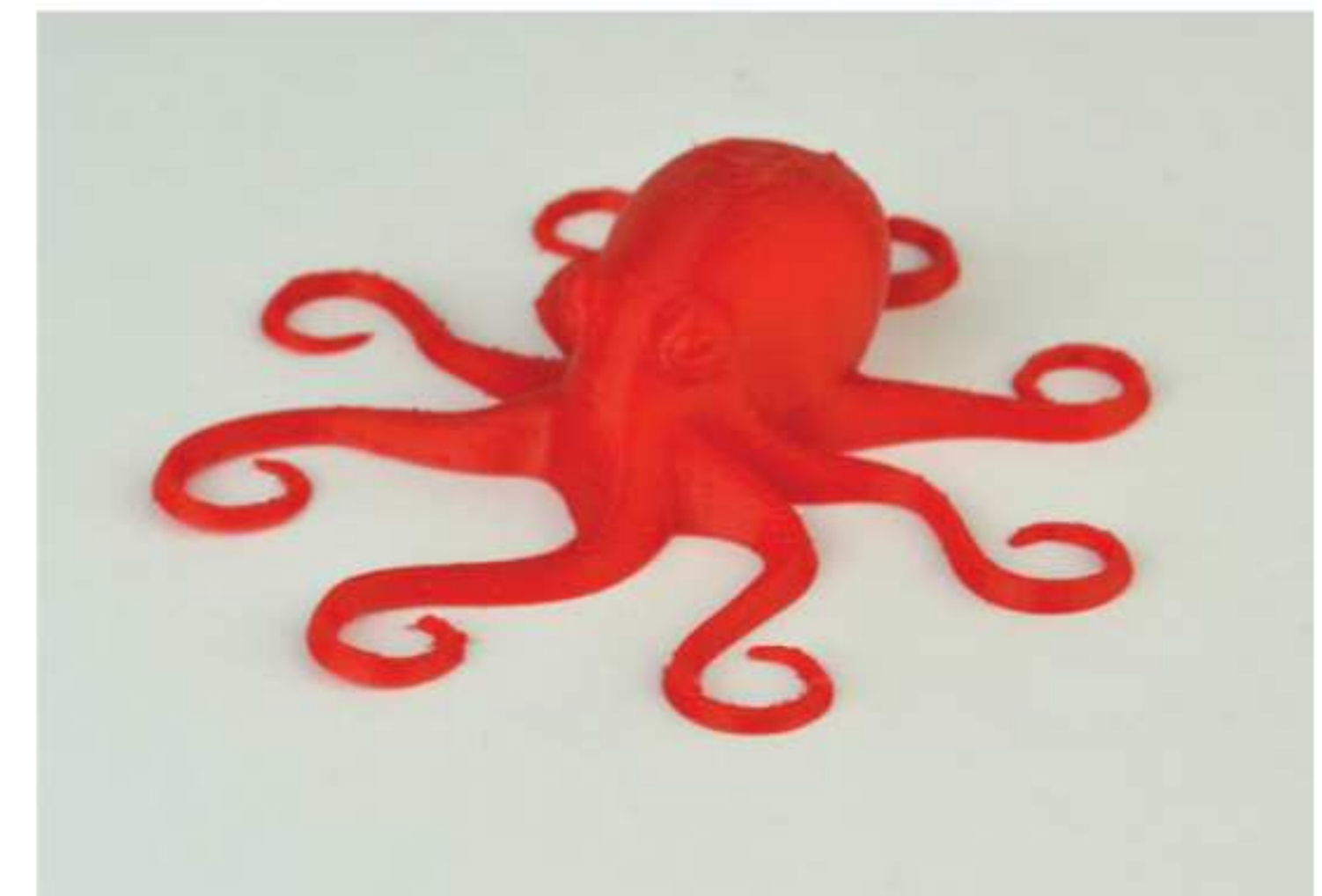
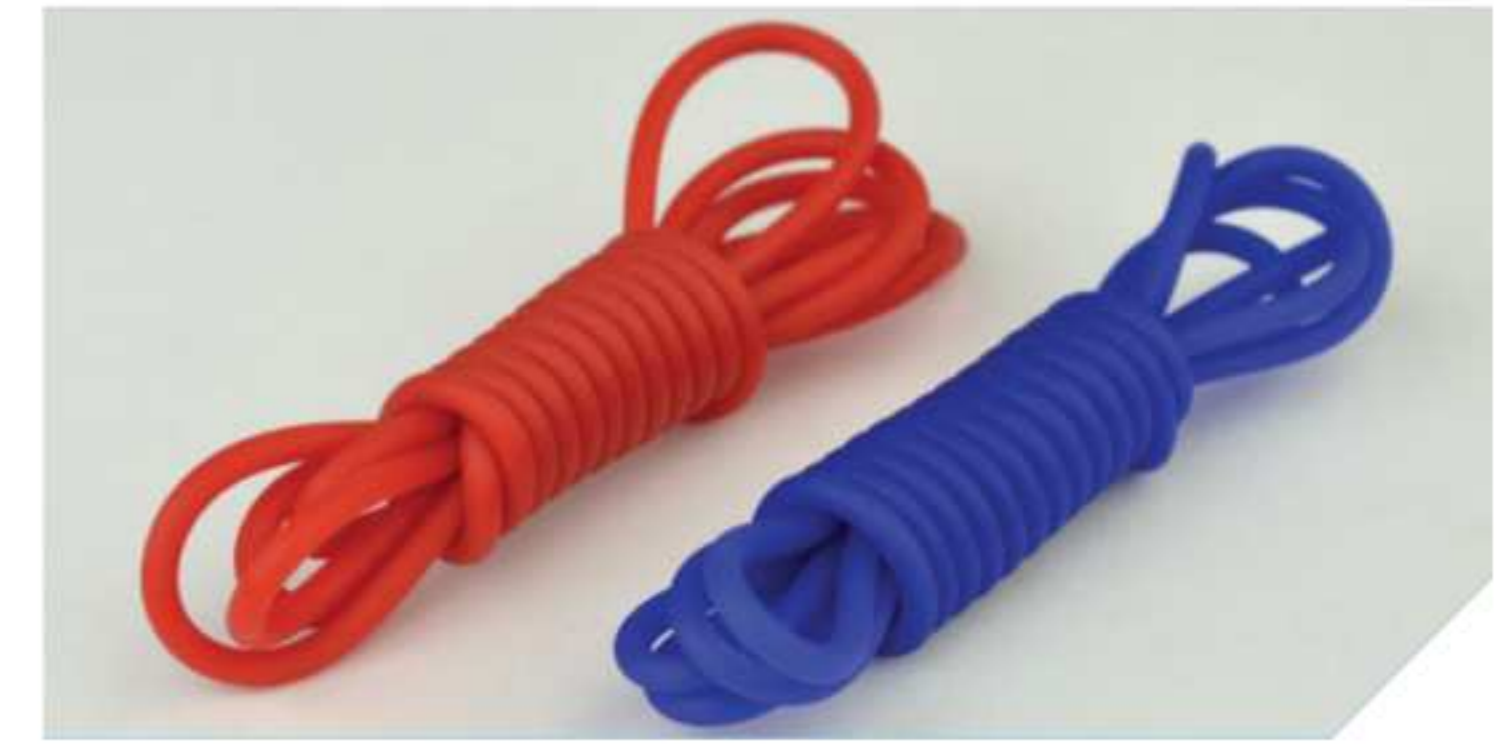
Natural - Prints as a bright natural to white with a translucent surface. Add color with most common clothing dyes.

# NINJAFLEX / TPU – THERMOPLASTIC URETHANE

Highly elastic plastic.

- » Commonly used to make wheels, belts, gaskets, and inflatable products
- » Great for cushioning and shock absorption
- » Has capabilities for the shoe, fashion, and leisure industries

**Ninjaflex** is the stretchiest material we've ever tested. It's an exciting combination of sheer strength, low-temperature performance, abrasion resistance, and flexibility. It also sticks well to most print surfaces and adheres to itself well so parts don't delaminate easily. The flexibility of this material makes it nearly impossible to print using a standard extruder, so we've designed the Flexystruder, a Greg's Wade-style extruder that fully constrains the filament.



**Available sizes:** 3mm

**Available in these colors:**



## **Ninjaflex 3D printer settings:**

**Extrusion temperature: 210-230°C. Bed temperature: 30-40°C.**

Because of the material springiness, it's best to print at a constant speed of around 30-40mm/s.

*Download Slic3r settings  
for LulzBot TAZ.*





[www.LulzBot.com](http://www.LulzBot.com)

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