

# Product Portfolio Professional range Industrial range Hardware range

About Polymaker	
Range of products	6
Material Comparison	8
Polymaker Technologies	14
Jam-Free™	14
Warp-Free™	14
Ash-Free™	14
Stabilized Foaming™	15
Layer-Free™	15
Nano Reinforcement™	15
Fiber Adhesion™	15
Polymaker Filaments	16

PolySonic™	16	PolyMide™	144
PolySonic™ PLA	20	PolyMide™ CoPA	146
PolySonic™ PLA Pro	24	PolyMide™ PA612-CF	150
PolyTerra™	28	PolyMide™ PA6-GF	154
PolyTerra™ PLA	32	PolyMide™ PA6-CF	158
PolyTerra™ PLA+	44	PolyMide™ PA12-CF	162
PolyTerra™ Edition-R	48	PolyDissolve™	166
PolyLite™	52	PolyDissolve™ S1	168
PolyLite™ PLA	54	Specialty	172
PolyLite™ PLA Pro	68	PolySmooth™	174
PolyLite™ PLA-CF	74	PolyWood™	180
PolyLite™ LW-PLA	78	PolyCast™	184
PolyLite™ CosPLA	82	PolySupport™	188
PolyLite™ PETG	86	PolySupport™ for PA12	192
PolyLite™ ABS	92	Polymaker™ PC-ABS	196
PolyLite™ ASA	98	Polymaker™ PC-PBT	200
PolyLite™ PC	104	Polymaker™ Draft PLA	204
PolyMax™	108	Hardware	208
PolyMax™ PLA	110	PolyDryer™	210
PolyMax™ PETG	114	PolyBox™	214
PolyMax™ PETG-ESD	118	Polysher™	215
PolyMax™ PC	122	New Packaging	216
PolyMax™ PC-FR	126	Polymaker Offices	222
PolyFlex™	130	Contact Us	224
PolyFlex™ TPU90	132		
PolyFlex™ TPU95	136		
PolyFlex™ TPU95-HF	140		



# **Our Offer**

Polymaker offers four kinds of 3D printing products including professional 3D printing filaments, industrial 3D printing filaments, 3D printing pellets, and related hardware to serve our customers.



The Professional range of products provide filaments with superior properties that deliver a better overall printing experience, ensuring the efficiency of 3D printers and empowering users to create strong and functional 3D printed products.



Polymaker Hardware family offers 3D printing accessories to optimize the user experience with their filaments.



The Industrial range of products provides engineering grade materials, these materials not only have high performance but also have high printability to unlock the use of 3D printing in multiple industries for new applications. It offers alternatives for customers in using 3D printing technology in industrial applications.

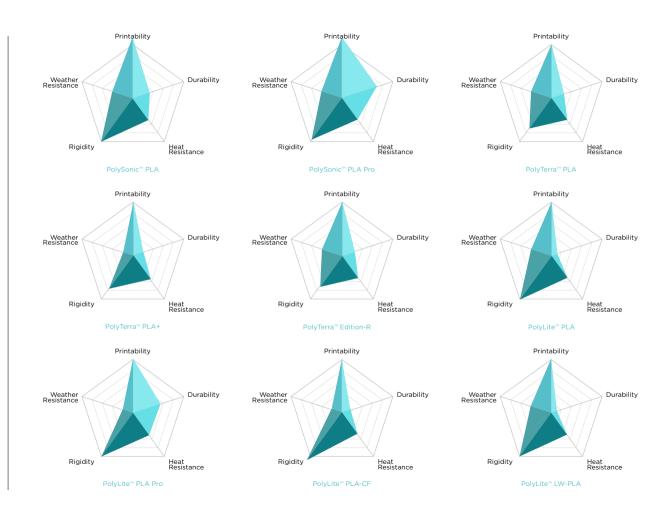


# **About Polymaker**

Polymaker is a developer and manufacturer of 3D printing materials committed to innovation, quality and sustainability. Its award-winning product portfolio has enabled numerous of individuals and companies to "better create and innovate".

Headquartered in Changshu, China, Polymaker has multiple office locations in Shanghai, Utrecht and Houston ready to serve customers across the globe.







PolyLite<sup>™</sup> CosPLA

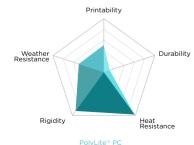
Weather Resistance Printability



Durability



PolyLite™ ABS





PolyLite™ PETG



PolyLite™ ASA



PolyMax™ PLA

#### **Printability**

The printability of the material is defined by its ease of use and equipment required.

#### **Durability**

The durability of the material is defined by its resistance to impact: Charpy impact strength ISO 179, GB/T 1043.

#### **Weather Resistance**

The weather resistance of the material is defined by its UV resistance. The data provided is currently an estimation.

### **Rigidity**

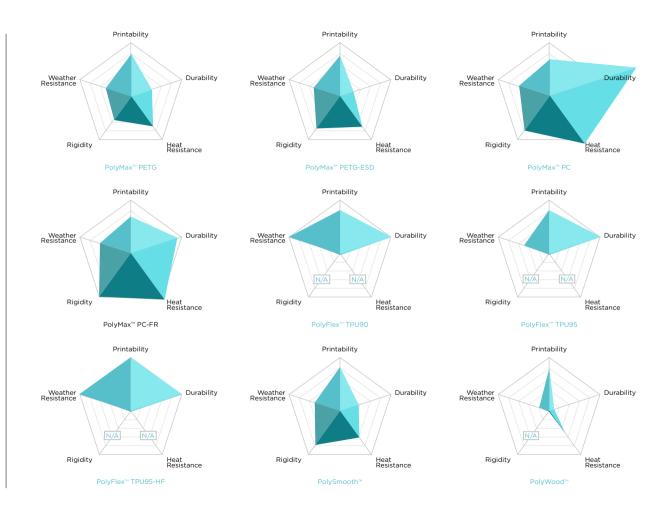
The rigidity of the material is defined by its modulus: Young's modulus ISO 527, GB/T 1040.

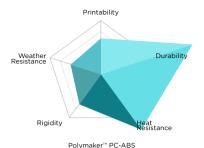
#### **Heat Resistance**

The heat resistance of the material is defined by its VST: Vicat Softening temperature ISO 306 GB/T 1633.

\*PolyMide™ PA6-CF and PolyMide™ PA6-GF heat resistance are defined by their HDT: Heat Deflection Temperature ISO 75 0.45 MPa.









Polymaker™ PC-PBT



Polymaker™ Draft PLA

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#### **Heat Resistance**

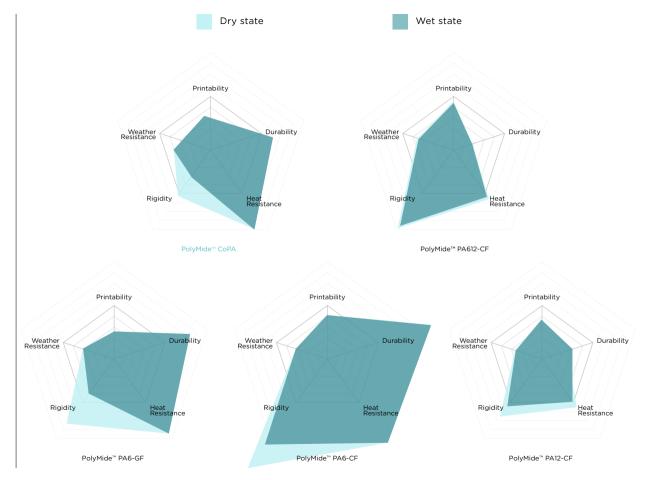
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# **Technologies**

#### JAM-FREE™

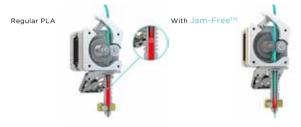
Jam-Free™ technology improves the heat stability of Polymaker's PLA filaments with softening temperatures over 140 °C. As a result, Polymaker's PLA filaments show minimal softening in the "cold end" and can melt rapidly once entering the heating zone, leading to excellent printing quality with zero risk of nozzle iams.

#### WARP-FREE™

Warp-Free™ technology enables the production of Nylon-based filaments that can be 3D printed with excellent dimensional stability and near-zero warpage. This is achieved by the fine control of micro-structure and crystallization behavior of Nylon, which enables the material to fully release the internal stress before solidification.

#### **ASH-FREE™**

Ash-Free™ technology allows Polymaker's filament which has been designed for investment casting to burn off cleanly without any residue, enabling defect-free metal parts. 3D printing has been used to produce investment casting patterns as it cuts down both the cost and lead time for small-volume production runs.





Without Ash-Free<sup>™</sup> Ash content: 0.5%



With Ash-Free™ Ash content: 0.003%







#### STABILIZED FOAMING™





Stabilized Foaming<sup>™</sup> technology is used to produce foamed filaments, whose foam structure can survive the printing process and be inherited by the printed parts. This enables light weight 3D printed parts with unprecedented surface finish.

#### LAYER-FREE™

Laver-Free™ technology involves exposing a 3D printed part to an aerosol of micro-sized alcohol droplets, generated by a rapidly vibrating. perforated membrane called the nebulizer. The aerosol will then be adsorbed by the surface of the 3D printed part rendering it smooth and laver-free.

#### NANO-REINFORCEMENT™

Nano-reinforcement™ technology is applied to produce filaments with excellent mechanical properties and printing quality. It dramatically improves the toughness of the material by increasing its impact resistance.

#### FIBER ADHESION™

Fiber Adhesion™ technology improves the layer adhesion of fiber reinforced materials, by optimizing the surface chemistry of the fibers to achieve better dispersion and bonding to the matrix. This results in better strength along the Z-axis and reduced mechanical anisotropy.



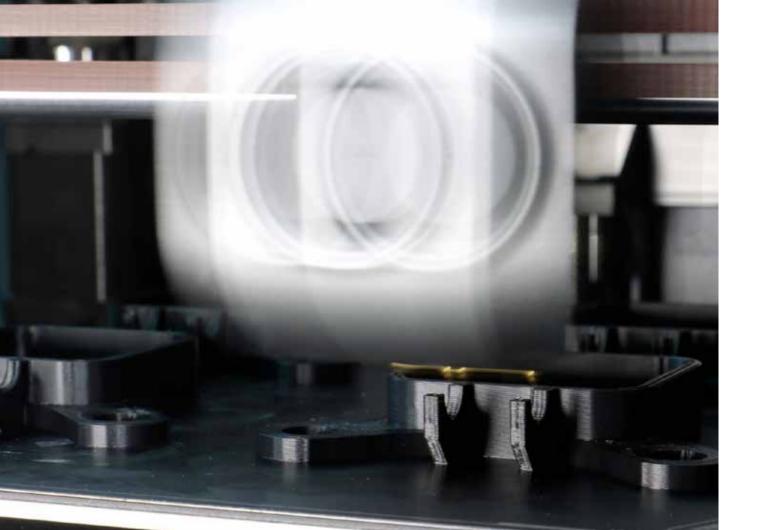














PolySonic™ is the ultimate High-Speed family engineered to maximize your printer's productivity without compromising on quality or mechanical properties. Unleash your printer's full potential and boost efficiency by producing more parts in less time, all while maintaining exceptional print characteristics. Elevate your 3D printing experience to new heights with PolySonic™.





Polymaker believes that high-speed filaments must satisfy 3 criteria:

**Extrusion** — The material must exhibit a wide extrusion window and improved flow rates.

Forming — This is a measure of how the material prints and forms at high speed. How is the print quality, overhang and small details, are the layers properly bonded together?

Mechanical Properties — PolySonic™ materials should retain 80% of the mechanical properties printed when printed at high speed.

50

6% Decrease

50

24% Decrease

50

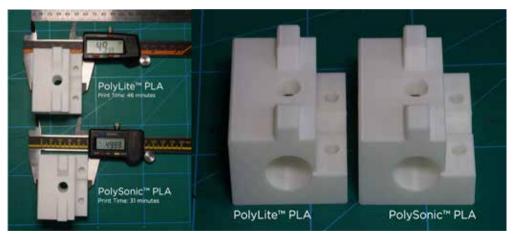
24% Decrease

50

6% Decrease

Comparison Chart of Extrusion Performance

Comparison Test Graph of Mechanical



Efficient and time-saving Printing time reduced by over 30%.



<sup>\*</sup>The reference extrusion testing is performed on a customized extrusion platform equipped E3D volcano hotend and 0.4mm nozzle with Hemera XS extruder. The maximum volumetric flow rate is defined as the volumetric flow rate at which the rate of change of actual extrusion efficiency remains within 1% as the volumetric flow rate increases.

<sup>\*</sup>The mechanical testing follows the ISO 527 standard testing method. All specimens are 3D printed, with the dimensions of the high-speed printed specimens being 130% larger than those used for printing at classical speeds. This ensures that the printing speed and acceleration can effectively attain approximately 300°mm/s and 20000°mm/s separately during specimen printing.

The specimens are printed with a 0.4mm nozzle.









Good printability

High-Speed

Consistent Extrusion





# Description

PolySonic™ PLA is a revolutionary high-speed 3D printing filament, the ultimate game-changer in additive manufacturing. With its lightning-fast extrusion rate, cutting-edge precision, and exceptional layer adhesion you can ramp up the speed of your 3D printer and witness new levels of productivity. Accelerate your workflow without compromising on strength or quality.

## **Printing Settings**

Printing temp.: Classic: 190-210°C

High: 210-230°C

Printing speed: Classic: 50-100mm/s

High: 100-300mm/s

Bed temp.: 25-60°C

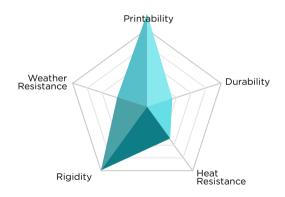
Chamber temp.: N/A

Fan: On

Drying settings: 55°C for 6h

Annealing: N/A

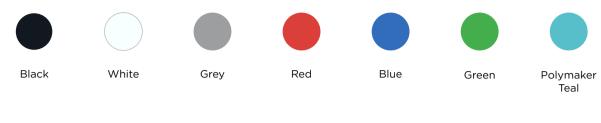
# **Material Properties**



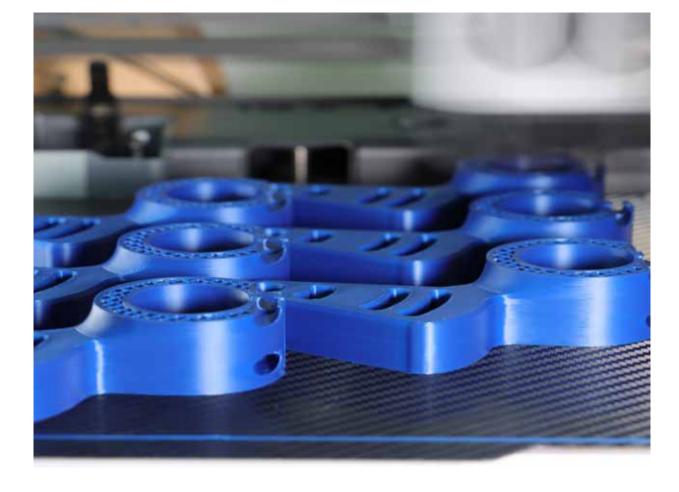
PolySonic™ PLA



# **Regular** A collection of commonly used colors.











# PolySonic™ PLA Pro





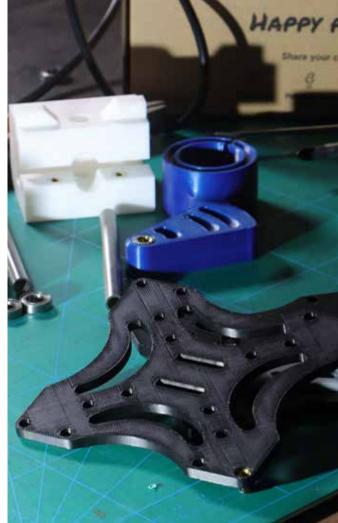


**Excellent Toughness** 

High-Speed

Consistent Extrusion





PolySonic™ PLA Pro is a tough PLA that can print at incredible speeds. With its advanced formulation, this filament ensures durable, rugged prints, with an impact strength similar to ABS and bending strength outperforming ASA & PETG. When time is of the essence for functional parts, PLA Pro is the ideal choice for you.

## **Printing Settings**

Printing temp.: Classic: 190-210°C

High: 210-230°C

Printing speed: Classic: 50-100mm/s

High: 100-300mm/s

Bed temp.: 25-60°C

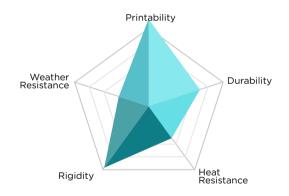
Chamber temp.: N/A

Fan: On

Drying settings: 55°C for 6h

Annealing: N/A

# **Material Properties**

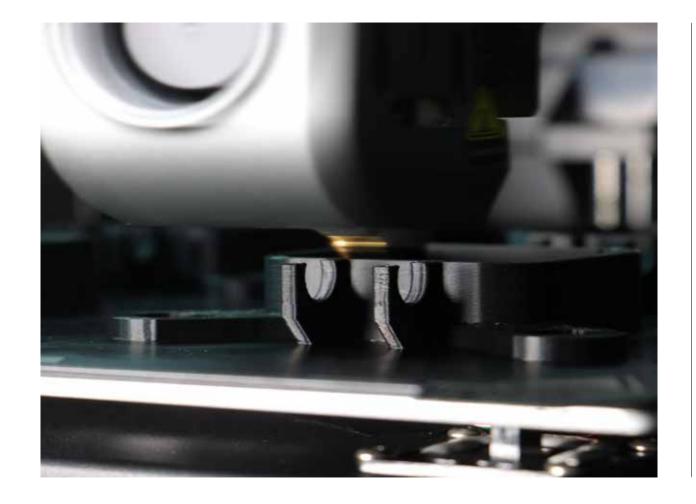


PolySonic™ PLA Pro



# **Regular** A collection of commonly used colors.









PolyTerra™ PLA is a 3D printing filament designed from the ground up to create the next generation of environmentally friendly filaments, combining ease of use, fast printing with a matte surface finish. It comes on a fully recycled cardboard spool with a wonderful range of pastel, marble, gradient, dual and regular colors.





PolyTerra<sup>™</sup> PLA spool and box are made from recycled cardboard. Recycling reduces the amount of resources needed to manufacture new spools and boxes. Cardboard is biodegradable, microorganisms and other decomposers will break the fibers of the cardboard down and produce soil.



# The next generation of PLA: Fully Bio Compound

PolyTerra™ PLA is a newly developed material from Polymaker called FBC. It is a compound of PLA bioplastic and biocomposite. PLA is biodegradable under industrial composting conditions however the degradation rate is very slow in ambient temperatures. This specially designed biocomposite contains less plastic to degrade making PolyTerra™ PLA a more environmental friendly material.

The newly developed FBC from Polymaker is not only eco-friendlier but it also have multiple benefits in 3D printing

# **Excellent printability:**

PolyTerra™ PLA features great overhang and bridging capability. It is also capable of reaching faster printing speeds while maintaining consistent extrusion.

# Matte/Smooth finish:

PolyTerra™ PLA gives a smooth and matte surface finish on your prints, helping with hiding the layer pattern specific to FFF 3D printing.

## Easy support removal:

One of the main advantages of PolyTerra™ PLA is that it's designed to support itself and breakaway easily.

# Jam-Free™ Technology:

Just as Polymaker's PolyLite™ PLA, PolyTerra™ PLA also features Jam-Free™ Technology!

# Tougher than regular PLA:

PolyTerra™ PLA toughness not only improves the printing reliability of the material but also allows the users to print more durable parts.

#### Cost-effective:

PolyTerra™ PLA is a very cost-effective product.

It provides incredible 3D printing benefits and eco-friendly values while staying very affordable.











Eco-friendly

Good printability

Easy support removal





# Description

PolyTerra™ PLA is a matte surface PLA-based 3D printing filament with a huge range of colors and effects to choose from. It is an extremely easy to print filament with great bridging & overhang qualities. It can print in a very wide temperature window and is compatible with all extrusion-based 3D printers.

## **Printing Settings**

Printing temp.: 190-230°C Printing speed: 30-70mm/s

Bed temp.: 25-50°C

Chamber temp.: N/A

Fan: On

Drying settings: 55°C for 6h

Annealing: N/A

## **Material Properties**



PolyTerra™ PLA

# Regular A collection of commonly used colors.













Army Purple

Ash Grey

Electric Indigo

Lotus Pink





**Muted** A collection of understated colors with reduced saturation.











Muted White

Muted Red

Muted Blue

Muted Green

Muted Purple



Pastel A collection of soft, light, ethereal colors.





**Marble** A collection of colors mimicking the texture of marble.





**Gradient** A collection of colors displaying a gradual transition of complementary hues and shades during printing.











Fall



Cappuccino

Pastel Rainbow

Spring

Summer

Winter



















Glacier Blue (Ice-Blue)

Flamingo (Pink-Red)

Chameleon (Teal-Yellow)

Sunrise (Red-Yellow)

Shadow Black Shadow Orange (White-Black) (Orange-Black)

Shadow Red (Black-Red)













Foggy Purple (Grey-Purple)

Foggy Orange (Grey-Orange)

Camouflage (Dark Green-Brown)

Mixed Berries (Red-Dark Blue)





**Dual Gradient** A collection of colors combining dual and gradient color characteristics..



Dual Gradient Wood











Eco-friendly

Good printability

Satin surface





PolyTerra™ PLA + is an impact modified PLA boosting the toughness and durability of PolyTerra™ PLA without compromising the excellent printability. Displaying a more satin finish, this low warp, high precision PLA can be used in more practical applications where a higher rigidity is required.

### **Printing Settings**

Printing temp.: 190-230°C

Printing speed: 30-70mm/s

Bed temp.: 25-50°C

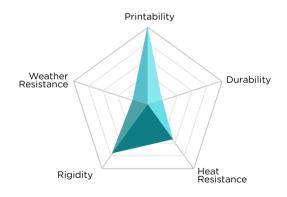
Chamber temp.: N/A

Fan: On

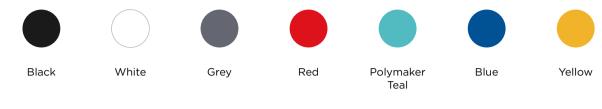
Drying settings: 55°C for 6h

Annealing: N/A

## **Material Properties**



PolyTerra™ PLA+









Orange

Purple













Good printability

Matte surface

~30% post-industrial waste





PolyTerra™ Edition-R is PLA filament containing 30% post-industrial recycled PLA. This PLA boosts the sustainability of an already eco-friendly material without compromising the print quality or printing characteristics. With a matte black surface finish this recycled PLA filament is the perfect filament for everyday applications.

#### **Printing Settings**

Printing temp.: 190-230°C Printing speed: 30-70mm/s

Bed temp.: 25-50°C

Chamber temp.: N/A

Fan: On

Drying settings: 55°C for 6h

Annealing: N/A

## **Material Properties**



PolyTerra™ Edition-R

49



Black









PolyLite™ is a family of the most commonly used 3D printing filaments created with the highest quality raw materials to deliver reliable and repeatable 3D printed parts. PolyLite™ materials serve your everyday needs in design and prototyping, whilst also providing a huge color range and a number of interesting special effects.













Good printability

Prints reliably Made from renewable sources





PolyLite™ PLA is a reliable 3D printing material with with a broad color range. It features high tensile strength and rigidity paired with great printability and outstanding printing characteristics. PolyLite™ PLA has the widest range of special effect filaments with silk. dual silk, glow in the dark, galaxy, starlight, temperature color change and UV color change, all offering a different surface effect.

#### **Printing Settings**

Printing temp.: 190-230°C Printing speed: 40-60mm/s

Bed temp.: 25-60°C

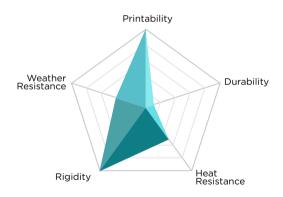
Chamber temp.: N/A

Fan: On

Drying settings: 55°C for 6h

Annealing: N/A

## **Material Properties**



PolvLite™ PLA



















Lime Green

Cream

Olive Brown

Beige

Olive Green

Purple

Brown



Sky Blue



## **Silk** A collection of shiny, silk-like colors.



Silk Gold



Silk Silver



Silk Bronze



Silk Rose



Silk Blue



Silk Lime



Silk Purple



Chrome



Silk White



Silk Green



Silk Magenta



Silk Pink



Silk Orange



Silk Yellow



Silk Black



Silk Teal



Silk Red



Silk Rose Gold



Silk Light



Silk Brass



Silk Peridote











Silk Dark Blue

Silk Periwinkle

Silk Gunmetal Grey





**Galaxy** A collection of colors displaying a sparkling effect with a hint of glitter.







Galaxy Black

Galaxy Dark Red

Galaxy Dark Blue







**Glow** A collection of naturally appearing colors that change and glow in the dark.





Glow In The Dark Green

Glow Blue



**Dual Silk** A collection of colors displaying two silk colors in the cross-section of a single filament.







Banquet Silk Gold-Magenta



Beluga Silk Silver-Blue



Caribbean Sea Chameleon Silk Silk Blue-Green



Yellow-Blue



Crown Silk Gold-Silver



Jadeite Silk Green-Chrome











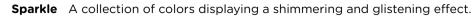
Sovereign Silk Gold-Purple

Sunset Silk Gold-Red





63







Sparkle Dark Green

Sparkle Dark Blue





## **Starlight** A collection of color displaying different colors from different viewing angles.



Starlight Mercury



Starlight Jupiter



Starlight Neptune



Starlight Nebula



Starlight Comet



Starlight Meteor



Starlight Aurora



Starlight Twilight

**Luminous** A collection of vivid colors that also glow in the dark.



Luminous Green



Luminous Blue



Luminous Yellow



Luminous Pink



Luminous Orange



Luminous Rainbow



# $\textbf{Color-Change} \quad \text{A collection of colors that change when exposed to temperature variation or UV radiation}.$







Temperature Color Change Green/Lime

Temperature Color Change Purple/Pink /Translucent

UV Color Change Natural/Orange

**Metallic** A collection of shimmering colors with a metallic luster.





Dark Blue

Dark Green

## **Transluscent** A collection of semi-transparent colors.









Translucent Orange

Translucent Blue

Translucent Red

Translucent Yellow













Excellent rigidity High impact strength

Prints reliably





PolyLite™ PLA Pro is a first of its kind, combining high toughness and high rigidity, this professional PLA offers engineering properties without compromising the ease of printing of regular PLA, PLA PRO is the perfect candidate for a wide range of applications covering functional prototyping, jigs and fixtures and end use parts for consumer goods.

#### **Printing Settings**

Printing temp.: 190-220°C Printing speed: 30-70mm/s

Bed temp.: 30-60°C

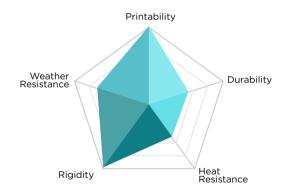
Chamber temp.: N/A

Fan: ON

Drying settings: 55°C for 6h

Annealing: N/A

## **Material Properties**



PolvLite™ PLA Pro









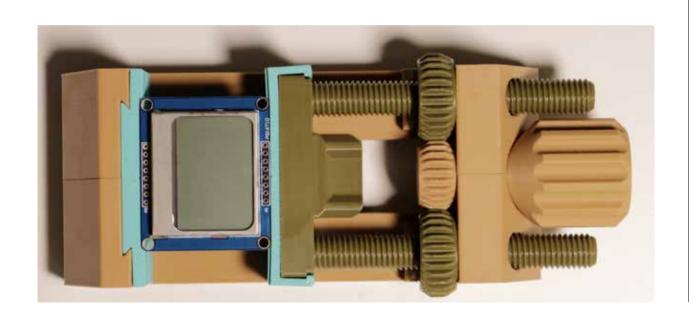




Army Beige

Dark Grey

Pink





## **Metallic** A collection of shimmering colors with a metallic luster.



Metallic Green



LM Sparkle Green



Metallic Magenta



Bronze



Silver



Metallic Red



Metallic Blue



Gold



Metallic Black



Metallic Chrome



Metallic Magenta

## 74









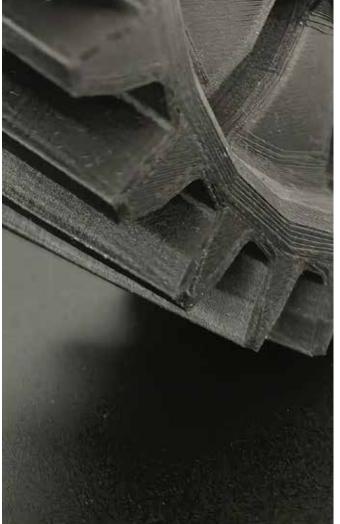


Excellent rigidity

From renewable sources

Prints reliably





PolyLite™ PLA-CF is a PLA filament that's reinforced with 8% milled carbon fibers. This not only boosts the rigidity of the filament, but it also produces parts with a beautiful carbon black surface finish. The carbon fibers help reduce shrinkage during printing. producing extremely dimensionally accurate 3D printed parts with a unique surface finish.

## **Printing Settings**

Printing temp.: 190-230°C Printing speed: 30-70mm/s

Bed temp.: 25-50°C

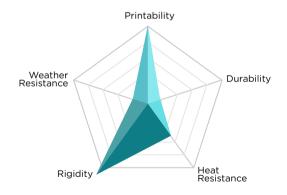
Chamber temp.: N/A

Fan: ON

Drying settings: 55°C for 6h

Annealing: N/A

## **Material Properties**



PolyLite™ PLA-CF

75





Black





# PolyLite<sup>™</sup> LW-PLA





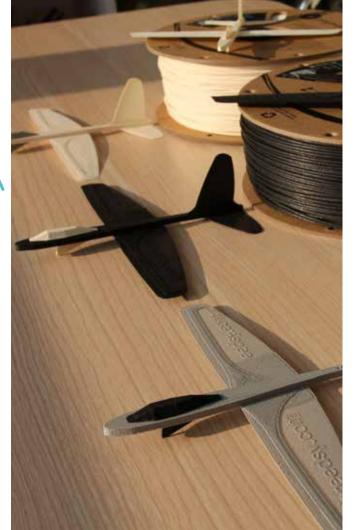


Low density

Matte surface

Good printability





PolyLite™ LW-PLA is a low-density PLA that uses Polymaker's Stabilized Foaming™ technology. This technology allows the PLA to re-foam after extrusion introducing a lattice foam structure that decreases the density by 30%. It prints using regular PLA settings and also produces a naturally matte surface finish which can hide the laver lines, LW-PLA is the perfect candidate where weight is critical and is popular among aerodynamicists.

#### **Printing Settings**

Printing temp.: 190-210°C

Printing speed: 30-50mm/s

Bed temp.: 25-60°C

Chamber temp.: N/A

Fan: On

Drying settings: 55°C for 6h

Annealing: N/A



PolvLite™ LW-PLA



Black



White



Grey



Bright Red



Bright Yellow



Bright Orange



Wood



Bright Green



















Easy to Sand

Good printability

Great Paint Adhesion





CosPLA consists of two specially developed formulas that provide the perfect solution for 3D printing cosplay. Version A has excellent sanding characteristics, allowing quick post-processing of helmets and detailed parts. Version B is a tougher PLA that is more suited to swords, hammers and armour which might encounter some impacts or cosplay that requires more strength.

### **Printing Settings**

Printing temp.: 190-230°C Printing speed: 30-70mm/s

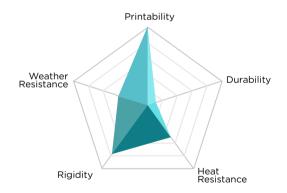
Bed temp.: 25-60°C

Chamber temp.: N/A

Fan: On

Drying settings: 55°C for 6h

Annealing: N/A



PolyLite<sup>™</sup> CosPLA





Grey















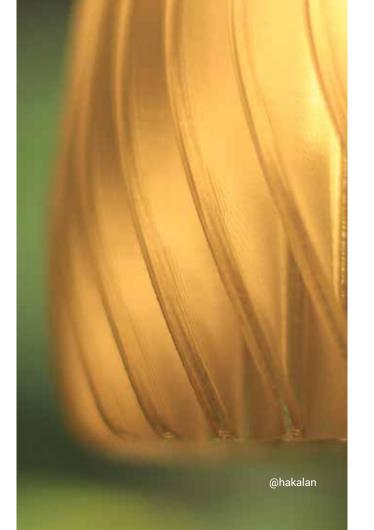


Excellent all-rounder

Good layer adhesion

Good light diffusion





PolyLite™ PETG is an affordable PETG filament with balanced mechanical properties and ease of printing. PolyLite™ PETG is just as easy to print as PolyLite™ PLA while offering an additional 20°C heat resistance and more durability. This lends PolyLite™ PETG to more functional applications where PLA would lack the durability or heat resistance such as lighting fixtures, vibrational parts or more functional product design prototypes.

#### **Printing Settings**

Printing temp.: 230-240°C Printing speed: 30-50mm/s

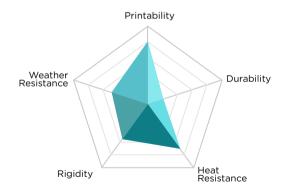
Bed temp.: 70-80°C

Chamber temp.: N/A

Fan: Turn off-20%

Drying settings: 65°C for 6h

Annealing: N/A



PolvLite™ PETG











## **Transluscent** A collection of semi-transparent colors.









Translucent Green

Translucent Red

Translucent Blue

Clear





**Metallic** A collection of shimmering colors with a metallic luster.





Dark Green

Dark Blue











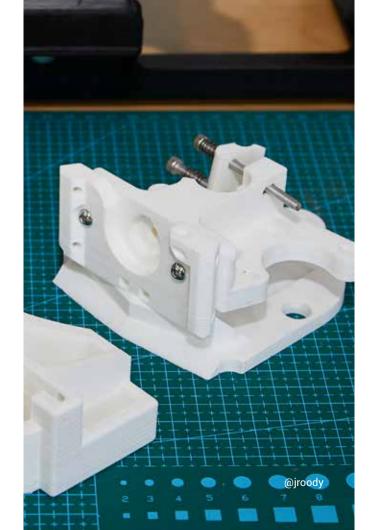


Heat resistant

Impact resistant

Machinable





PolyLite™ ABS is made with a specialty bulk-polymerized ABS resin, which has significantly lower volatile content compared to traditional ABS resins. It delivers excellent printing quality with minimal odor during printing. Combining impact resistance with heat resistance (~100°C). PolyLite™ ABS is a good choice for mechanical parts, robotics, functional prototyping or home appliance spare parts.

#### **Printing Settings**

Printing temp.: 245-265°C Printing speed: 30-50mm/s

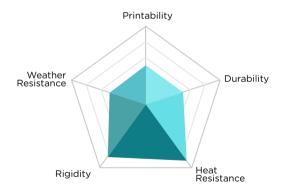
Bed temp.: 90-100°C

Chamber temp.: N/A

Fan: Off

Drying settings: 70°C for 6h

Annealing: N/A



PolvLite™ ABS







## **Galaxy** A collection of colors displaying a sparkling effect with a hint of glitter.



Galaxy Dark Grey



Galaxy Teal



Galaxy Orange



Galaxy Purple

Neon A collection of colors exhibiting bright colors under sunlight and neon under UV light.



Neon Magenta



Neon Orange



Neon Yellow



Neon Green

**Metallic** A collection of shimmering colors with a metallic luster.



Metallic Green



Metallic Blue











UV resistant

Water resistant

Good thermal and mechanical properties





PolyLite™ ASA is an alternative to ABS with an improved weather resistance. Its UV resistance and excellent mechanical properties make it the perfect choice for outdoor applications. PolyLite™ ASA has the same mechanical and thermal properties as PolyLite<sup>™</sup> ABS with the ability to resist sunlight (UV) and weather in general. Its good weather resistance makes it ideal for parts that need to weather the elements.

#### **Printing Settings**

Printing temp.: 240-260°C

Printing speed: 30-50mm/s

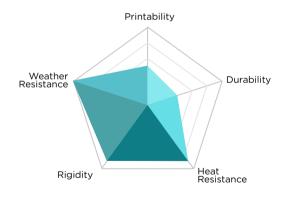
Bed temp.: 75-95°C

Chamber temp.: N/A

Fan: Off

Drying settings: 70°C for 6h

Annealing: N/A



PolvLite<sup>™</sup> ASA





100







**Galaxy** A collection of colors displaying a sparkling effect with a hint of glitter.







Galaxy Red



Galaxy Blue



Galaxy Black

104

## P

# PolyLite™ PC







Heat resistant

Good light diffusion

Stiff and strong





PolyLite™ PC is produced using a polycarbonate resin that's specifically engineered for 3D printing. It delivers high stiffness and high heat resistance and due to its naturally transparent characteristics it can diffuse light very efficiently making it perfect for lighting and lampshade applications. Printing large PC parts will require an enclosed chamber

### **Printing Settings**

Printing temp.: 250-270°C

Printing speed: 30-50mm/s

Bed temp.: 90-105°C

Chamber temp.: N/A

Fan: Off

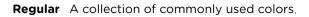
Drying settings: 75°C for 6h Annealing: 90°C for 2h



PolyLite™ PC









Transparent









PolyMax<sup>™</sup> is a family of advanced 3D printing filaments produced with Polymaker's Nano-Reinforcement technology. This technology boosts the toughness of your 3D printed parts to deliver exceptional mechanical properties and printing quality. Covering some of the most commonly used 3D printing materials, each offering best in class mechanical properties.

110









Extremely tough PLA

Good printability

Prints reliably





PolyMax™ PLA is the pinnacle of our PLA range, mechanically outperforming ABS while still carrying the ease of use printing characteristics of PLA. Compared to regular PLA, PolyMax<sup>™</sup> PLA has 5 times the durability, allowing your 3D printed parts to absorb significant impacts without displaying brittleness.

#### **Printing Settings**

Printing temp.: 190-230°C Printing speed: 40-60mm/s

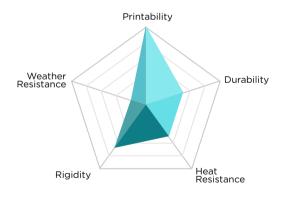
Bed temp.: 25-60°C

Chamber temp.: N/A

Fan: On

Drying settings: 55°C for 6h

Annealing: N/A



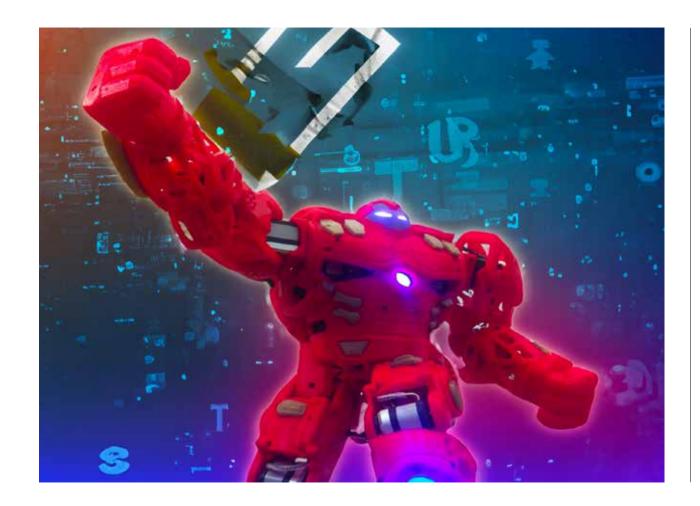
PolvMax™ PLA











114









Excellent all-rounder



Good layer adhesion





PolyMax™ PETG offers better mechanical properties than any other PETG making it a good candidate for a wide range of applications. PolyMax™ PETG is a very good all-rounder providing; ease of printing, heat resistance, durability and strength. It can be used for a wide range of applications covering functional prototyping, end-use products, brackets, spare parts, and robotic parts.

#### **Printing Settings**

Printing temp.: 230-240°C

Printing speed: 30-50mm/s

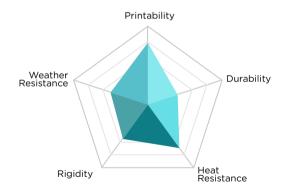
Bed temp.: 70-80°C

Chamber temp.: N/A

Fan: Turn off - 20%

Drying settings: 65°C for 6h

Annealing: N/A



PolvMax™ PETG





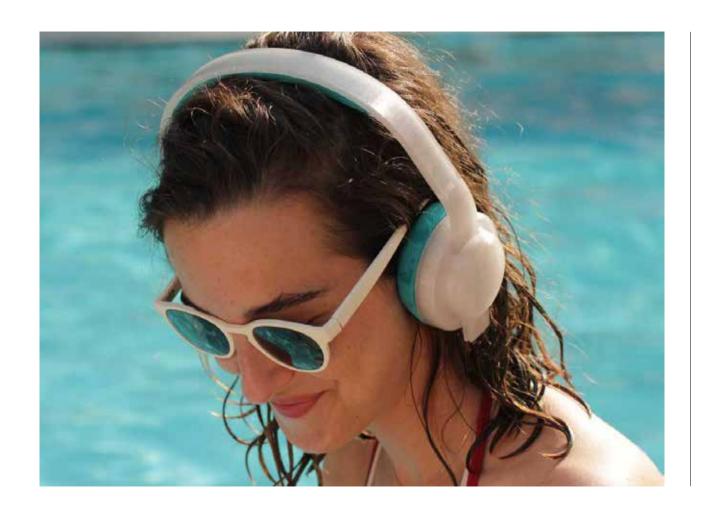




Black

White















Extremely tough PETG

ESD Safety

Excellent all-rounder





PolyMax™ PETG-ESD pairs electrostatic dissipation (ESD) with an improved toughness PETG. PolyMax™ PETG-ESD is compounded with carbon nanotubes that allow it to dissipate electrostatic charges thanks to its very low surface resistivity. This innate property offers protection to delicate electronics during the electronic assembly processes or when used for printed electronic housings.

#### **Printing Settings**

Printing temp.: 250-290°C

Printing speed: 30-50mm/s

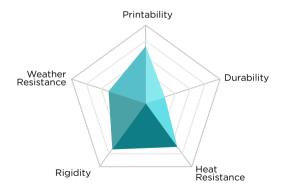
Bed temp.: 70-80°C

Chamber temp.: N/A

Fan: OFF

Drying settings: 65°C for 6h

Annealing: N/A



PolvMax™ PETG-ESD







Black





122











Extremely tough РС

Heat resistant

Good layer adhesion





PolyMax™ PC is an engineering PC filament combining excellent strength, toughness, heat resistance and printing quality. It outperforms many other choices of PC while still printing at a relatively low printing temperature. With a softening point of 113°C it can operate in demanding environments where impact resistance, heat resistance and vibration resistance is required.

#### **Printing Settings**

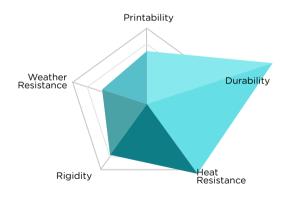
Printing temp.: 250-270°C Printing speed: 30-50mm/s

Bed temp.: 90-105°C

Chamber temp.: N/A

Fan: Off

Drying settings: 75°C for 6h Annealing: 90°C for 2h



PolvMax™ PC







126









Flame retardant

Heat resistant

Strong and tough





PolyMax™ PC-FR is a fire-retardant PC filament displaying strength and toughness whilst also achieving a VO score in the UL94 flame retardancy test. PolyMax™ PC-FR can reduce the intensity of a fire or slow/stop the spread of fire due to its selfextinguishing characteristics.

#### **Printing Settings**

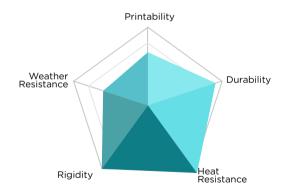
Printing temp.: 250-270°C Printing speed: 30-50mm/s

Bed temp.: 90-105°C

Chamber temp.: 90-100°C

Fan: Off

Drying settings: 75°C for 6h Annealing: 90°C for 2h



PolyMax™ PC-FR



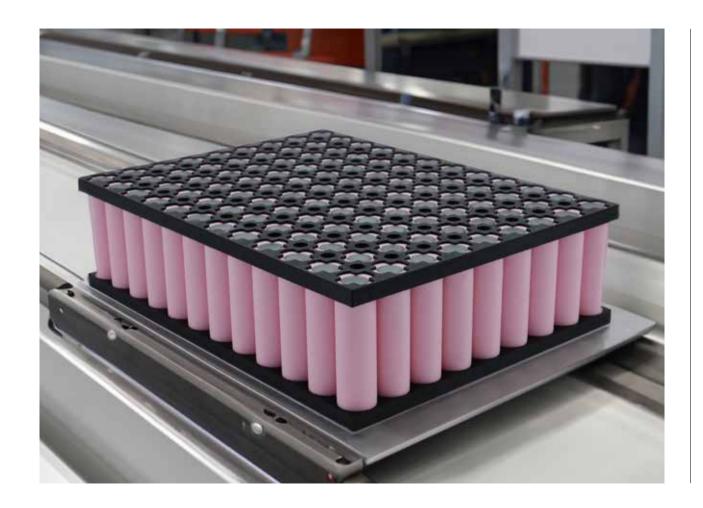






Black

White







PolyFlex™ is a family of high-quality flexible materials that that allows your 3D printed parts to take on new shapes after printing. Flexible materials are extremely durable and cannot be measured in the same way as other filaments. The PolyFlex™ family offers some flexibility to your designs allowing you to stretch your ideas even further.









Flexible with shore 90A

Good printability

UV resistance







PolyFlex™ TPU90, created from Covestro's Addigy® TPU family offers the highest degree of flexability in the PolyFlex™ family. With a shore hardness of 90A and an elongation to break of 585% this flexible filament is extremely soft while still being printable. TPU90 is certified with ISO10993 allowing it to be used for medical and skin contact devices.

#### **Printing Settings**

Printing temp.: 210-230°C Printing speed: 30-60mm/s

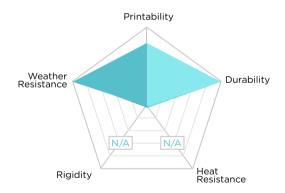
Bed temp.: 25-60°C

Chamber temp.: N/A

Fan: On

Drying settings: 70°C for 8h

Annealing: N/A



PolvFlex™ TPU90





White



Black





Grey





Polymaker Teal

Clear















Flexible with shore 95A

Good printability Extremely durable





PolvFlex™ TPU95 is a flexible filament with a shore hardness of 95A which suits it perfectly to most flexible applications. Fine tuning the wall thickness and infill when printing can adjust the flexibility of your printed part further. TPU95 is extremely durable and able to stretch more than 3 times its original length without breaking.

#### **Printing Settings**

Printing temp.: 210-230°C Printing speed: 20-40mm/s

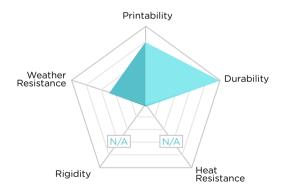
Bed temp.: 25-60°C

Chamber temp.: N/A

Fan: On

Drying settings: 70°C for 8h

Annealing: N/A



PolvFlex™ TPU95





















Flexible with High flow

UV resistance





HF stands for High flow and this flexible filament has a melt index higher than some PLA filaments. This means it can be printed faster than all other flexible filaments and all printing characteristics, such as, retraction and overhangs are improved. Created from Covestro's Addigy® family, TPU95-HF offers a combination of UV resistance, flexibility and high-speed printing.

#### **Printing Settings**

Printing temp.: 200-220°C Printing speed: 40-100mm/s

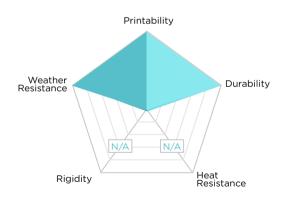
Bed temp.: 25-50°C

Chamber temp.: N/A

Fan: ON

Drying settings: 70°C for 8h

Annealing: N/A



PolvFlex™ TPU95-HF

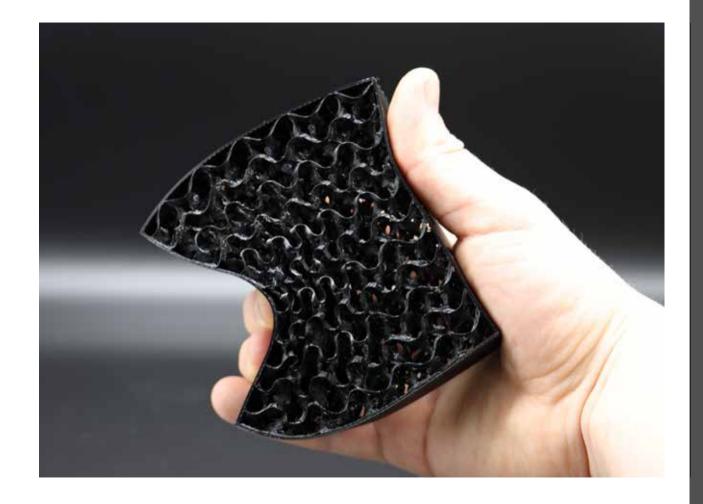






Black

White









PolyMide™ is a family of Nylon/polyamide based filaments. Produced with Polymaker's Warp-Free™ technology, PolyMide™ filaments deliver engineering properties intrinsic to Nylon and ease of printing on open and closed bed 3D printers. Nylon offers some of the best mechanical properties of any material and the fiber reinforced materials boost these properties even further.



146







High heat

resistance



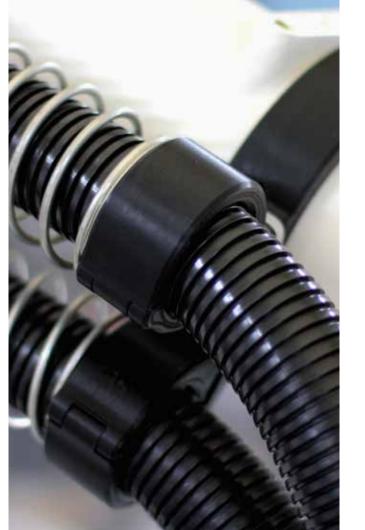


mechanical properties



Dimensionally stable during printing





PolyMide™ CoPA is a copolymer of Nylon 6 and Nylon 6,6 combining high tensile strength properties from Nylon 6 with heat resistance properties from Nylon 6.6. Warp-Free™ technology provides ease of printing by slowing down the crystallization allowing CoPA to be easily printed on open bed printers. Displaying outstanding mechanical and thermal properties, CoPA is suited for parts in demanding environments.

## **Printing Settings**

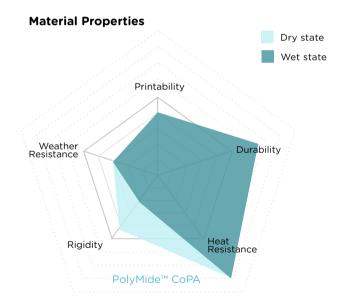
Printing temp.: 250-270°C Printing speed: 30-60mm/s

Bed temp.: 25-50°C

Chamber temp.: N/A

Fan: Off

Drying settings: 100°C for 8h Annealing: 80°C for 6h



147







Black

Natural













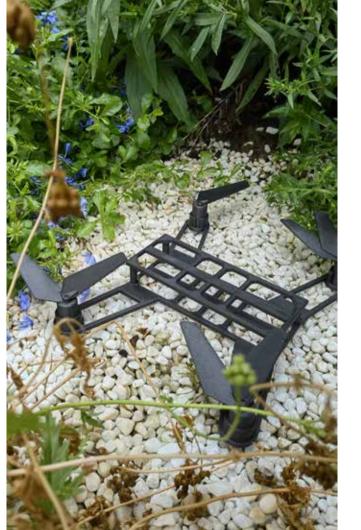


Excellent mechanical properties



Warp free





PolyMide™ PA612-CF is a carbon fiber reinforced polyamide filament based on a copolymer of PA6 and PA12. Thanks to its chemical structure, this product has lower moisture sensitivity compared to PA6/66 and PA6-based materials, and better mechanical properties than PA12-based materials. In addition, the carbon fiber reinforcement and Warp-free technology enhances the dimensional stability of the prints produced with this material.

## **Printing Settings**

Printing temp.: 250-300°C

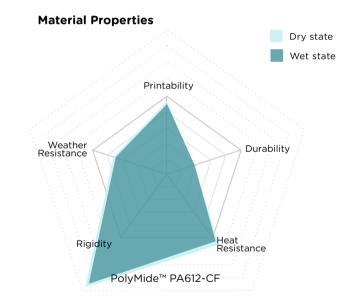
Printing speed: 30-60mm/s

Bed temp.: 25-50°C

Chamber temp.: N/A

Fan: Off

Drying settings: 100°C for 8h Annealing: 80°C for 6h







Black









## PolyMide™ PA6-GF





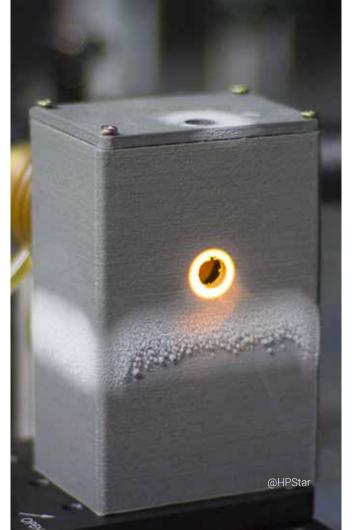


High heat resistance



Excellent dimension stability during printing





PolyMide™ PA6-GF is a glass fiber reinforced Nylon 6 filament. The material exhibits excellent thermal and mechanical properties without sacrificing the layer adhesion or printability. PolyMide™ PA6-GF is strong, durable and features a heat deflection temperature of 191°C. It can be used in applications where stiffness and durability are paramount.

## **Printing Settings**

Printing temp.: 280-300°C

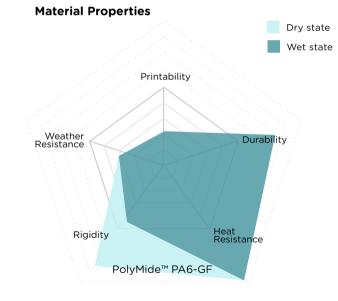
Printing speed: 60mm/s

Bed temp.: 30-60°C

Chamber temp.: 25-50°C

Fan: Off

Drying settings: 100°C for 8h Annealing: 80°C for 6h \*hardened nozzle required







Grey













High heat deflection temperature



Excellent dimension stability during printing





PolyMide™ PA6-CF is a 20% carbon fiber reinforced Nylon 6 filament. The carbon fiber reinforcement provides significantly improved stiffness, strength and heat resistance with outstanding layer adhesion thanks to Fiber Adhesion™ Technology. PolyMide™ PA6-CF outperforms almost every 3D printing material, offering extreme durability and functionality while featuring a heat deflection temperature of 215°C.

## **Printing Settings**

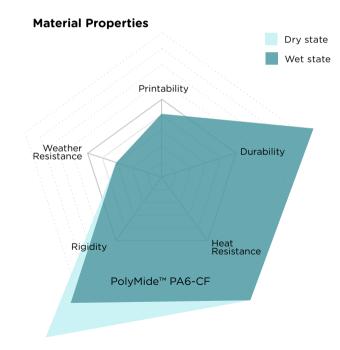
Printing temp.: 280-300°C Printing speed: 25-50mm/s

Bed temp.: 30-60°C

Chamber temp.: N/A

Fan: Off

Drying settings: 100°C for 8h Annealing: 80°C for 6h \*hardened nozzle required











Black













Excellent surface finish

Low moisture sensitivity

Excellent dimension stability during printing





PolyMide™ PA12-CF is a carbon fiber reinforced Nylon 12 filament. The main advantage of Nylon 12 over Nylon 6 filaments is its low moisture sensitivity. This improves the handling, storing and printing capabilities while still offering superior mechanical properties compared to other filaments.

## **Printing Settings**

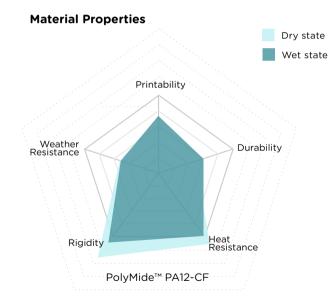
Printing temp.: 260-300°C Printing speed: 30-60mm/s

Bed temp.: 25-50°C

Chamber temp.: N/A

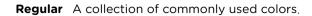
Fan: Off

Drying settings: 100°C for 8h Annealing: 80°C for 6h \*hardened nozzle required



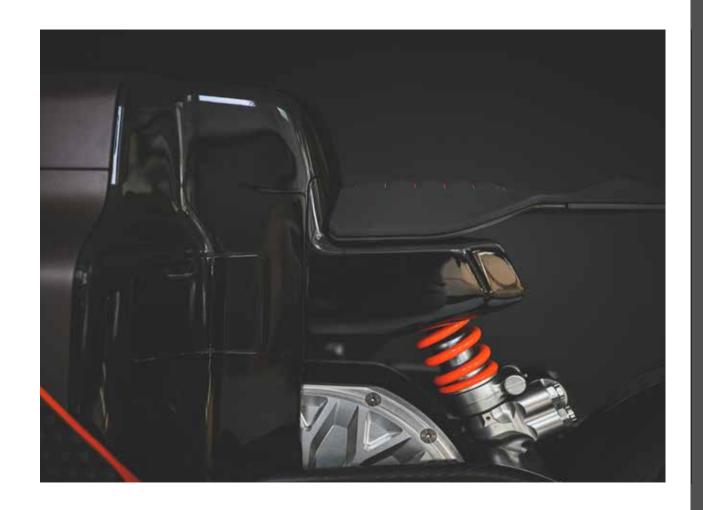








Black





# PolyDissolve™

PolyDissolve™ is a family of dissolvable support filaments which can dissolve very quickly in water after printing. This family offers a support solution for complex geometries and internal cavities adding a hands-free support removal process to your printing workflow. By unlocking new geometries, it enables a greater freedom of design where breakaway support might not be accessible after printing.









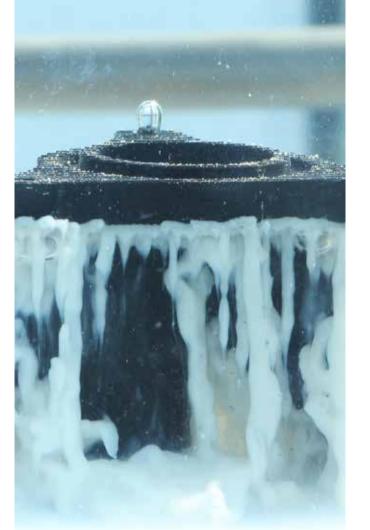


Compatible with multiple materials

Good solubility

Excellent support interface





PolyDissolve™ S1 is a water dissolvable support material that's compatible with PLA, TPU, PVB and Nylon filaments from our portfolio. It is specifically engineered to have a perfect interface with these materials, supporting them while printing while also displaying accelerated solubility in room temperature water after printing.

## **Printing Settings**

Annealing: N/A

## Compatibility

Printing temp.:	215-225°C	PLA based material	++
Printing speed:	30-40mm/s	PETG based material	+
Bed temp.:	,	ABS/ASA based material	
вей теттр	23-00 C	PC based material	
Chamber temp.:	N/A	PVB based material	++
Fan:	On	TPU based material	++
Drying settings:	80°C for 12h	Short-chain Nylon based material	
A 1.		Long-chain Nylon based material	-

From Polymaker™ portfolio





Natural







The Specialty family includes a series of unique filaments from Polymaker that can unlock new 3D printing applications for a range of different industries. Due to their individual abilities these materials cannot be classified like other Polymaker materials as each one displays special characteristics or unique properties.













Safe and easy to post process

Good printability

Balanced mechanical properties





PolySmooth™ is a unique, easy-to-print filament designed for hands-free post processing with isopropyl alcohol or ethanol. The surface can be smoothed to remove all the layer lines leaving a smooth, glossy, homogenous surface. Figurines with small details or product prototypes that require an injection moulded finish can all benefit from Layer Free™ Technology.

## **Printing Settings**

Printing temp.: 190-220°C Printing speed: 40-60mm/s

Bed temp.: 25-70°C

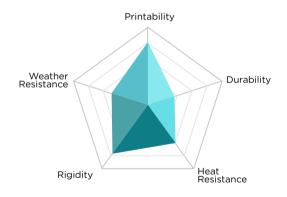
Chamber temp.: N/A

Fan: On

Drying settings: 50°C for 12h

Annealing: N/A

## **Material Properties**



PolySmooth™















Black

White

Slate Grey

Coral Red

Pink

Electric Blue

Green









Polymaker Teal

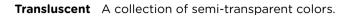
Yellow

Orange

Beige









Transparent















No risk of clogging

Clean matte finish

Light weight





#### **Description**

PolyWood<sup>™</sup> is a wood mimic filament containing no actual wood powder, which removes all risks of nozzle clogs. PolyWood<sup>™</sup> is made entirely with PLA using Polymaker's Stabilized Foaming<sup>™</sup> technology which reduces the density of the PLA by 30%. The printed models take on a unique matte surface finish which when printed at high resolution can completely mask the layers.

#### **Printing Settings**

Printing temp.: 190-210°C

Printing speed: 30-50mm/s

Bed temp.: 25-60°C

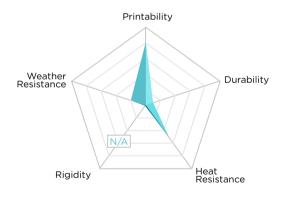
Chamber temp.: N/A

Fan: On

Drying settings: 55°C for 6h

Annealing: N/A

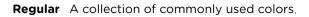
#### **Material Properties**



PolyWood™









Wood









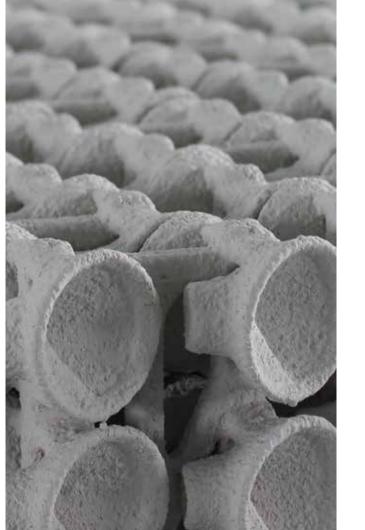




Safe and easy to post process

Good printability Burn out cleanly





#### Description

PolyCast™ is an easy to print filament designed specifically for investment casting applications. Featuring Ash Free™ Technology, 3D printed patterns in PolyCast™ can be completely vaporized when vitrifying the ceramic investment, typically leaving an ash residue of <0.003% by weight. PolyCast™ significantly cuts down both the cost and lead time by eliminating wax injection mould tooling process.

#### **Printing Settings**

Printing temp.: 190-220°C

Printing speed: 40-60mm/s

Bed temp.: 25-70°C

Chamber temp.: N/A

Fan: On

Drying settings: 50°C for 12h

Annealing: N/A





**Regular** A collection of commonly used colors.



Natural













Easy to break away

Good printability

Perfect support interface with PLA





#### **Description**

PolySupport<sup>™</sup> is a break away support for Polymaker PLA based filaments. It has a perfect interface with PLA, strong enough to support it while easily removable by hand, in 9 out of 10 support applications it's the quickest and easiest option. PolySupport<sup>™</sup> is also compatible with TPU. PC and PVB based materials from the Polymaker portfolio.

#### **Printing Settings**

Drying settings: 55°C for 6h

Annealing: N/A

#### Compatibility

Printing temp.:	220-230°C	PLA based material
Printing speed:	20-40mm/s	PETG based material
0 1	25-60°C	ABS/ASA based material
вей тептр		PC based material
Chamber temp.:	N/A	PVB based material
Fan:	On	TPU based material

From Polymaker™ portfolio

Short-chain Nylon based material

Long-chain Nylon based material



**Regular** A collection of commonly used colors.



Pearl White















Easy to break away

Good printability

Prefect support interface with PA12 based material





PolySupport<sup>™</sup> for PA12 is a break away support specifically engineered for PA12 based filaments. It has a perfect interface with long-chain nylons, strong enough to support it and easily removable by hand. PolySupport<sup>™</sup> for PA12 prints at a similar temperature to PA12 and is compatible with open, enclosed and heated chambers. The filament is colored green so its easy to see and remove after printing.

#### **Printing Settings**

#### Compatibility

Printing temp.:	270-300°C	PLA based material	NA
Printing speed:	30-60mm/s	PETG based material	NA
Bed temp.:	50-80°C	ABS/ASA based material	NA
Chamber temp.:		PC based material PVB based material	NA NA
Fan:	•	TPU based material	NA
Drying settings:		Short-chain Nylon based material	NA
Annealing:		Long-chain Nylon based material	++
g.	• •/•		

From Polymaker™ portfolio



**Regular** A collection of commonly used colors.



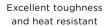
Grass Green





# Polymaker™ PC-ABS







Good surface finish



Compatible with metal plating





#### Description

Polymaker™ PC-ABS is a PC/ABS polymer blend which offers excellent toughness and heat resistance while displaying a good surface finish and good compatibility with metal electroplating. Polymaker™ PC-ABS characteristics make it ideal for automotive interior parts such as dashboard, door handles or instrument panels.

#### **Printing Settings**

Printing temp.: 250-270°C Printing speed: 30-50mm/s

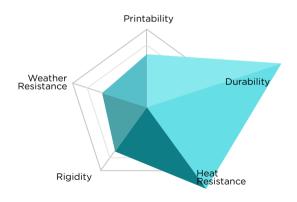
Bed temp.: 90-105°C

Chamber temp.: 90-100°C

Fan: Off

Drying settings: 75°C for 6h Annealing: 90°C for 2h

#### **Material Properties**



Polymaker™ PC-ABS







Black

White

















Good mechanical and thermal properties

Good toughness at low temperature

Good chemical resistance





#### Description

Polymaker™ PC-PBT is a PC/PBT polymer blend which offers good heat resistance, however, its key feature is toughness at low temperatures (-30°C) where other plastics would become brittle. PC-PBT also features good chemical resistance and its characteristics make it ideal for automotive exterior parts such as bumpers, roof rail brackets or door handles.

#### **Printing Settings**

Printing temp.: 260-280°C

Printing speed: 30-50mm/s

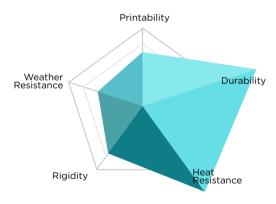
Bed temp.: 100-115°C

Chamber temp.: 100-110°C

Fan: Off

Drying settings: 75°C for 6h Annealing: 90°C for 2h

#### **Material Properties**



Polvmaker™ PC-PBT







Black

Natural













Bulk pack

Good printability

Matte surface





Draft PLA is your go-to recycled PLA bulk pack featuring 10 spools of high-quality filament, offering unbeatable value for money. Perfect for daily use, this filament allows easy drafting of prototypes and rapid iteration of designs for form and function. Unlock the power of seamless prototyping with Draft PLA, making your creative process smoother than ever before

#### **Printing Settings**

Printing temp.: 190-230°C
Printing speed: 40-60mm/s

Bed temp.: 25-60°C

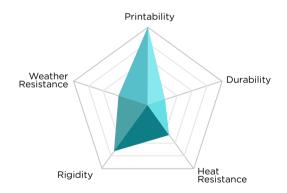
Chamber temp.: N/A

Fan: On

Drying settings: 55°C for 6h

Annealing: N/A

#### **Material Properties**



Polymaker™ Draft PLA





Black









Polymaker Hardware family offers 3D printing accessories designed to optimize the user experience with both their 3D printers and their filaments.

### What is PolyDryer™?

PolyDryer™ is your ultimate 3D filament drying & storage solution which protects against dust and moisture. The product features modular design and consists of two units:

- The Dry Dock, which ensures a stable temperature for quick and even drying, featuring a precise heat control system and PTC heater.
- The PolyDryer™ Box, which offers superior sealing performance and continuous filament protection.





#### Why we need PolyDryer™?

Printing with wet 3D filament can lead to various issues, such as stringing, clogging, and rough or poor surface quality, which is especially noticeable during high-speed printing. PolyDryer™ effectively addresses these challenges by pre-drying the filament, thereby improving the quality of your 3D prints and reducing the impact of external environmental conditions.

#### PolyDryer™ equipped with 3 features



#### **Modular Design**

PolyDryer™ consists of two parts - The Dry Dock and The PolyDryer™ Box. The Dry Dock effectively and evenly dries the filaments in the PolyDryer™ Box above it, while the PolyDryer™ Box can either be used with the dock or be removed for sealing and storing the filaments separately. With this design, you can enjoy the efficient drying and superior sealing of filament dry box and dryer all in one!



#### **Superior Sealing**

Safeguard your materials for extended periods of time with PolyDryer™. With its exceptional sealing capability, combined with a high-quality desiccant display, PolyDryer™ maintains optimal humidity levels for up to 30 days and ensures your filaments remain dry and ready for printing. Your filaments fortress against moisture.



#### **Efficient Drving**

PolyDryer™ equipped with a high performance drying system-a high precision heat control system, PTC heater and fan to efficiently dry the 3D filament. In addition to pre-drying, filament can also be dried during printing if you press and hold button "M" to activate Continuous Drying Mode, to ensure thorough drying of all filament layers, providing double assurance of material quality.



## P







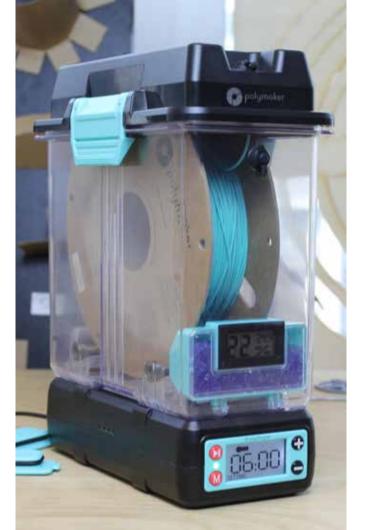


Modular Design

Superior Sealing

Efficient Drying





#### **Product Size**

235(L) x 120(W) x 290(H) mm

### **Power Adapter Specification**

Input: AC 100-240V, 50/60Hz

Output: DC 24V, 68W

#### **Maximum Working Power**

68W

#### **Working Environment**

Environmental Temperature: 20°C - 35°C

Relative humidity: below 90%

#### **Maximum Capacity**

205 Φ \* 78(H) mm

#### **Conduct Filament Diameter**

1.75 / 2.85 / 3.00 mm

#### **Supported Material**

PLA / PVB / PETG / ABS / ASA / TPU
/ PA / PC / PVA / PolySupport™
/ PolySupport™ for PA12



PolyBox™ is a dry storage box designed to provide the optimum environment for 3D printing filaments. The PolyBox™ is compatible with all 3D printers and can house two 1kg spools or one 3kg spool. Featuring 8 ball bearings and a thermohygrometer you can print, monitor and store your filaments simultaneously.









The Polysher™ is a desktop post processing unit designed to remove layer lines from PolySmooth™ and PolyCast™ 3d printed parts. The Polysher™ uses Polymaker's Layer-Free<sup>™</sup> technology to create a fine mist of alcohol which evenly smooths the model leaving a smooth and glossy surface.









# Cardboard Spool Packaging



# The replacement of the Cardboard Spool

#### Green source:

The cardboard used to create the spool and packaging comes from 100% recycled sources and is recyclable after use in generic paper recycling.

#### Outer design:

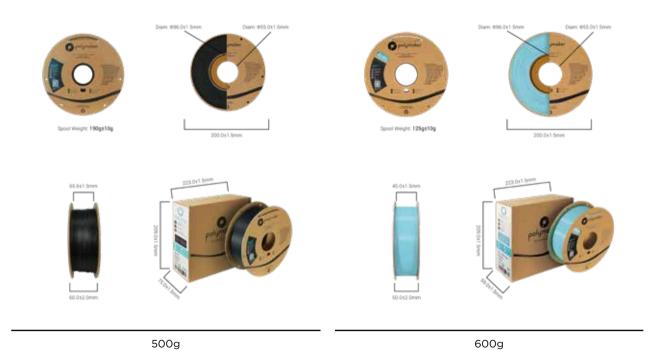
The new cardboard spool features a thick, around 3mm pressed and die-cut cardboard spool face, glued onto a strip rolled section of the cardboard tube. The thickness of the cardboard ensures the filament is well protected and the spool can roll very efficiently on all designs of spool holders both internally and externally mounted.

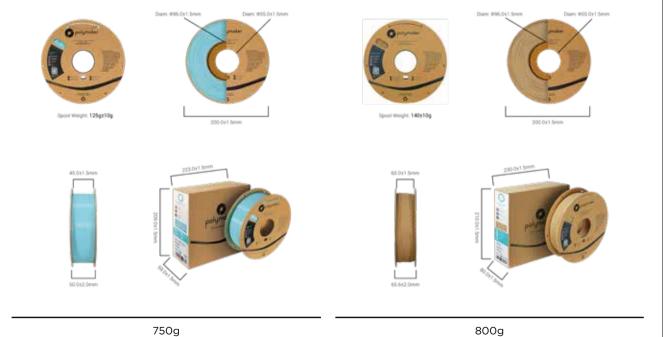
#### The addition of QR code:

The new spool features a QR code that takes customers to the product information sheet on www.polymaker.com alongside printing profiles, TDS, SDS, and all other documentation relevant to the filament.

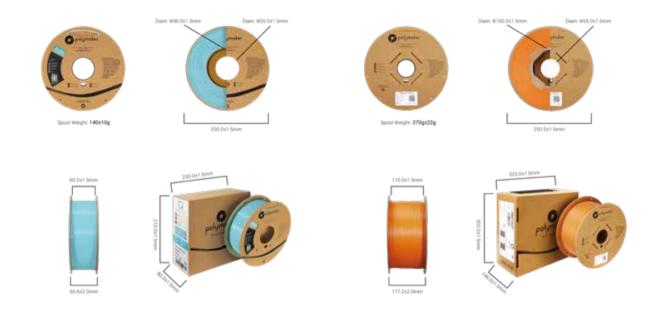
The paper product information sheet will no longer be shipped inside the packaging further reducing waste.









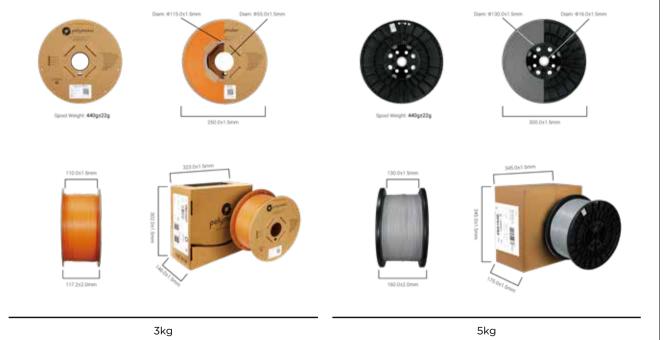


2kg

220

1kg







## **Polymaker Offices**

Shanghai, China



Houten, The Netherlands



Changshu, China



Houston, USA



### Mission

Polymaker is committed to simplifying creation by developing empowering 3D printing & material technologies for industries and consumers.

#### **Contact Us**

For any inquiries please contact:

inquiry@polymaker.com

For technical support please contact:

support@polymaker.com

The information provided in this document is intended to serve as basic guidelines on how a particular product can be used. Users can adjust the printing conditions based on their needs and actual situations. It is normal for the product to be used outside of the recommended ranges of conditions. Each user is responsible for determining the safety, lawfulness, technical suitability, and disposal/recycling practices of Polymaker materials for the intended application. Polymaker makes no warranty of any kind, unless announced separately, to the fitness for any particular use or application. Polymaker shall not be made liable for any damage, injury or loss induced from the use of Polymaker materials in any particular application.



# **Simplify Creation**







polymaker.com

