

3DXTECH®

Additive Manufacturing

High-Performance 3D Printing Filament

Catalog

About Us

3DXTECH was founded in 2014 in Grand Rapids, Michigan with the mission to create specialty 3D printing materials with a focus on functionality.

Since then, we have been creating innovative materials targeting difficult end-use applications in some of the most demanding markets in the world.



We utilize base resins ranging from PLA to PEEK to create one of the broadest portfolios in the industry. Our founders have extensive experience in high-performance polymers, specialty additives, and custom compounding. This experience allows us to create formulations that print as well as they perform. This focus on functionality has allowed us to grow into one of the largest suppliers of high-performance materials for FDM/FFF machines in the world.

We welcome the opportunity to partner with you to supply these cutting-edge materials to customers in your region.

Target Market Segments

- Aerospace & Defense
- Automotive & Motorsport
- Industrial Manufacturing
- Energy: Oil, Gas, Solar, and Wind
- Electronics & Semiconductor

Target Application Areas

- Metal Replacement
- Composite Tooling
- Fixtures & Jigs
- Production Quality End-Use Parts
- Functional Prototypes

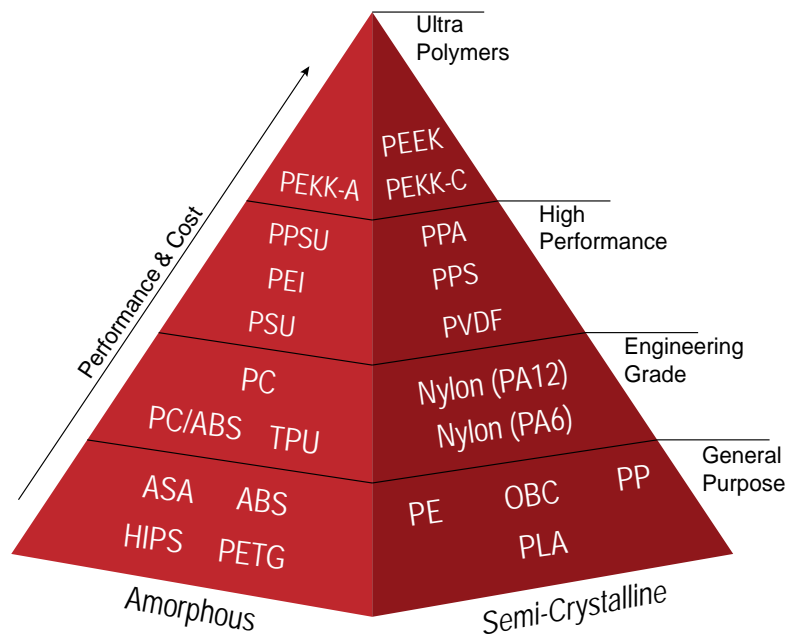


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PEKK

Materials



ThermaX™ PEKK-C

PEKK (PolyEtherKetoneKetone) is one of the highest-performance polymers in world. A leading material in the PAEK family, PEKK has superior mechanical and thermal properties while being substantially easier to print than PEEK and maintaining superior thermal properties to PEKK-A. Developed in partnership with Arkema - a leading supplier of ultra-performance materials.

ThermaX™ PEKK-A

One of the highest performing polymers in the world and in the plastics business, this material maintains its exceptional thermal, chemical-resistance, and mechanical properties while still being easier to print than PEEK.



CarbonX™ Carbon Fiber PEKK-A + CF 15

Made using high-modulus chopped carbon fiber and Kepstan® PEKK-A, CarbonX™ PEKK+CF was created for the most demanding applications that require exceptional thermal, mechanical, chemical resistance, and dimensional stability properties.



ThermaX™ PEEK

PEEK (PolyEtherEtherKetone) is one of the highest-performance polymers in world. PEEK has exceptional mechanical, thermal, and chemical resistance properties making it a go-to material in some of the most demanding applications. Made using state-of-the-art filament manufacturing equipment.



CarbonX™ Carbon Fiber PEEK

One of the premier polymers in the FDM/FFF industry, our PEEK+CF is made using high-modulus carbon fiber - making this grade strong, stiff, and dimensionally stable over a wide temperature range. Available in both 10% and 20% CF reinforcement varieties.

FibreX™ GF20-PEEK

Our 20% glass fiber reinforced PEEK exhibits exceptional printability and outstanding properties while offering low-warp performance. Made for applications that require strength and stiffness at extreme temperatures. Our PEEK+GF prints easily and does not disappoint.



ThermaX™ PEI Made Using ULTEM® 1010

PEI (polyether imide) is one of the highest-performing thermoplastics in the industry with excellent mechanical, chemical, and thermal properties. Made using Sabic ULTEM® 1010 and produced with exacting specifications.

ThermaX™ PEI Made Using ULTEM® 9085

Ultra-performance 3D printing filament manufactured using ULTEM® 9085 aerospace approved PEI resin (FAR 25.583). This filament combines excellent thermal properties, exceptional dimensional stability, inherent flame retardancy, and very good chemical resistance.

CarbonX™ ULTEM® 9085 + CF10

Made by combining ULTEM® 9085 resin and high-modulus carbon fiber. This filament offers the advantages of PEI along with increased strength, stiffness, and exceptional dimensional stability up to 200°C.

FibreX™ PEI + GF30

FibreX™ PEI+GF30 is an ultra-performance 3D printing filament using 30% glass fiber reinforced ULTEM™ PEI [Polyether Imide] resin. This material combines excellent thermal properties, exceptional dimensional stability, inherent flame retardancy, and very good chemical resistance..



Sulfone Polymers

Materials

ThermaX™ PPSU

Polyphenylsulfone (PPSU or PPSF) is a high-temperature sulfone polymer long-considered to be one of the highest performance polymers in the plastics world. PPSU has a T_g of 220°C offering excellent thermal and outstanding chemical resistance and hydrolytic stability, making it well suited for demanding applications in automotive, aerospace, electronics, defense, industrial, medical, and semi-con applications.



ThermaX™ PES

With a Glass Transition Temperature (T_g) of 228°C , truly excellent chemical resistance, and a very high Environmental Stress Crack Resistance (ESCR), Polyether Sulfone (PES) is a serious cutting-edge industrial polymer in the 3D printing world.

ThermaX™ PSU

Polysulfone (PSU) is a leading sulfone polymer that offers superior thermal properties than ULTEM® 9085 at a lower price. Our PSU is a great choice for demanding applications that require excellent thermal, mechanical, and chemical resistance properties.

ThermaX™ PPS

ThermaX™ PPS [Polyphenylene Sulfide] is widely used in the most demanding applications because it has excellent chemical resistance coupled with superior mechanical and thermal properties.

FibreX™ PES + GF30

FibreX™ PES+GF30 [Polyether Sulfone] is an ultra-performance 3D printing filament made using 30% glass fiber reinforced PES resin. This material has excellent stiffness, strength, chemical resistance, dimensional stability – and it has higher thermal properties than Ultem™!



PVDF

Materials

FluorX™ PVDF

PVDF (Polyvinylidene fluoride) is a high-performance polymer offering exceptional thermal and chemical resistance for industrial-grade printing. FluorX™ is made using Arkema Kynar® PVDF that is ideal for 3D printing. This filament can be used in demanding applications and under the most extreme conditions. PVDF is resistant to most chemicals and solvents, making it a great fit for applications that will be exposed to harsh environments.

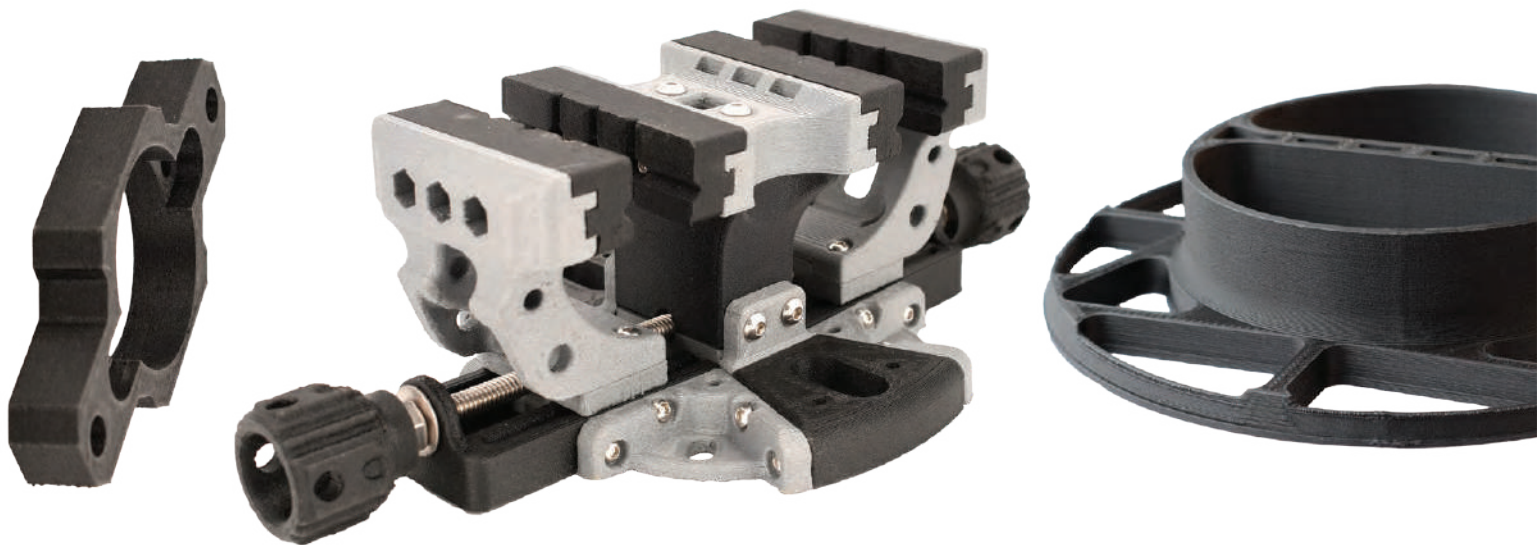


CarbonX™ Carbon Fiber Nylon PA6 + CF

An advanced semi-aromatic polyamide copolymer reinforced with high-modulus carbon fiber. This filament is ideal for anyone that desires a structural component with high modulus, improved chemical and thermal resistance, excellent surface quality, and ease of printing.

CarbonX™ Carbon Fiber Nylon HTN + CF

CarbonX™ HTN+CF is made using a semi-aromatic polyphthalamide (PPA) and is a true high temperature nylon [HTN] with a Tg of 125°C and thermal resistance up to 240°C. Our HTN+CF is a go-to for demanding applications that require excellent thermal, mechanical, and chemical resistance.



Obsidian™ Nylon 6 + CF (Onyx Alternative)

Obsidian™ PA6+CF is an excellent drop-in replacement for Markforged Onyx™ and is compatible for use in all Markforged printers. Obsidian™ delivers excellent performance, appearance, and a significant cost savings.

FibreX™ Nylon PA6+GF30

30% glass fiber reinforced Nylon 6 Copolymer is nothing less than exceptionally stiff and strong - all without being brittle. Polyamides (PA) are the work-horse of the plastics industry because of their excellent mechanical, chemical, and thermal resistance. This is the same type of PA6 used in automotive under-hood applications because it resists fuels, lubricants, heat, and heavy mechanical loads.

CarbonX™ Carbon Fiber Nylon 12 + CF

This specialty long-chain PA12 nylon is an excellent light-weight material for tools, fixtures, and jigs. It is renowned for its chemical resistance, low moisture absorption, and very low shrinkage, making it highly dimensionally stable.

AmideX™ Nylon 6-66

AmideX™ Nylon 6-66 copolymer is an excellent choice for superior printability and high-performance. This material offers industrial-grade mechanical, thermal, and chemical resistance properties.

Materials

3DXSTAT™ ESD-PC

An advanced ESD-Safe compound designed for use in critical applications that require electrostatic discharge (ESD) protection and temperature resistance up to 140C. Made using Lexan® polycarbonate and proprietary additives via our state-of-the-art compounding and extrusion process. PC has some of the best mechanical properties & high heat resistance in the 3D Printing world.

CarbonX™ PC + CF

CarbonX™ PC+CF is made using Sabic Lexan® Polycarbonate and reinforced with premium high-modulus carbon fiber. This material offers excellent thermal properties, strength & stiffness, superior dimensional stability, and an amazing surface finish.

3DXMAX® PC

This is a premium high-heat Polycarbonate filament made using Lexan® Polycarbonate from Sabic. Our PC has excellent mechanical and thermal properties making it ideal for demanding production and prototype printing.

CarbonX™ ezPC + CF

CarbonX™ ezPC+CF is made using our easy to print ezPC Polycarbonate and reinforced with premium high-modulus carbon fiber. This material offers excellent printability, high thermal properties, strength & stiffness, superior dimensional stability, and an amazing surface finish. This will become your new go-to for engineering-grade parts.



ezPC™

ezPC™ (Polycarbonate) is a premium Polycarbonate created for ease of printing on the widest array of 3D printers. ezPC™ prints like a dream while offering low warp, excellent mechanical properties, heat resistance, and outstanding impact resistance.

Polypropylene

Materials

CarbonX™ Polypropylene PP + CF15

Patent-pending formulation of polypropylene and high-modulus chopped carbon fiber, this filament has improved thermal and properties and considerably lower shrinkage and warping than other PP filaments. Along with its light weight, non-existent moisture absorption, and fantastic chemical resistance, our CF-PP is also much easier to print than competitive PP-based compounds.

FibreX™ Polypropylene PP + GF30

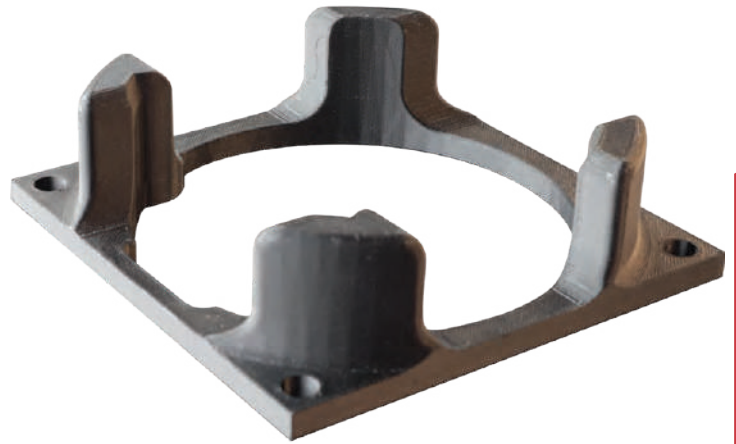
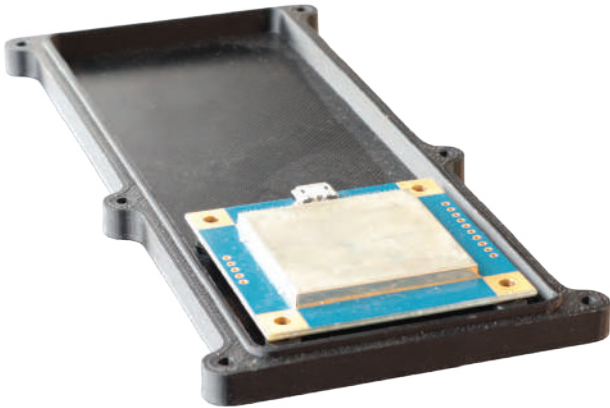
Highly resistant to a huge range of chemicals as well as exceptionally stiff and strong, PP+GF30 is a polypropylene filament reinforced 30% with glass fibers to improve its already impressive mechanical properties.



ABS

CarbonX™ Carbon Fiber ABS + CF15

Our carbon fiber reinforced ABS (acrylonitrile butadiene styrene) is a go-to material for ease of printing and thermal performance up to 95°C. This material offers excellent printability, dimensional stability, and a low-gloss matte surface.



3DXSTAT™ ESD-ABS

Our first ESD-safe filament for industrial applications which require consistent performance across a wide array of applications and industries. Designed using proprietary carbon additives and compounding technologies that result in reliable performance.

Firewire® Flame Retardant FR-ABS

A premium UL94 V-0 rated ABS that allows for printing of functional prototypes and production parts. This material is ideal for printing electrical housings, connectors, or any part that requires thermal properties [up to 95°C] and flame retardant ABS characteristics.

Firewire® Flame Retardant PC-ABS

This filament is made using a polycarbonate alloy with UL94 V-0 ratings. Flame Retardant PC-ABS has improved strength and thermal properties making it ideal for printing of functional prototypes and production parts.

FibreX™ ABS + GF10

FibreX™ ABS+GF is glass fiber reinforced ABS. It is tough as nails, very stiff, and strong allowing users to create structural parts without the lifting or warping that can happen with unfilled ABS. We use premium ABS and a special glass fiber chosen to be compatible with ABS and the FDM/FFF 3D printing process.



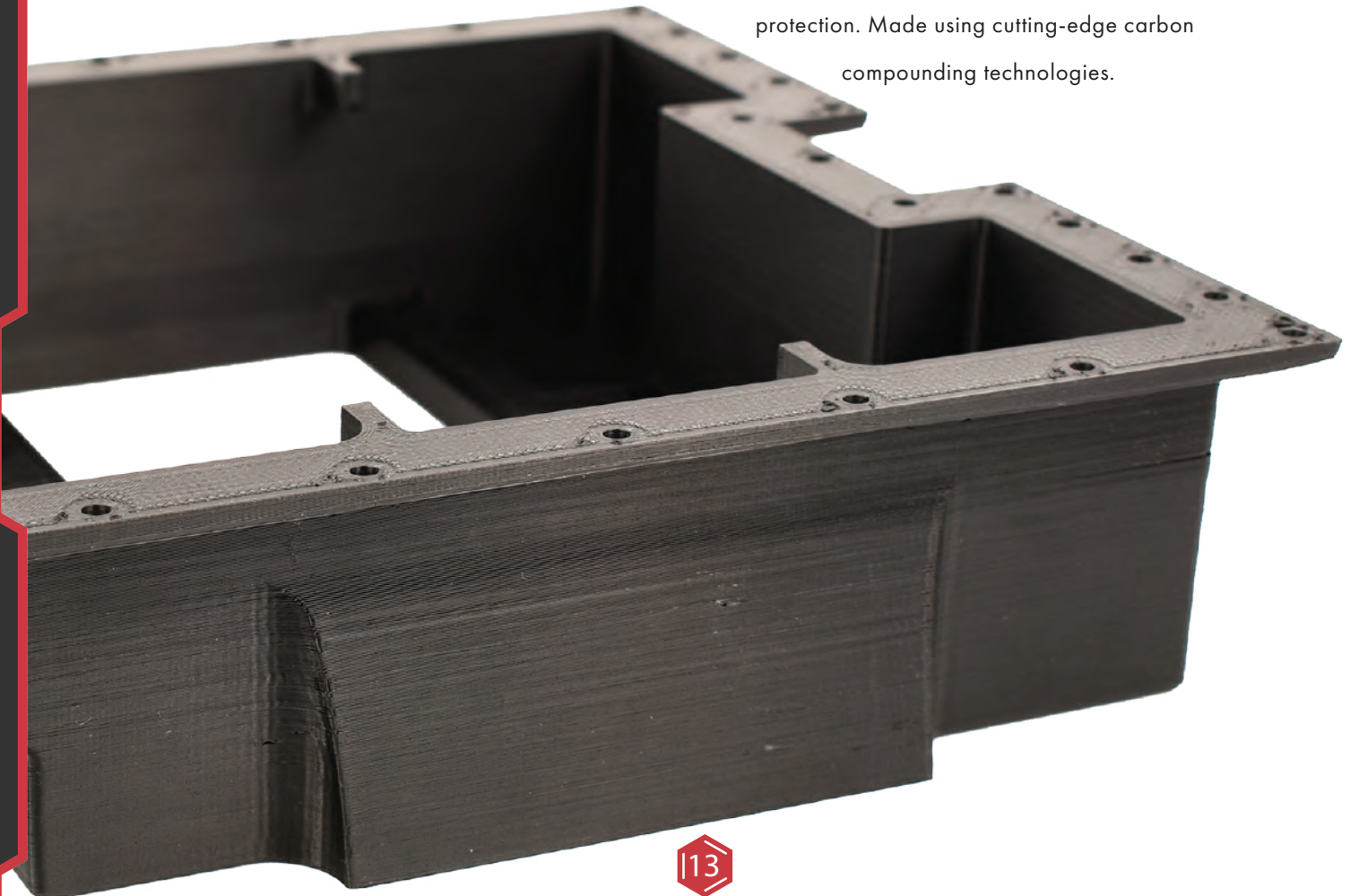
CarbonX™ Carbon Fiber PETG + CF15

Premium PETG (glycol modified polyethylene terephthalate) with improved CF reinforcement over the competition. Ideal for anyone who desires a structural component with high modulus, excellent surface quality, dimensional stability, and light weight.



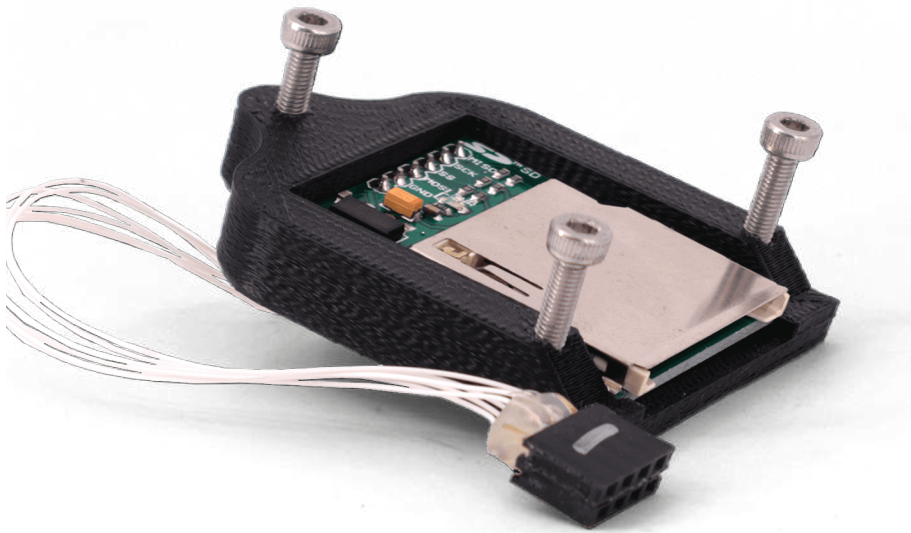
3DXSTAT™ ESD-PETG

An advanced ESD-Safe compound designed for use in critical applications which require electrostatic discharge (ESD) protection. Made using cutting-edge carbon compounding technologies.



3DXSTAT™ ESD-PLA

Our ESD-PLA was created for ease of printability and consistent results. Suitable for printing on practically any 3D printer that can print standard PLA. We made this using Natureworks INGENEO® PLA and proprietary carbon additives, including cutting-edge multi-wall carbon nanotube technology. With low shrinkage, consistent surface resistance, and minimal outgassing, ESD-PLA is ideal for industrial and semi-con components, jigs, enclosures, and more!



CarbonX™ PLA + CF15

CarbonX™ PLA+CF is made using Natureworks PLA and premium high-modulus carbon fiber. This material offers ease of printing, strength & stiffness, excellent dimensional stability, and an amazing surface finish.



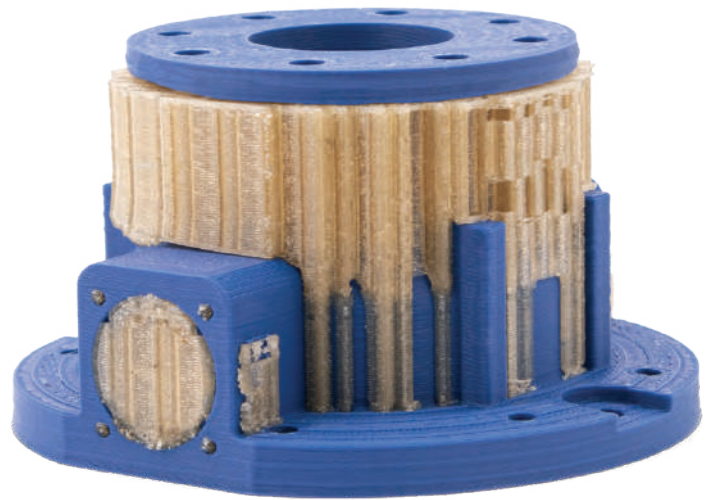
Support Materials

Materials



ThermaX™ HTS

A high-temp break-away support ideal for use in dual extruder printers designed to print high-temp materials in conditions unsuitable for other supports. Used to support PEKK, PEEK, PEI, PPSU, PSU, PPS, and PC.



AquaTek™ Advance X1 USM

Our most advanced support material, X1 USM Universal Support Material is a brand new filament completely soluble in warm water! Compatible with the widest array of materials and still safe to use in a home or office environment.



3DXMAX® ASA

ASA (Acrylonitrile Styrene Acrylate) is a UV-resistant, famously weatherable polymer. Our ASA has a low-gloss matte finish which makes it the perfect filament for technical-looking prints, especially when you don't want the high-gloss surface finish often associated with 3D printing materials like ABS, PETG, or PLA.

CarbonX™ ASA + CF15

CarbonX™ ASA+CF is made using our popular ASA compounded with high-modulus carbon fiber. This material offers excellent UV-stability, matte surface finish, ease of printing, strength & stiffness, coupled with superior dimensional stability. We found our new favorite material to print structural parts!



Evolv3D™ OBC

OBC Polyethylene (Olefin Block Copolymer) from Dow is an engineering-grade material based on a novel polyethylene copolymer. It eliminates many of the problems associated with printing polypropylene-based materials. It's famous for its excellent chemical resistance, ease of printing, and very light weight.



Simubone

Materials

SIMUBONE® Bone Modeling Filament

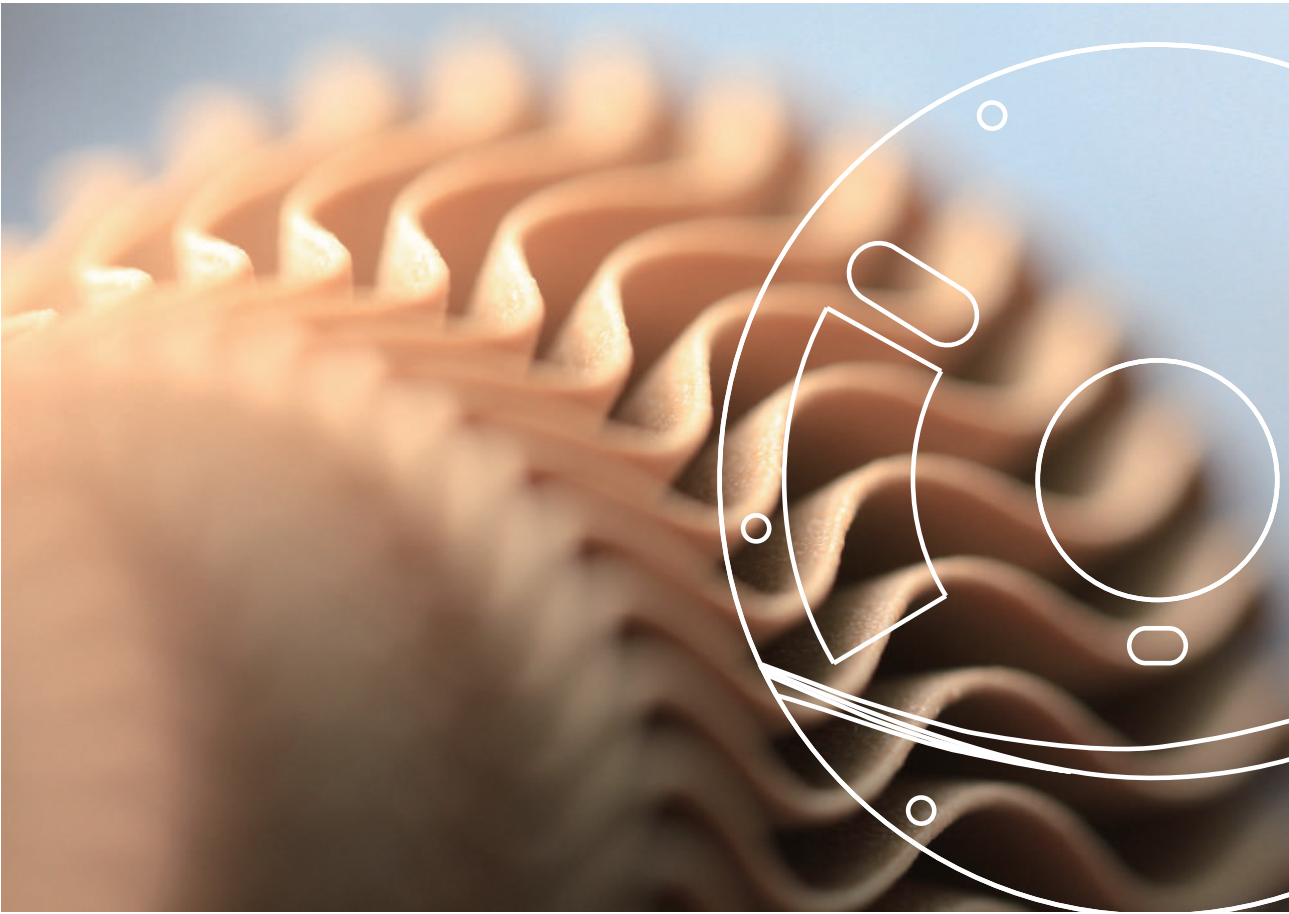
SimuBone® Bone Modeling Filament is the latest technology in anatomical bone modeling materials. It is ideal for use in both educational and clinical settings as a replacement for cadaver bone and for patient-specific preoperative surgical planning. Plus, SimuBone® is ISO 22196:2011 certified antibacterial and our formulation is produced in an ISO 13485 compliant facility.



3DXSTAT™ ESD-FLEX [TPU]

3DXSTAT™ ESD-Flex TPU [90A] [thermoplastic polyurethane] elastomer is an engineering-grade thermoplastic chosen for its balance of excellent flexibility, ease of printing, chemical resistance, and toughness. 3DXSTAT™ ESD Flex elastomeric filament has been formulated to offer ESD-Safe electrical conductivity with a target surface resistance of 10^3 Ohm.





Product Portfolio
Professional range
Industrial range
Hardware range
PolyCore™ range

2022

2022

Product Portfolio

Professional range

Industrial range

Hardware range

PolyCore™ range

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Our Offer

Polymaker offers 2 ranges of 3D printing filaments, pellets, and hardware.



Professional

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.



PolyCore™

Polymaker pellet product, PolyCore™, is a new range of polymer composites and compounds with optimized size-stability and layer adhesion, designed specifically for large-scale material-extrusion based 3D printing technologies, e.g. Big Area Additive Manufacture (BAAM) and Medium Area Additive Manufacture (MAAM).



Industrial

The Industrial range of products provide engineering grade materials to unlock the use of 3D printing in multiple industries for new applications. Industrial products can require specific equipment and skills.



Hardware

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

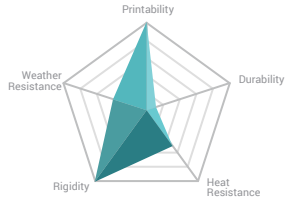


About Polymaker

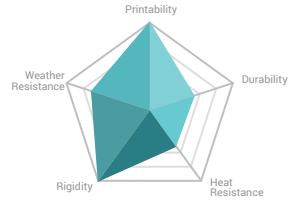
Polymaker is a developer and manufacturer of 3D printing materials committed to innovation, quality and sustainability. Its award-winning product portfolio has enabled numerous individuals and companies to better create and make. Headquartered in Changshu, China, Polymaker has multiple office locations in Shanghai, Utrecht and Houston ready to serve customers across the globe.



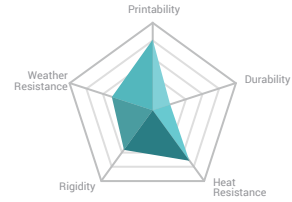
Material Comparison



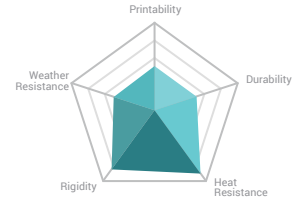
PolyLite™ PLA



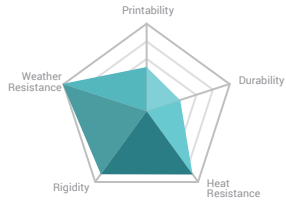
PolyLite™ PLA Pro



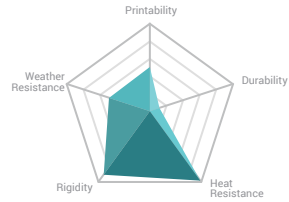
PolyLite™ PETG



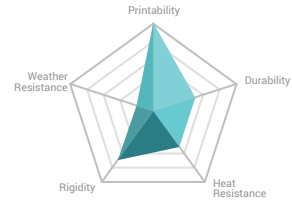
PolyLite™ ABS



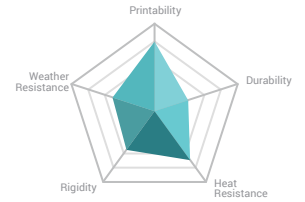
PolyLite™ ASA



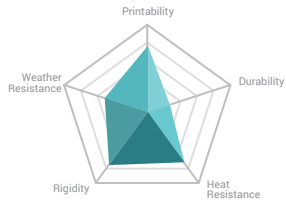
PolyLite™ PC



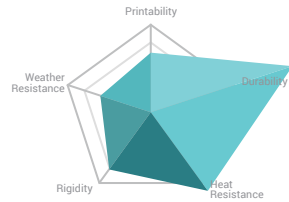
PolyMax™ PLA



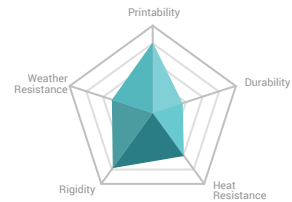
PolyMax™ PETG



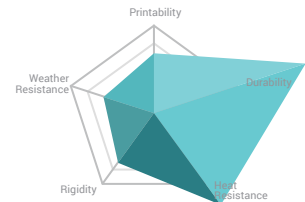
PolyMax™ PETG-ESD



PolyMax™ PC



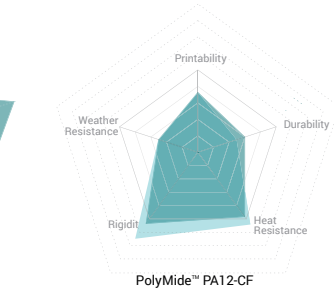
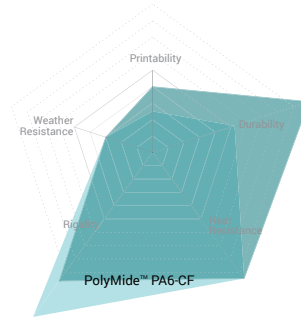
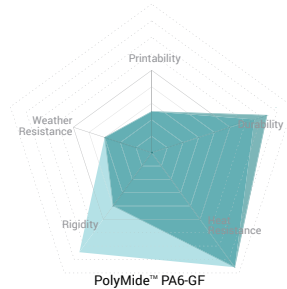
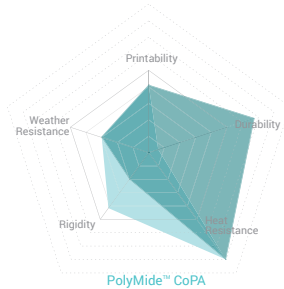
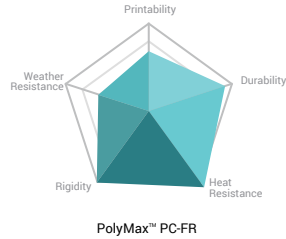
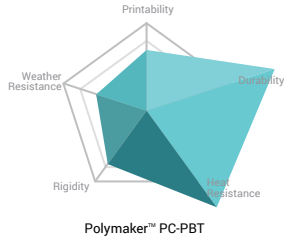
PolySmooth™



Polymaker™ PC-ABS



Material Comparison



Printability

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

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 is currently estimated.

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





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 jams.

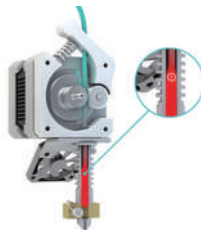
WARP-FREE™

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.

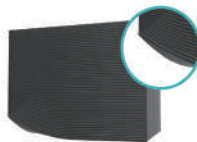
Regular PLA



With Jam-Free™



Regular Nylon



With Warp-Free™



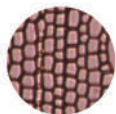
Without Ash-Free™
Ash content: 0.5%



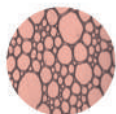
With Ash-Free™
Ash content: 0.003%



Wood



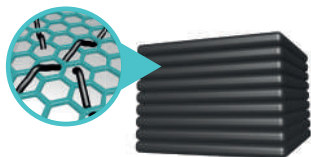
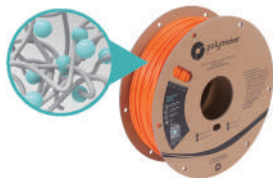
Stabilized Foaming™



Rough surface



With Layer-Free™



STABILIZED FOAMING™

Stabilized Foaming™ 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™

Layer-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 layer-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.







PolyTerra™ PLA is a PLA-based based 3d printing filament designed from the ground up to create the next generation of environmentally friendly filaments, providing ease of use, printing quality, speed and reliability. It comes on a fully recycled cardboard spool and packaging and Polymaker will plant one tree for every spool sold, local to the place of purchase.



For every spool of PolyTerra™ PLA produced, Polymaker will plant one tree in the area where the spool will be purchased thanks to its partnerships with different organizations all over the world.

Trees help clean the air we breathe, filter the water we drink, and provide habitat to over 80% of the world's terrestrial biodiversity.



PolyTerra™ 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 advantage of PolyTerra™ PLA is that it is designed to being able to support itself and breakaway easily.

Jam-Free™ Technology:

As the other PLA from Polymaker portfolio, 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.





Colors available



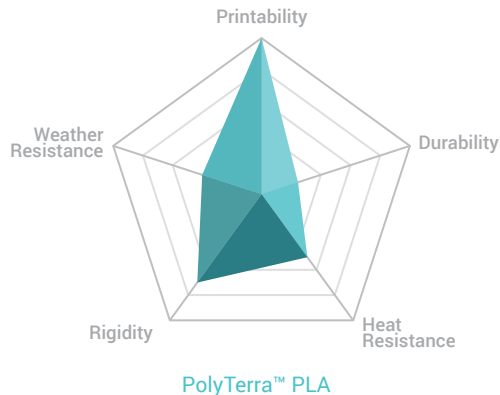
Applications

PolyTerra™ PLA is designed from the ground up to meet the demands from 3D printing hobbyist and schools. Its wide range of colors and excellent printability makes it ideal for educational models, toys, gadgets & trinkets and home decoration. The improved toughness of PolyTerra™ PLA allows the creation of more durable models.

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

Material Properties



Key features



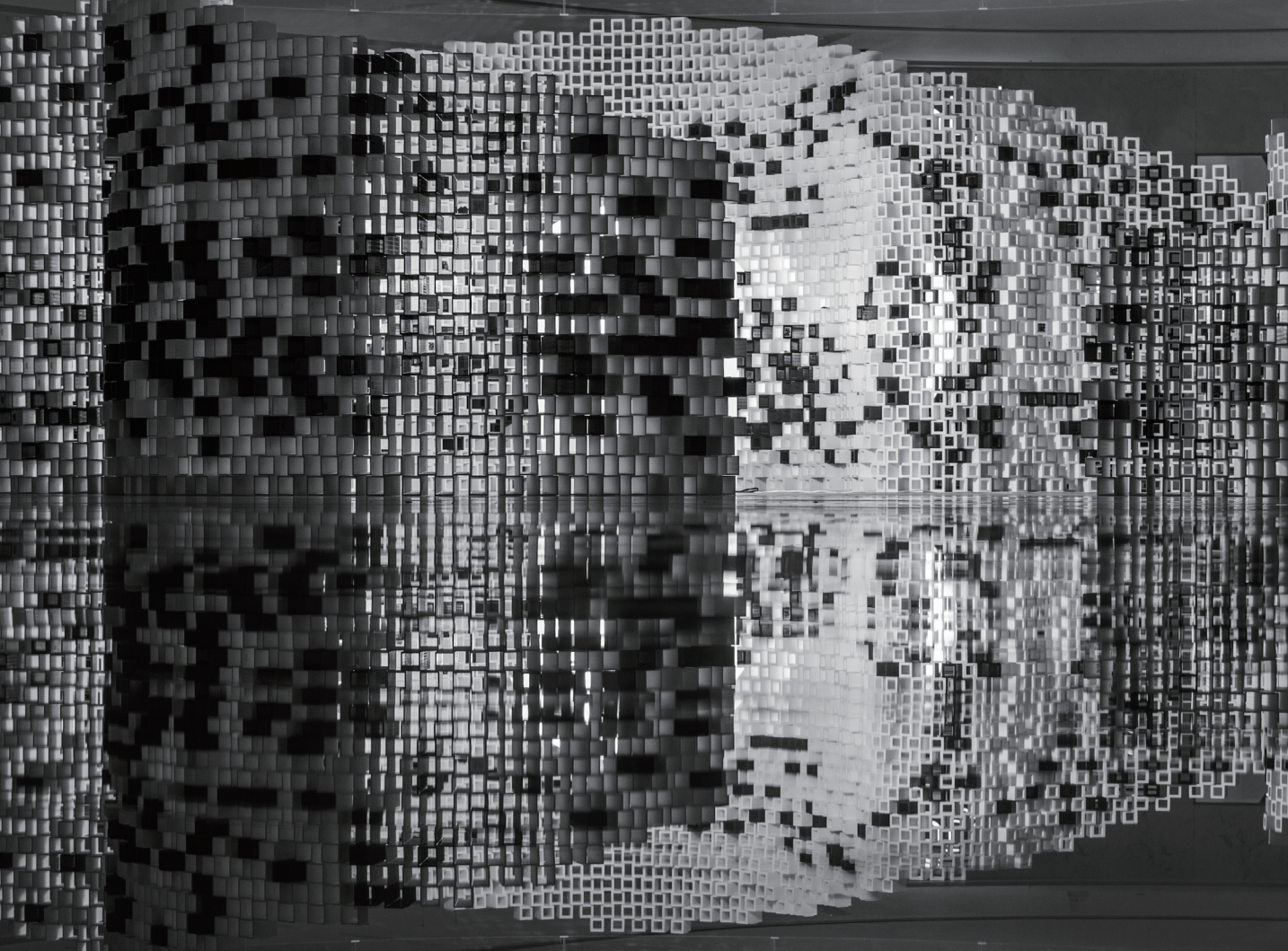
Eco-friendly



Excellent
printability



Easy support
removal





PolyLite™ is a family of 3D printing filaments made with the best raw materials to deliver exceptional quality and reliability. PolyLite™ covers the most popular 3D printing materials to meet your everyday needs in design and prototyping.





PolyLite™ PLA

PolyLite™ PLA is a high-quality PLA designed for reliability and ease of printing.





Colors available



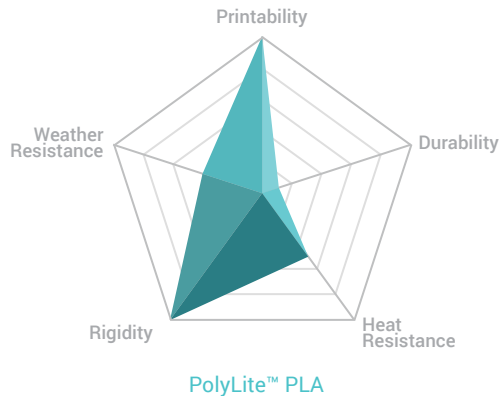
Applications

PolyLite™ PLA is a reliable 3D printing material with a wide variety of colors. It features strength and rigidity, this combination provides ease of printing with good mechanical properties which makes it a good candidate for product design, home gadgets, toys, trinkets, props, cosplay or prototyping.

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



Key features



Excellent
printability



Prints
reliably



From
renewable
sources



PolyLite™ PLA Pro

PolyLite™ PLA Pro is a first of its kind: combining high toughness and high rigidity, this professional PLA offers engineering properties with the ease of print of regular PLA.





Colors available



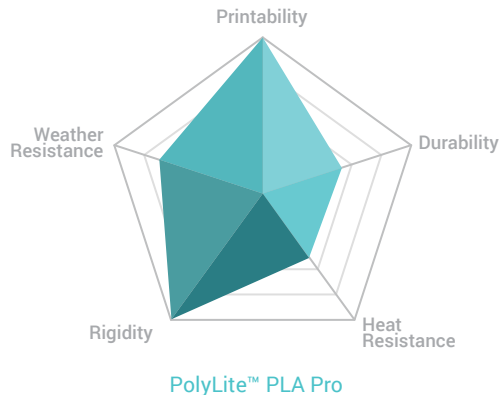
Applications

PolyLite™ PLA Pro is a first of its kind: combining high toughness and high rigidity, this professional PLA offers engineering properties with the ease of print of regular PLA, which makes it a good candidate for wide applications covering functional prototyping, jigs and fixtures, and final parts.

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



Key features



Excellent rigidity



High impact strength

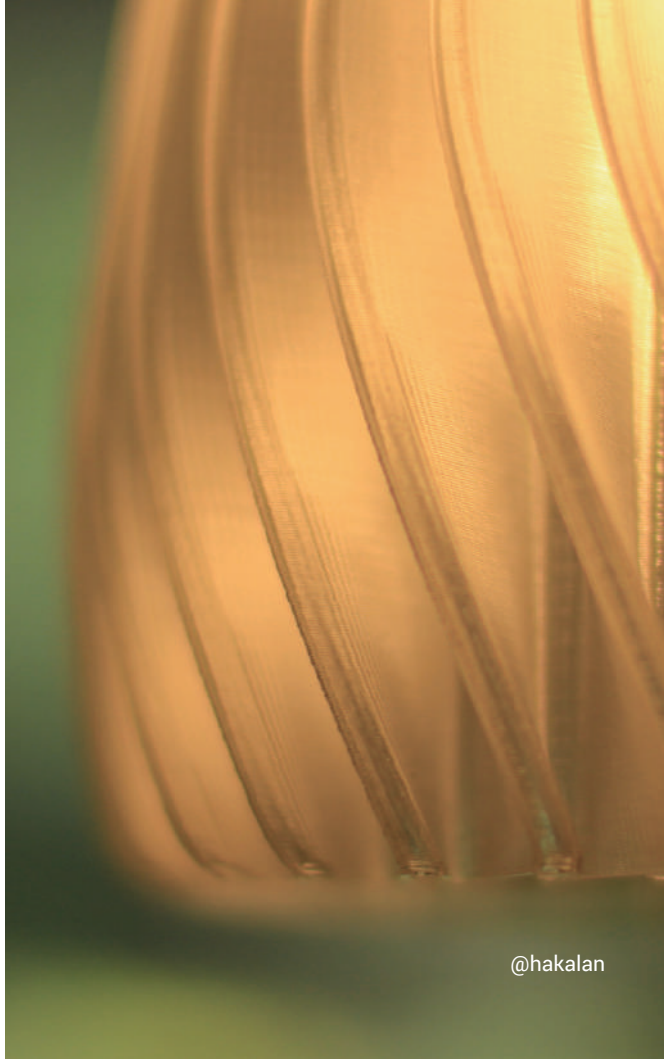


Easy to use



PolyLite™ PETG

PolyLite™ PETG is an affordable PETG filament with balanced mechanical properties and ease of printing.





Colors available



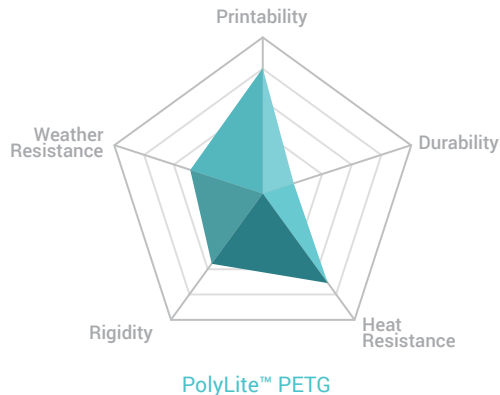
Applications

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: Off-20%
 Drying settings: 65°C for 6h
 Annealing: N/A

Material Properties



Key features



Excellent
all-rounder



Good layer
adhesion

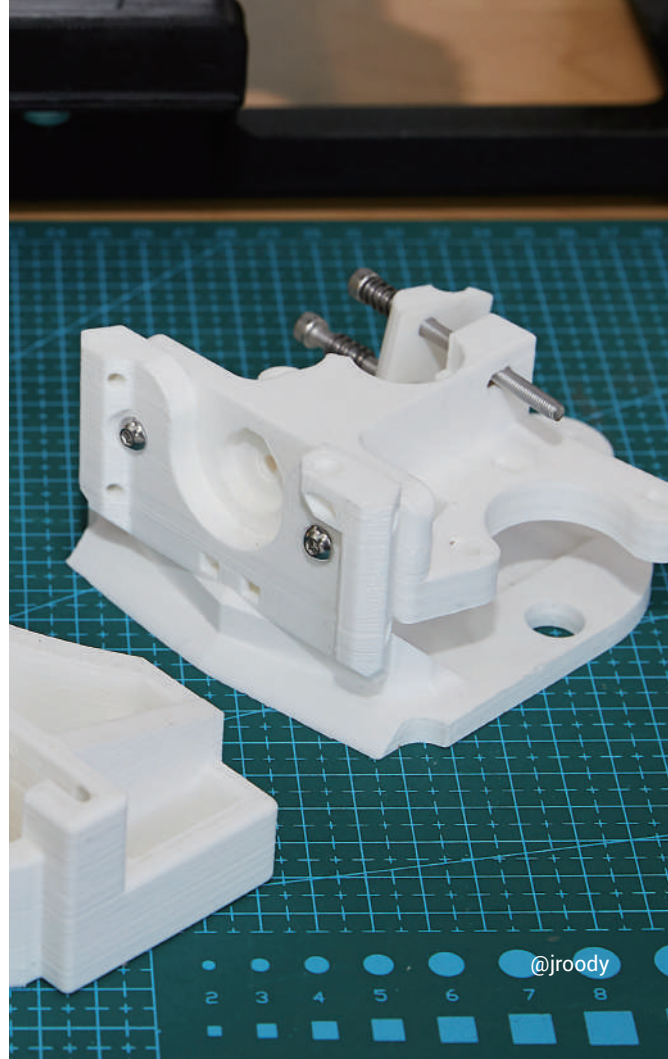


Good light
diffusion



PolyLite™ ABS

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.





Colors available



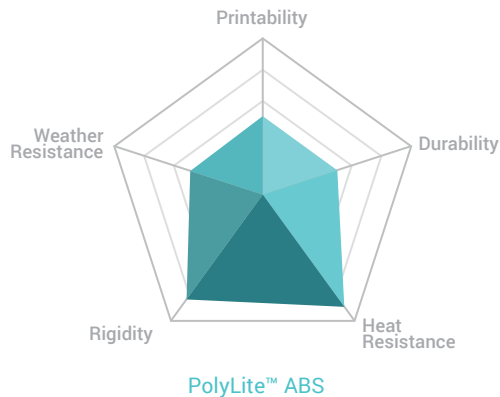
Applications

PolyLite™ ABS is a very durable material, featuring high impact resistance with high heat resistance (~100°C). PolyLite™ ABS is a good choice for mechanical parts featuring in robotics, functional prototyping or home appliance spare parts, however, printing larger parts will require an enclosed printing chamber.

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

Material Properties



Key features



Heat
resistant



Impact
resistant



Machinable



PolyLite™ ASA

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.





Colors available



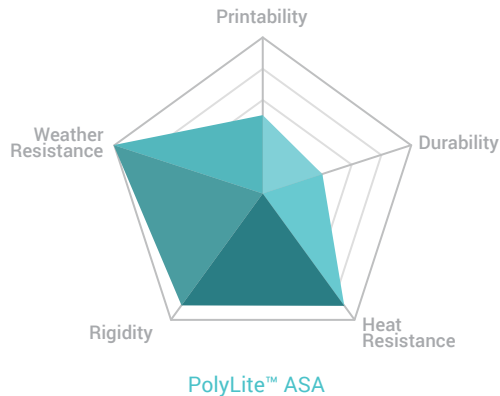
Applications

PolyLite™ ASA has the same mechanical and thermal properties as PolyLite™ ABS with the ability to resist sunlight (UV) and weather in general. Its good weather resistance makes it ideal for outdoor applications such as garden tools, outdoor decoration, parts that are in direct sunlight or exposed to 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

Material Properties



Key features



UV
resistant



Water
resistant



Good thermal
and mechanical
properties



PolyLite™ PC

PolyLite™ PC is produced using a polycarbonate resin specifically engineered for 3D printing. It delivers good stiffness and heat resistance with light diffusing properties.





Colors available



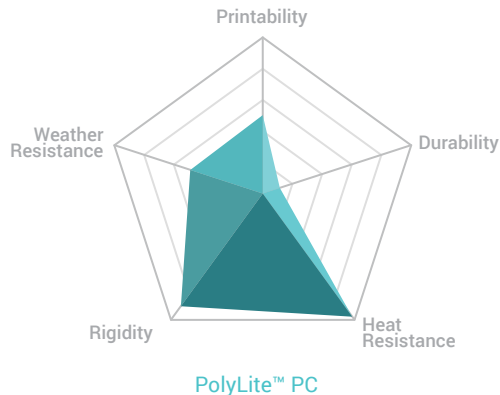
Applications

PolyLite™ PC is an engineering material which offers excellent strength and heat resistance. Its transparency offers good light diffusion which makes it perfect for lighting applications. Its strength can also be used to print utility hooks, brackets or other functional home items.

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: 100°C for 2h

Material Properties



Key features



Heat resistant



Good light diffusion



Stiff and strong





PolyMax™

PolyMax™ is a family of advanced 3D printing filaments produced with Polymaker's Nano-reinforcement technology, to deliver exceptional mechanical properties and printing quality.





PolyMax™ PLA

PolyMax™ PLA is an incredibly easy-to-print filament with improved mechanical properties, making it an excellent alternative to ABS.





Colors available



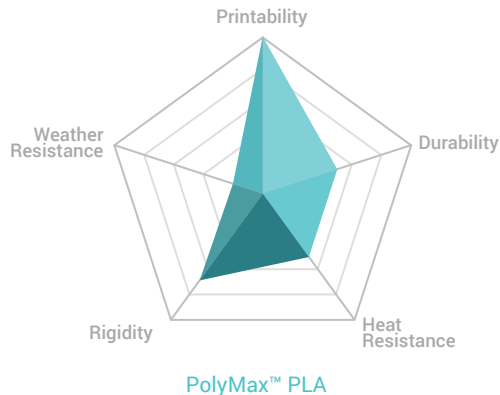
Applications

PolyMax™ PLA prints like PolyLite™ PLA with 5 times the durability! PolyMax™ PLA is the perfect candidate for educational projects or in the professional environment where product design iteration requires a reliable prototyping process and a durable material. PolyMax™ PLA can be used to print prototypes, prosthetics, lifestyle accessories and mechanical parts.

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



Key features



Extremely
tough PLA



Excellent
printability



Prints
reliably



PolyMax™ PETG

PolyMax™ PETG offers better mechanical properties than any other regular PETG making it a good candidate for a wide range of applications.





Colors available



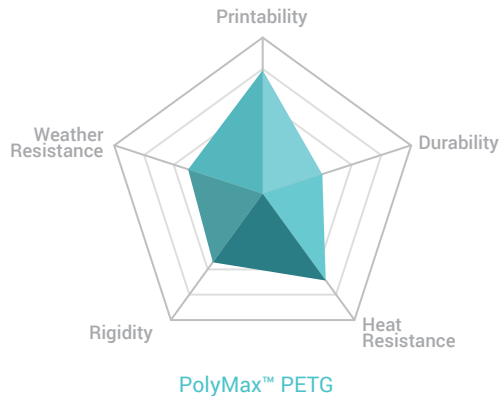
Applications

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, home gadgets 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: Off - 20%
 Drying settings: 65°C for 6h
 Annealing: N/A

Material Properties



Key features



Extremely
tough PETG



Excellent
all-rounder

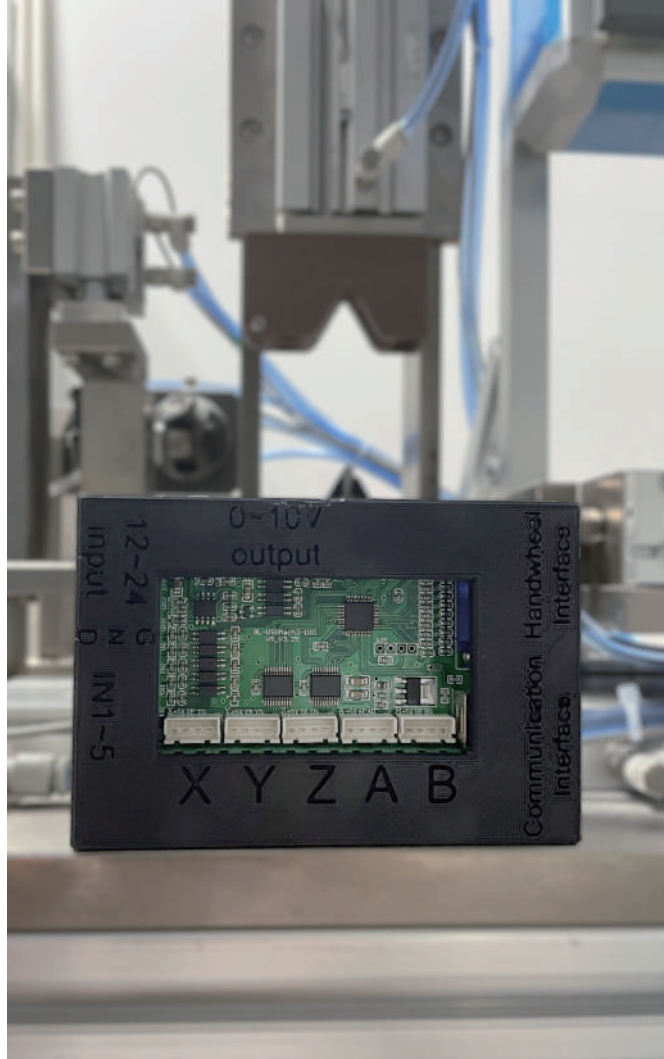


Good layer
adhesion



PolyMax™ PETG-ESD

PolyMax™ PETG-ESD offers electrostatic discharge (ESD) safety with improved toughness making it a good candidate for applications in electronics industry.





Colors available



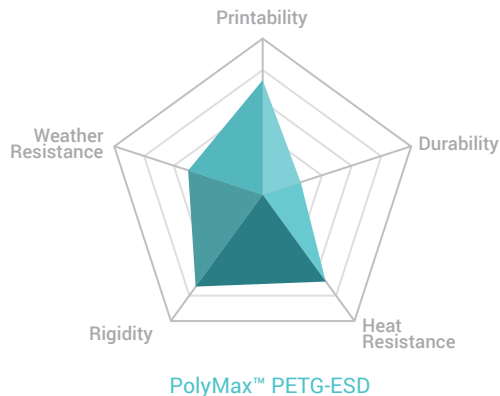
Applications

PolyMax™ PETG-ESD combine electrostatic discharges(ESD) safety with all-round properties of PolyMax™ PETG: ease of printing, heat resistance, durability and strength. It can be used for a wide range of applications in electronics industry on jigs and fixtures, functional prototyping, electronic housing.

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

Material Properties



Key features



ESD Safety



Tough PETG



Excellent all-rounder



40

Range:

Professional

Material:

PolyMax™ PC



PolyMax™ PC

PolyMax™ PC is an engineered PC filament combining excellent strength, toughness, heat resistance and printing quality. It is the ideal choice for a wide range of engineering applications.





Colors available



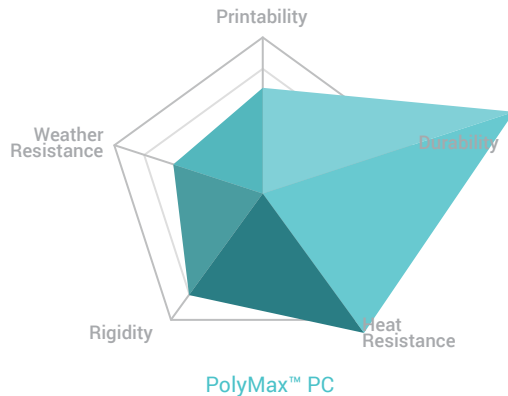
Applications

PolyMax™ PC is an engineering material with excellent heat resistance and outstanding durability. It can be used for more demanding applications involving impact resistance and high vibration such as jigs and fixtures, furniture, small motor brackets, drones, 3D printer parts or prosthetics.

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: 100°C for 2h

Material Properties



Key features



Extremely
tough PC



Heat
resistant



Good layer
adhesion



PolyMax™ PC-FR

PolyMax™ PC-FR, creation from Covestro's Makrolon® family, could achieve V0 performance in the UL94 flame retardancy test and displays excellent toughness, strength and heat resistance. This filament opens new applications in the automotive, railway and aerospace industries.





Colors available



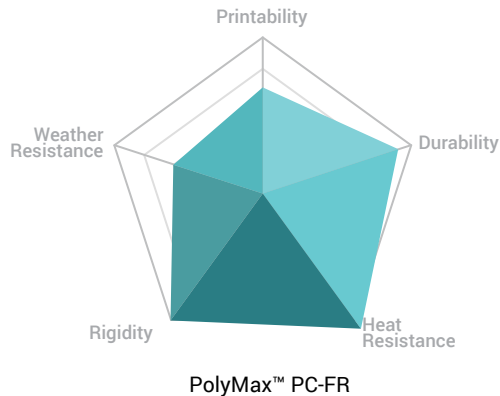
Applications

PolyMax™ PC-FR can reduce the intensity of a fire or slow/stop the spread of fire. PolyMax™ PC-FR satisfies UL 94 (plastics flammability standard) with the highest grading "V-0". Many industries require this material ability such as automotive, railway, aerospace and aeronautical. PolyMax™ PC-FR unlocks 3D printing for these industries where compliance is critical.

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: 100°C for 2h

Material Properties



Key features



Flame
retardant



Strong and
tough



Heat
resistant



@SamPurdie



PolyFlex™ is a family of high-quality flexible materials. It provides the perfect solution for applications where high flexibility and durability are required.





PolyFlex™ TPU90

PolyFlex™ TPU90, created from Covestro's Addigy® family, is a thermoplastic polyurethane (TPU) based filament designed to provide great flexibility without compromising on printing speed. It also has the ability to resist ultra-violet (UV) light or sunlight.





Colors available



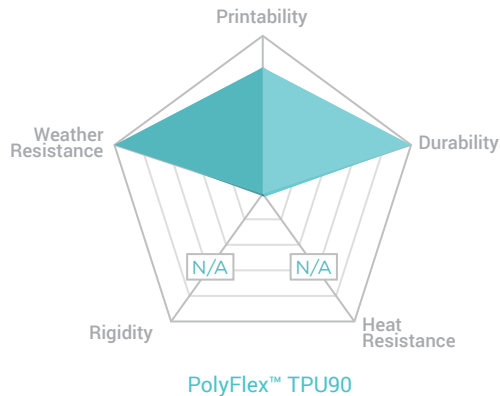
Applications

PolyFlex™ TPU90 is a flexible filament with a shore hardness of 90A. It offers great flexibility while maintaining reliable printability. Its UV resistance opens more outdoor applications where flexibility and durability are required.

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

Material Properties



Key features



Flexible with
shore 90A



Good
printability



UV
resistance



PolyFlex™ TPU95

PolyFlex™ TPU95 is a thermoplastic polyurethane (TPU) based filament specifically engineered to work on most desktop 3D printers. It has a shore hardness of 95A and can stretch more than 3 times its original length.





Colors available



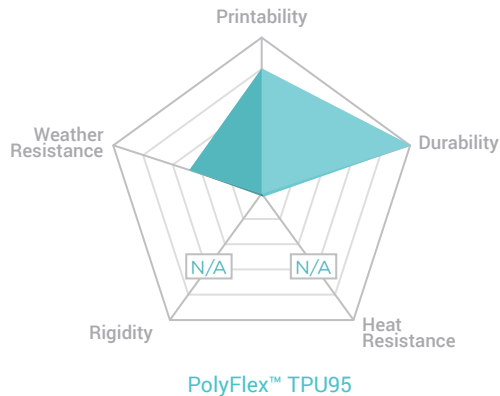
Applications

PolyFlex™ TPU95 is a flexible filament with a shore hardness of 95A. Thanks to 3D printing, a model can be made more or less flexible depending on its design and infill. PolyFlex™ TPU95 can be used in the footwear industry to print upper shoes, soles or insoles, to create flexible jigs and fixtures, and is commonly used to print custom gaskets.

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 12h
 Annealing: N/A

Material Properties



Key features



Flexible with
shore 95A



Extremely
durable



Good
printability



50

Range: Industrial

Material: PolyFlex™ TPU95-HF



PolyFlex™ TPU95-HF

PolyFlex™ TPU95-HF, created from Covestro's Addigy® family, is a TPU with high flow properties making it ideal for high speed printing. Combined with its UV resistance, PolyFlex™ TPU95-HF unlocks new applications for flexible materials in manufacturing.





Colors available



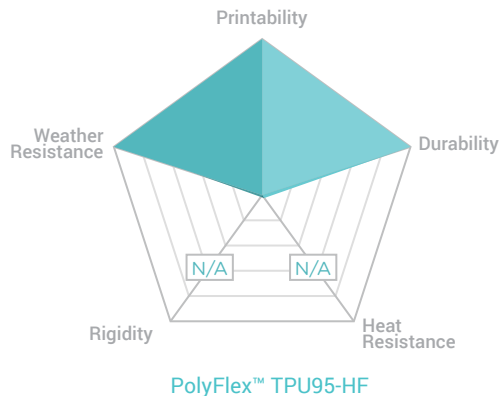
Applications

PolyFlex TPU95-HF is a flexible high flow filament with a shore hardness of 95A. Thanks to its high flowability, it prints incredibly fast. Combined with its UV resistance, PolyFlex TPU95-HF becomes a go-to material for functional prototyping, manufacturing tools or small batch manufacturing of durable and flexible parts.

Printing Settings

Printing temp.: 200-220°C
 Printing speed: 40-100mm/s
 Bed temp.: 25-50°C
 Chamber temp.: 20-30°C
 Fan: ON
 Drying settings: 70°C for 8h
 Annealing: N/A

Material Properties



Key features



Flexible with
shore 95A



High flow



UV
resistance



@XEV



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.





PolyMide™ CoPA

PolyMide™ CoPA is based on a copolymer of Nylon 6 and Nylon 6,6. The filament combines excellent strength, toughness, and heat resistance of up to 180°C.





Colors available



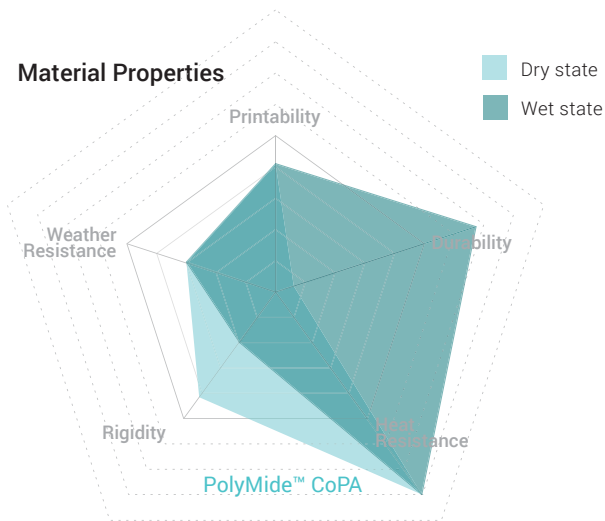
Applications

PolyMide™ CoPA provides excellent strength and a heat resistance up to 180°C. Warp-Free™ technology provides ease of printing with the outstanding mechanical and thermal properties natural to Nylon. PolyMide™ CoPA is suited to parts in very demanding environments such as gears, engine brackets, pipe connectors or high velocity air flows.

Printing Settings

Printing temp.: 250-270°C
 Printing speed: 30-50mm/s
 Bed temp.: 25-70°C
 Chamber temp.: N/A
 Fan: Off
 Drying settings: 100°C for 8h
 Annealing: 80°C for 6h

Material Properties



Key features



High heat resistance



Balanced mechanical properties

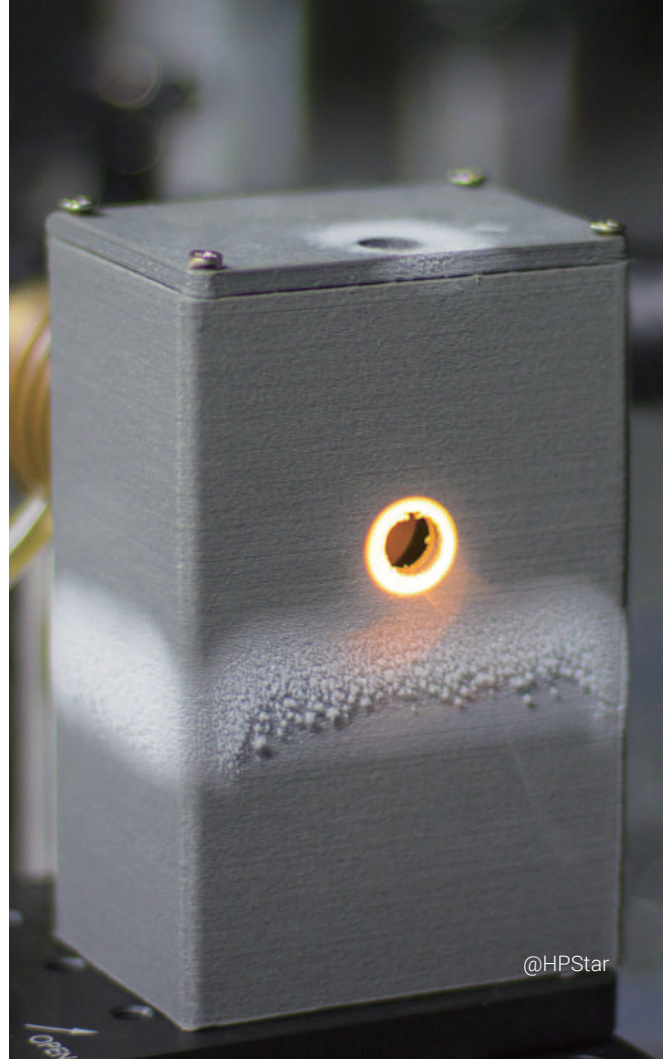


Dimensionally stable during printing



PolyMide™ PA6-GF

PolyMide™ PA6-GF is a glass fiber reinforced PA6 (Nylon 6) filament. The material exhibits excellent thermal and mechanical properties without sacrificing the layer adhesion.



@HPStar



Colors available



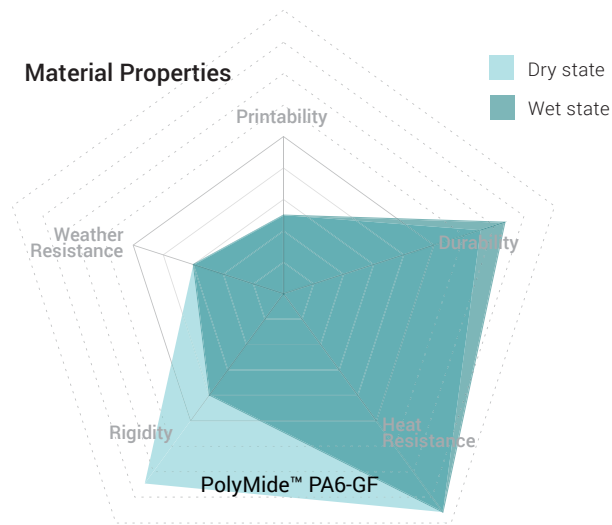
Applications

PolyMide™ PA6-GF is strong, durable and features an excellent heat resistance. It can be used in applications requiring stiffness and durability such as lab equipments, brackets, jigs, fixtures, drone frames or prosthetics.

Printing Settings

Printing temp.: 280-300°C
 Printing speed: 60mm/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

Material Properties



Key features



High heat resistance



Excellent isotropic mechanical properties



Dimensionally stable during printing



58

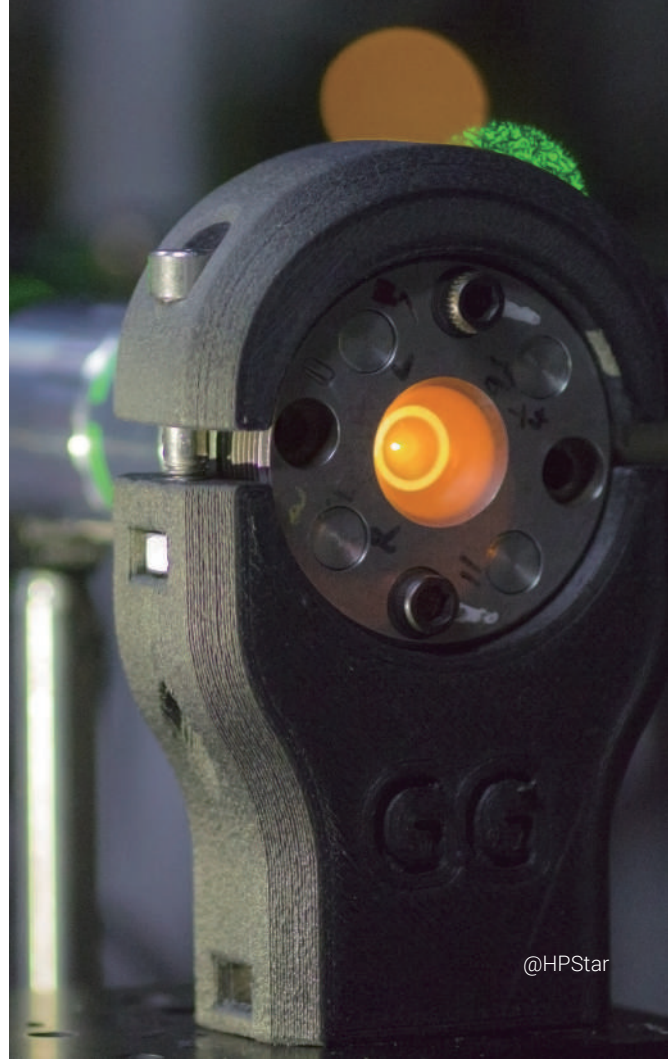
Range: Industrial

Material: PolyMide™ PA6-CF



PolyMide™ PA6-CF

PolyMide™ PA6-CF is a carbon fiber reinforced PA6 (Nylon 6) filament. The carbon fiber reinforcement provides significantly improved stiffness, strength and heat resistance with outstanding layer adhesion.



@HPStar

Colors available



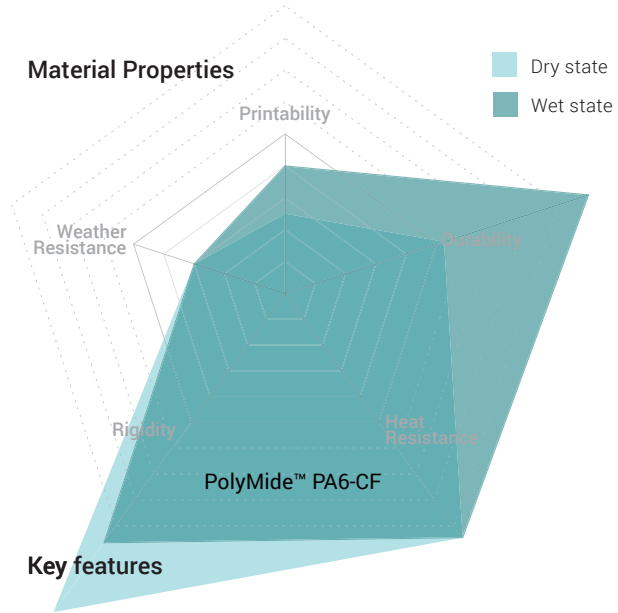
Applications

PolyMide™ PA6-CF outperforms almost every 3D printing material offering extreme durability and functionality. It features a heat resistance of 215°C and can be used in applications requiring stiffness and durability such as automotive brackets, jigs, ESD safe fixtures, aerospace, prosthetics and engineering.

Printing Settings

Printing temp.: 280-300°C
Printing speed: 60mm/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

Material Properties



Key features



High heat deflection temperature



Excellent isotropic rigidity



Dimensionally stable during printing





60

Range: Industrial

Material: PolyMide™ PA12-CF



PolyMide™ PA12-CF

PolyMide™ PA12-CF is a carbon fiber reinforced PA12 (Nylon 12) filament. Thanks to the low moisture sensitivity of PA12, this product features outstanding mechanical and thermal properties even after the moisture conditioning process. Combined with its ease of print with Warp-Free™ technology, this product is ideal to create manufacturing tools.





Colors available



Applications

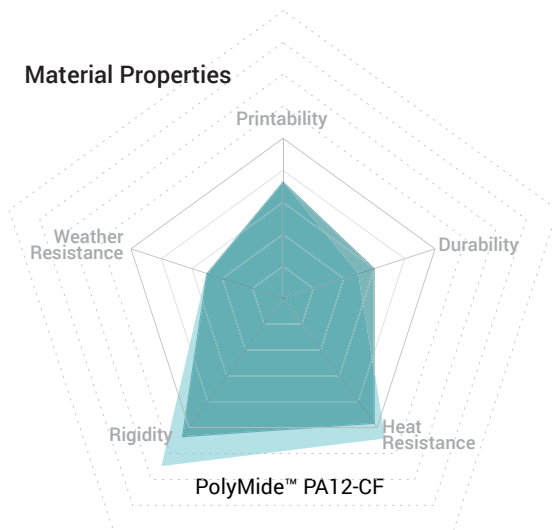
PolyMide™ PA12-CF has excellent mechanical and thermal properties as well as a low moisture sensitivity. With its excellent surface finish and dimension accuracy, it is a good candidate material for producing jigs and fixtures to increase production efficiency.

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

Material Properties



Key features



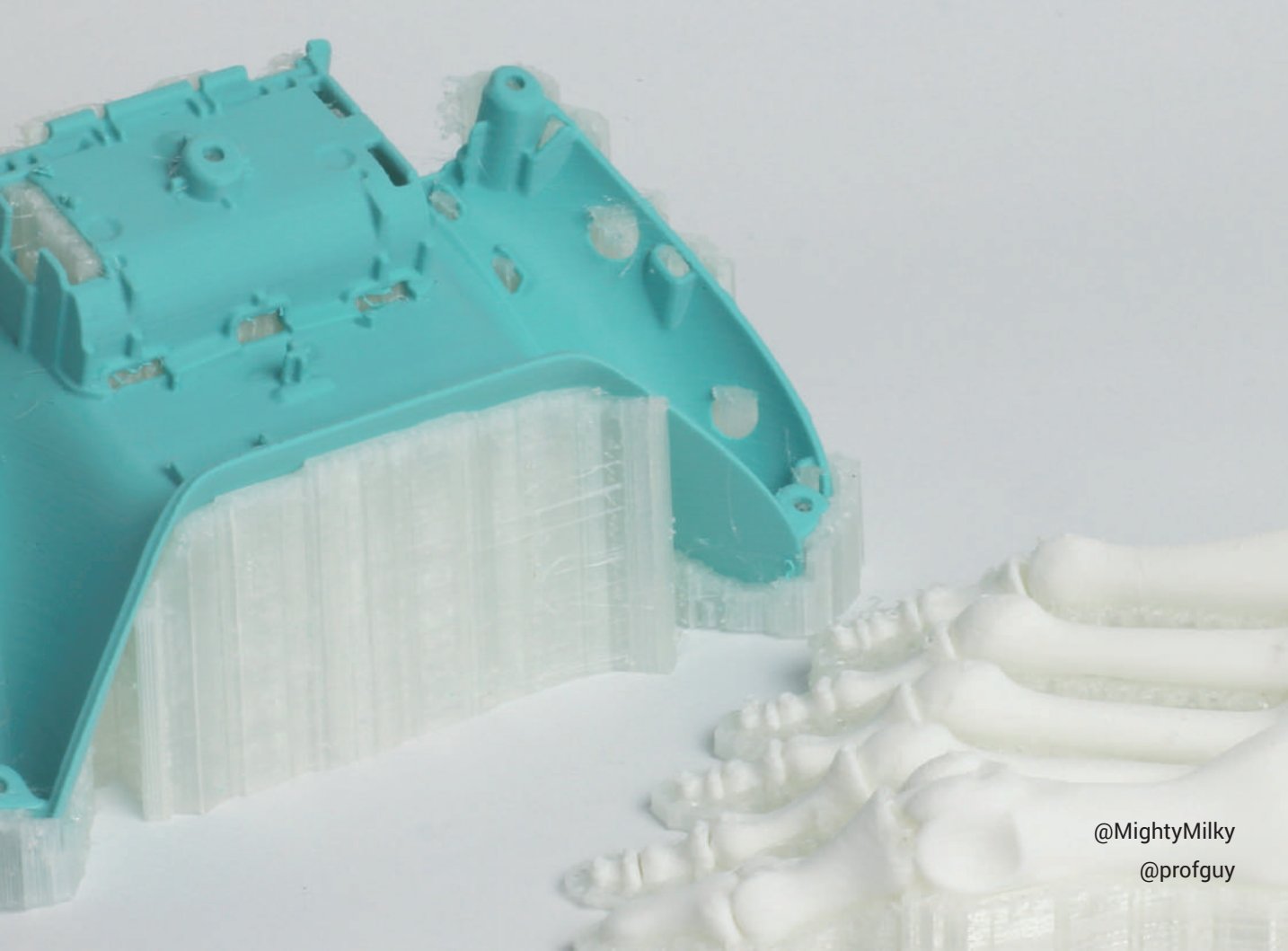
Low
moisture
sensitivity



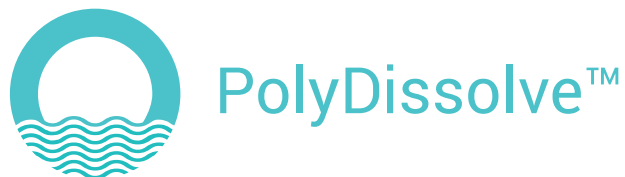
Excellent
surface finish



Excellent
dimension
stability during
printing



@MightyMilky
@profguy



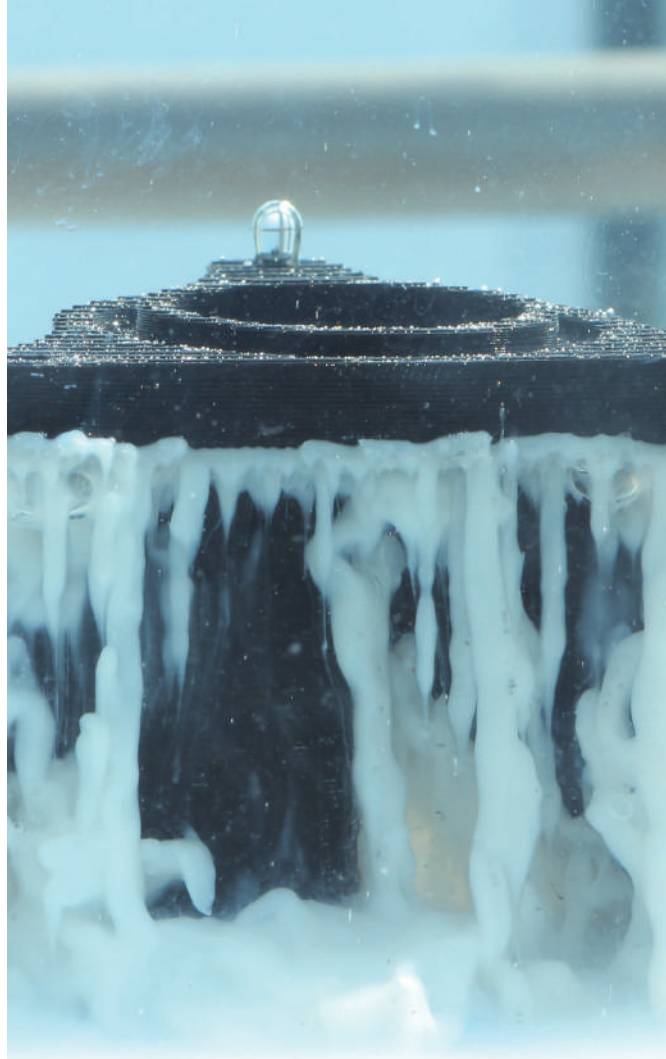
PolyDissolve™ is a family of dissolvable support filaments. This family offers a support solution for our whole portfolio of filaments. By unlocking new geometries it enables a greater freedom of design.





PolyDissolve™ S1

PolyDissolve™ S1 is a water dissolvable support for PLA, TPU, PVB and Nylon based filaments from our portfolio. It is specifically engineered to have a perfect interface with these materials while also displaying good solubility.





Colors available



Applications

PolyDissolve™ S1 is ideal for printing complex geometries such as art sculptures, figurines, models with internal cavities, all-in-one mechanisms or architectural models.

Printing Settings

Printing temp.: 215-225°C
Printing speed: 30-40mm/s
Bed temp.: 25-60°C
Chamber temp.: N/A
Fan: On
Drying settings: 80°C for 12h
Annealing: N/A

Compatibility

PLA based material	++
PETG based material	+
ABS/ASA based material	--
PC based material	--
PVB based material	++
TPU based material	++
Short-chain Nylon based material	--
Long-chain Nylon based material	-
From Polymaker™ portfolio	

Key features



Compatible with multiple materials



Good solubility



Excellent support interface





Specialty

The Specialty family provides unique filaments from Polymaker to unlock new 3D printing applications.





PolySmooth™

PolySmooth™ is a unique, easy-to-print filament designed for hands-free post processing. The surface can be smoothed with alcohol to achieve layer free models using the Polysher™.



@T4CCI_TUA



Colors available



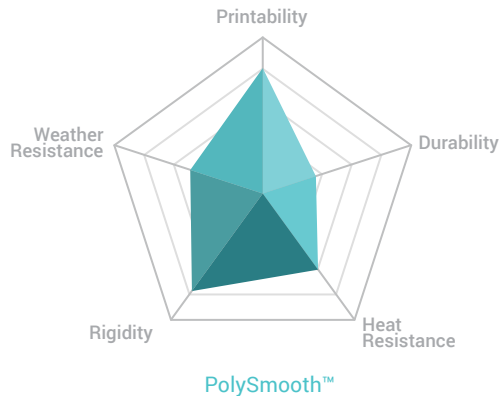
Applications

PolySmooth™ offers the possibility to easily post process a model to obtain a smooth surface. PolySmooth™ is designed for models which are hard to sand and post process such as figurines and cosplay props. PolySmooth™ is also the ideal choice for product design and prototyping to present a clean design replicating an injection molded surface.

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



Key features



Safe and easy to post process



Excellent printability



Balanced mechanical properties



70

Range:

Professional

Material:

PolyWood™



PolyWood™

PolyWood™ is a wood mimic filament containing no actual wood powder, which removes all risks of nozzle clogs. PolyWood™ is made entirely with PLA using a special foaming technology. It exhibits the same density and appearance as wood with a unique matte finish.





Colors available



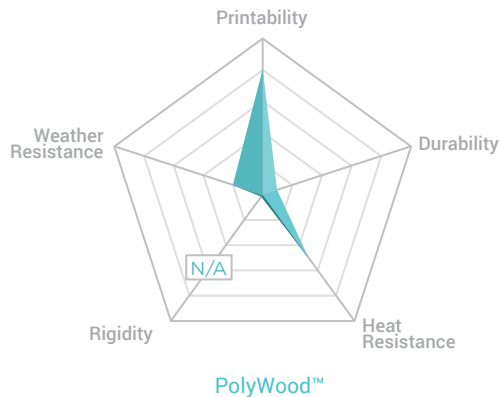
Applications

PolyWood™ delivers an incredible surface finish which makes it is a unique material choice for aesthetic applications such as architectural models, figurines, gaming dioramas, decoration or lifestyle parts.

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



Key features



No risk of clogging



Clean matte finish

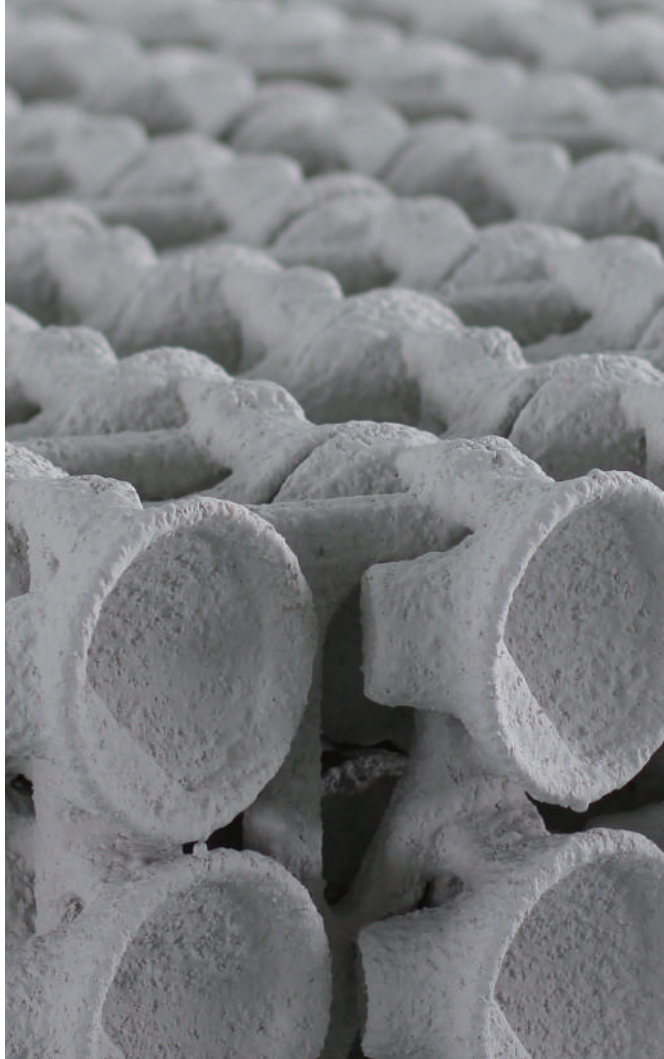


Light weight



PolyCast™

PolyCast™ is a filament designed to produce investment patterns for investment casting applications. 3D printing significantly cuts down both the cost and lead time by eliminating the tooling process.





Colors available



Applications

PolyCast™ is specifically designed to print patterns for metal investment casting. PolyCast™ features Ash-Free™ technology typically leaving an ash residue of 0.003% when burnt out at temperatures >600°C. For quick design iteration, metal prototyping or unique one-off casts, PolyCast™ offers a solution.

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



Key features



Burn out
cleanly



Safe and
easy to post
process

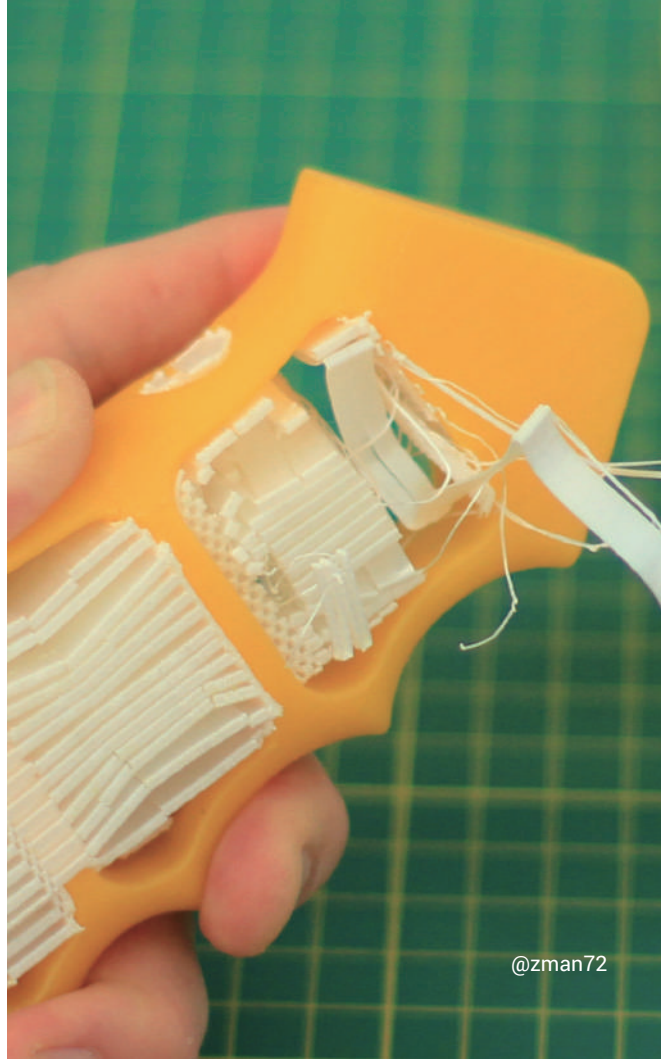


Excellent
printability



PolySupport™

PolySupport™ is a break away support for Polymaker PA12 based filaments, such as PolyMide™ PA12-CF. It has a perfect interface with long-chain Polyamide, strong enough to support it and easily removable by hand.





Colors available



Applications

PolySupport™ is a breakaway support material which can be removed very easily. It's advantage over dissolvable support is that its faster to remove and requires no tools or equipment. For geometric overhangs such as boxes, architectural models or brackets, PolySupport™ will offer a better experience than dissolvable support.

Printing Settings

Printing temp.: 220-230°C
 Printing speed: 20-40mm/s
 Bed temp.: 25-60°C
 Chamber temp.: N/A
 Fan: On
 Drying settings: 55°C for 6h
 Annealing: N/A

Compatibility

PLA based material	++
PETG based material	-
ABS/ASA based material	-
PC based material	+
PVB based material	+
TPU based material	+
Short-chain Nylon based material	--
Long-chain Nylon based material	--
From Polymaker™ portfolio	

Key features



Easy to break away



Perfect support interface with PLA



Good printability



PolySupport™ for PA12

PolySupport™ is a break away support for Polymaker PA12 based filaments, such as PolyMide™ PA12-CF. It has a perfect interface with long-chain Polyamide, strong enough to support it and easily removable by hand.





Colors available



Applications

PolySupport™ for PA12 is ideal to print models with PA12 based material which requires support, as PolySupport™ for PA12 can be mechanically removed very easily. It is a smart choice to choose it over dissolvable support for geometric models such as jigs and fixtures or covering parts as PolySupport™ for PA12 will be removed faster and more easily than a dissolvable support.

Printing Settings

Printing temp.: 270-300°C
 Printing speed: 30-60mm/s
 Bed temp.: 50-80°C
 Chamber temp.: N/A
 Fan: Off
 Drying settings: 100°C for 8h
 Annealing: N/A

Compatibility

PLA based material	NA
PETG based material	NA
ABS/ASA based material	NA
PC based material	NA
PVB based material	NA
TPU based material	NA
Short-chain Nylon based material	NA
Long-chain Nylon based material	++
From Polymaker™ portfolio	

Key features



Easy to
break away



Prefect
support
interface with
PA12 based
material



Good printability



Polymaker™ PC-ABS

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 plating.





Colors available



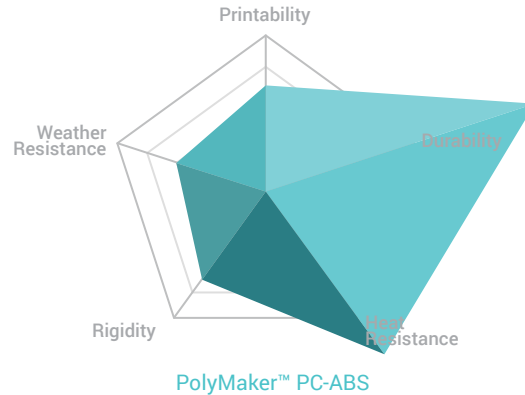
Applications

Polymaker™ PC-ABS characteristics make it ideal for automotive interior parts such as dashboard, door handles or instrument panels. Polymaker™ PC-ABS is very easy to metalize which makes it an ideal choice for lighting reflectors.

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: 65°C for 6h
 Annealing: 90°C for 2h

Material Properties



Key features



Excellent toughness and heat resistant



Good surface finish



Compatible with metal plating



80

Range: Industrial

Material: Polymaker™ PC-PBT



Polymaker™ PC-PBT

Polymaker™ PC-PBT is a PC/PBT polymer blend which offers good heat resistance and toughness at low temperatures (-20°C/-30°C). Polymaker™ PC-PBT also features good chemical resistance.





Colors available



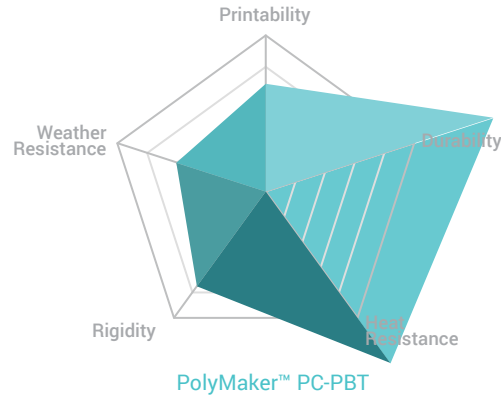
Applications

Polymaker™ PC-PBT characteristics make it ideal for automotive exterior parts such as bumpers, roof rail brackets or door handles. Polymaker™ PC-PBT is also a good choice for electronic device covers/bases such as VR/AR headsets, gadget housing or battery housings.

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: 65°C for 6h
Annealing: 90°C for 2h

Material Properties



Key features



Good mechanical and thermal properties



Good toughness at low temperature



Good chemical resistance





Hardware

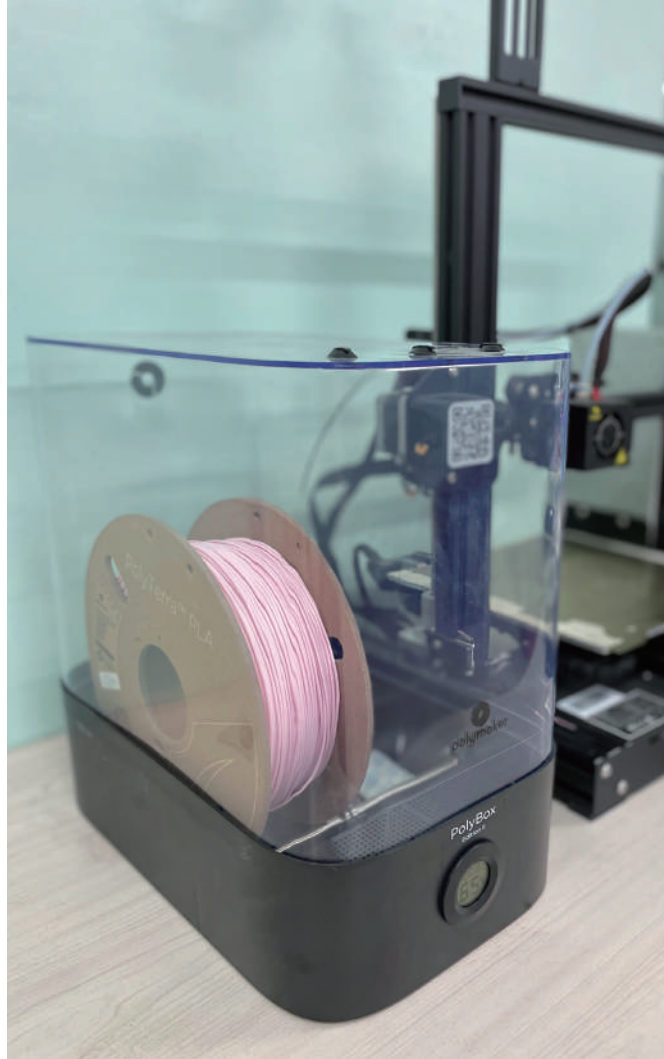
Polymaker Hardware family offers 3D printing accessories to optimize the user experience with their filaments.





PolyBox™

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.





Polysher™

The Polysher™ is a desktop post processing unit designed to remove layer lines from PolySmooth™ and PolyCast™ prints. The Polysher™ uses Polymaker's Layer-Free™ technology to create a fine mist of alcohol which evenly smooths the model.

Material: Polysher™

Range: Professional

85





Sample Box 1

The Sample Box 1 contains 7x50g samples:

PolyLite™ PLA
PolyLite™ PETG
PolyMax™ PLA
PolyMax™ PETG
PolyFlex™ TPU95
PolyWood™
PolySmooth™

All materials in Sample Box 1 are easy to use and are compatible with most 3D printers.





Sample Box 2

The Sample Box 2 contains 7x50g samples:

PolyLite™ ABS

PolyLite™ ASA

PolyLite™ PC

PolyMax™ PC

PolyMide™ CoPA PolyDissolve™ S1

PolySupport™

These samples require a 3D printer with enclosure or with dual extrusion capabilities.



Sample Box 3

The Sample Box 3 contains 2x100g samples:

PolyMide™ PA6-GF
PolyMide™ PA6-CF

These samples require a 3D printer capable of reaching a nozzle temperature of 300°C and equipped with an abrasion resistant nozzle.





Sample Box 4

The Sample Box 4 contains 5x50g samples:

PolyLite™ PC

PolyMax™ PC

PolyMax™ PC-FR

PolyMax™ PC-ABS

PolyMax™ PC-PBT

Includes a Magigoo PC sample

These samples require a 3D printer with enclosure for better part performance.







Polymaker pellet product, PolyCore™, is a new range of polymer composites and compounds with optimized size-stability and layer adhesion, designed specifically for large-scale material-extrusion based 3D printing technologies, e.g. Big Area Additive Manufacture (BAAM) and Medium Area Additive Manufacture (MAAM).





Product	Description	Key Features	Typical Applications
PolyCore™ ASA-3012	20% glass fiber reinforced ASA	<ul style="list-style-type: none"> • Excellent weather resistance • Good colorability • Cost effective 	<ul style="list-style-type: none"> • Architecture (Out-door structures) • Furniture • Low- to mid-temperature tooling
PolyCore™ ABS-5022	20% carbon fiber reinforced ABS	<ul style="list-style-type: none"> • Good mechanical and thermal properties • High thermal conductive with low CTE 	<ul style="list-style-type: none"> • Low- to mid-temperature tooling
PolyCore™ ABS-5012	20% glass fiber reinforced ABS	<ul style="list-style-type: none"> • Good colorability • Cost-effective 	<ul style="list-style-type: none"> • Low- to mid-temperature tooling • General prototyping
PolyCore™ PETG-1000	PETG based compound	<ul style="list-style-type: none"> • Easy to print • Transparent 	<ul style="list-style-type: none"> • Architecture • Furniture & decoration parts
PolyCore™ PETG-1013	30% glass fiber reinforced PETG	<ul style="list-style-type: none"> • Excellent weather resistance • Excellent size-stability • Cost effective 	<ul style="list-style-type: none"> • Architecture (Out-door structures) • Furniture • Low- to mid-temperature tooling
PolyCore™ TPU-2000	TPU based compound	<ul style="list-style-type: none"> • ~ 95 shore A 	<ul style="list-style-type: none"> • Large seals



World's largest, fully 3D printed bridge



Composite Tooling in Automobile



Custom Furniture & Decoration Parts

@Unicoggetto Vaso Gamma No.3 1



New 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.





Polymaker Offices

Shanghai, China



Changshu, China



Utrecht, The Netherlands



Houston, USA



Mission

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

Our Values



Entrepreneurial



Responsible



Customer
Oriented



Embracing
Innovation





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

Ultimaker materials

Enabling innovation with industrial-grade materials



Empower your business with our integrated ecosystem

Our integrated ecosystem of reliable hardware, extensively tested materials, and feature-rich slicing software sets the foundation for the creation of optimized profiles that guarantee a seamless 3D printing experience, from start to finish. These preconfigured profiles automatically adjust material and Ultimaker 3 or S5 print core settings in Ultimaker Cura, ensuring easier setup and smoother, quicker print results.

Professional, accessible 3D printers

Ultimaker 3D printers offer high uptime, fast changeovers, and reliable, consistent results. Print complex functional prototypes, manufacturing tools, and high-detail mechanical parts - with industrial-grade build and water-soluble support material combinations.

Optimized, industrial-grade materials

Our wide range of materials offer remarkable possibilities. Combine two build materials for advanced dual-color printing, or achieve astonishing complexity with build / water-soluble support material combinations (e.g. Nylon and PVA, PLA and PVA, or CPE and PVA). Using Ultimaker's integrated ecosystem, customers enjoy a smoother printing experience, with reliable, impressive results. Our open filament system allows for greater innovation and freedom to experiment with new materials and test the latest market developments.

The world's most advanced 3D printer software

Ultimaker Cura is renowned for producing impressive results. Its preconfigured profiles auto-adjust settings for each material and print core, ensuring greater print success. The open, flexible system lets you customize values, tailoring your 3D printing experience to your exact requirements.

Global, certified support network

Ultimaker's market-leading 3D printers and software come with lifetime technical support and outstanding customer service. Our global network of professionally trained, certified service partners offer both in-depth industry knowledge and broad technical expertise, and provide technical support in your own language and time zone. Moreover, our local partners ensure the necessary spare part and materials are always in stock for your continuous innovation and production workflow.

Fast, safe, and reliable 3D printing

PLA



Ultimaker PLA (polylactic acid) yields excellent surface quality and detail, producing consistent, reliable results. Create high-resolution concept models, choose from a wide range of color options, and achieve astonishing complexity with water-soluble PVA support structures.

Key features

- Good tensile strength
- Good surface quality
- Easy to work with at high print speeds
- User-friendly in a variety of environments
- Ideal for creating high-resolution parts
- Ideal for models and prototypes that require aesthetic detail
- Great for lost casting methods to create metal parts
- Wide range of color options available
- Compatible with PVA and Breakaway support materials in dual-extrusion prints on the Ultimaker S5 and Ultimaker 3

Applications

- Household tools
- Manufacturing aids
- Visualization aids
- Casts and molds
- Concept models
- Educational projects

Filament specifications

Filament diameter: 2.85 ± 0.10 mm

Net filament weight: 750 g

Filament length: ~95 m

Optimized for: Ultimaker S5, Ultimaker 3, Ultimaker 2+, and Ultimaker 2 series

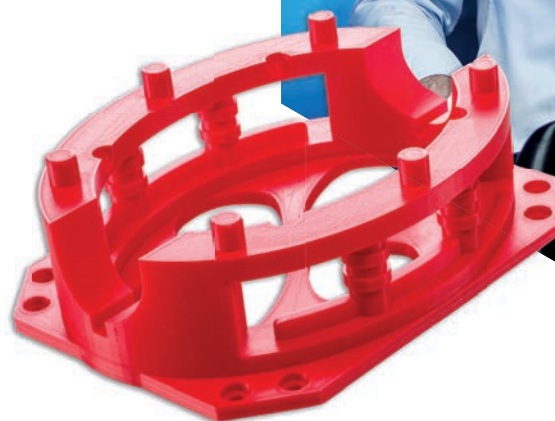
Colors



Learn more at ultimaker.com

Tough like ABS,
easy to print like PLA

Tough PLA



Ultimaker Tough PLA is a technical PLA filament with toughness that's comparable to ABS. Offering the same safe and easy use as regular PLA, our Tough PLA is ideal for reliably printing technical models at larger sizes.

Key features

- Impact strength similar to ABS
- Higher stiffness compared with ABS
- Less brittle than regular PLA
- Gives a more matte surface finish quality than regular PLA
- Heat resistance is similar to standard PLA filaments, so printed parts should not be exposed to temperatures above 60 °C
- More reliable than ABS for larger prints, with no delamination or warping
- Compatible with Ultimaker support materials (PVA and Breakaway) giving full geometric freedom when designing parts

Applications

- Functional prototyping
- Tooling
- Manufacturing aids

Filament specifications

Filament diameter: 2.85±0.05 mm
Net filament weight: 750 g
Filament length: ~96 m
Optimized for: Ultimaker S5 and Ultimaker 3 series

Colors



Abrasion-resistant and durable

Nylon



Ultimaker Nylon (polyamide grade based on PA6/66) offers impressive durability, high strength-to-weight ratio, flexibility, low friction, and corrosion resistance. Its reduced humidity absorption ensures a seamless 3D printing experience. Featuring a good adhesion to PVA, Ultimaker Nylon allows creating detailed structures and highly complex mechanical parts.

Key features

- Industrial-grade impact and abrasion resistance
- Durable
- High strength-to-weight ratio
- Low friction coefficient
- Good corrosion resistance to alkalis and organic chemicals
- Reduced humidity absorption when compared to other Nylon filaments
- Compatible with PVA and Breakaway support materials in dual-extrusion prints on the Ultimaker S5 and Ultimaker 3

Applications

- Functional prototyping
- Tooling
- Industrial modeling
- End-use parts

Filament specifications

Filament diameter: 2.85 ± 0.05 mm

Net filament weight: 750 g

Filament length: ~103 m

Optimized for: Ultimaker S5, Ultimaker 3, and Ultimaker 2+ series

Colors



Tough and durable

ABS



Used by industries worldwide, Ultimaker ABS (acrylonitrile butadiene styrene) has good mechanical properties. Specifically formulated to minimize warping and ensure consistent interlayer adhesion, it's ideal for creating functional prototypes and complex end-use parts.

Key features

- Good mechanical properties
- Excellent interlayer adhesion, especially in the Ultimaker S5 or when using the front enclosure add-on provided in the Advanced 3D Printing Kit for other printers
- Withstands temperatures up to 85 °C
- Great for strong prototypes or end-use parts
- Better aesthetic appearance when compared to other ABS filaments
- Minimal warping and good build plate adhesion
- Compatible with Breakaway support material in dual-extrusion prints on the Ultimaker S5 and Ultimaker 3

Filament specifications

Filament diameter: 2.85±0.10 mm

Net filament weight: 750 g

Filament length: ~107 m

Optimized for: Ultimaker S5, Ultimaker 3, and Ultimaker 2+ series

Colors



Applications

- Visual and functional prototyping
- Fit testing
- Tooling
- End-use parts
- Concept models
- Custom components
- Short-run manufacturing

Strong, tough, and heat-resistant

PC



Ultimaker PC (polycarbonate) material produces strong, tough parts, which retain dimensional stability when subjected to temperatures up to 110 °C. It's ideal for printing molds, tools, functional prototypes, and parts for short-run manufacturing.

Key features

- High toughness, especially for non-transparent filament options
- Resists temperatures and retains form up to 110 °C
- Flame retardant characteristics
- Dimensionally stable
- Strong interlayer bonding capabilities (especially in the Ultimaker S5 or when using the front enclosure add-on provided in the Advanced 3D Printing Kit for other printers)
- Good build plate adhesion, especially when using the Ultimaker S5 aluminum build plate or adhesion sheets supplied in our Advanced 3D Printing Kit for other printers
- Transparent filament option allows printing of translucent parts for lighting applications

Applications

- Lighting
- Molds
- Engineering parts
- Tooling
- Functional prototyping
- Short-run manufacturing

Filament specifications

Filament diameter: 2.85±0.05 mm

Net filament weight: 750 g

Filament length: ~99 m

Optimized for: Ultimaker S5, Ultimaker 3, and Ultimaker 2+ series

Colors



Learn more at ultimaker.com

Wear and tear resistant

TPU 95A



Highly versatile for industrial applications, Ultimaker TPU 95A (thermoplastic polyurethane) is well suited to manufacturing projects that demand the qualities of both rubber and plastic. Semi-flexible and chemical resistant, with strong layer bonding, it is easier and faster to print with than other TPU filaments. TPU 95A's robust material characteristics serve a broad range of functional prototypes where durability and flexibility are essential.

Key features

- Exceptional wear and tear resistance
- High impact strength
- Shore-A hardness of 95
- Up to 580% elongation at break
- Good corrosion resistance to many common industrial oils and chemicals
- Engineered for a fast and seamless 3D printing experience

Applications

- Functional prototyping
- Grips
- Guides
- Hinges
- Sleeves
- Snap-fit parts
- Protective cases

Filament specifications

Filament diameter: 2.90±0.13 mm

Net filament weight: 750 g

Filament length: ~96 m

Optimized for: Ultimaker S5, Ultimaker 3, and Ultimaker 2+ series

Colors



Fatigue and chemical-resistant

PP



Ultimaker PP (polypropylene) is durable, with high toughness and fatigue resistance, and low friction; it also has good chemical, temperature, and electrical resistance. From electrical components to living hinges, PP is ideal for prototyping and end-use products.

Key features

- Durable with high toughness and fatigue resistance (retaining shape after torsion, bending, and/or flexing)
- Low friction and smooth surfaces
- Semi-flexible
- Chemical resistance to a wide range of bases and acids, including industrial cleaning agents
- High electrical resistance (good electrical insulator)
- Translucent
- Temperature resistance of up to 105 °C
- Low density resulting in lightweight parts (high strength-to-weight ratio)
- Excellent layer bonding
- Adequate build plate adhesion and low warping when using the Ultimaker S5 aluminum build plate or the adhesion sheets supplied in our Advanced 3D Printing Kit for other printers
- Recyclable, for low environmental impact

Applications

- Functional prototypes
- Living hinges
- Connectors
- Lab equipment
- Moldings
- Stationery folders
- Packaging
- Storage boxes
- Protective covers
- Light shades

Filament specifications

Filament diameter: 2.85±0.05 mm

Net filament weight: 500 g

Filament length: ~88 m

Optimized for: Ultimaker S5, Ultimaker 3, and Ultimaker 2+ series

Colors



Chemical-resistant and tough

CPE



CPE (co-polyester) is chemical-resistant, offering dimensional stability, tensile and flexural strength, and temperature resistance up to 70 °C. It's available in a wide range of colors, including gray scale. Choose CPE for functional prototypes and mechanical parts.

Key features

- Excellent chemical resistance, toughness, and dimensional stability
- Good interlayer adhesion (especially in the Ultimaker S5 or when using the front enclosure add-on provided in the Advanced 3D Printing Kit for other printers)
- Low levels of ultrafine particles (UFPs) and volatile organic compounds (VOCs)
- Compatible with PVA and Breakaway support materials in dual-extrusion prints on the Ultimaker S5 and Ultimaker 3

Applications

- Visual and functional prototyping
- Short-run manufacturing

Filament specifications

Filament diameter: 2.85±0.10 mm
Net filament weight: 750 g
Filament length: ~93 m
Optimized for: Ultimaker S5, Ultimaker 3, and Ultimaker 2+ series

Colors





Heat, chemical-resistant, and tough

CPE+

With exceptional toughness and chemical resistance, CPE+ is the preferred choice for both functional prototypes and mechanical parts. It offers higher impact strength and temperature resistance than regular CPE (to 100 °C), and demonstrates good dimensional stability.

Key features

- Excellent chemical resistance, temperature resistance, toughness, and dimensional stability
- Good interlayer adhesion (especially in the Ultimaker S5 or when using the front enclosure add-on provided in the Advanced 3D Printing Kit for other printers)
- Good build plate adhesion (especially when using the Ultimaker S5 aluminum build plate or adhesion sheets supplied in our Advanced 3D Printing Kit for other printers)
- Transparent filament option allows printing of translucent parts
- Compatible with Breakaway support material in dual-extrusion prints on the Ultimaker S5 and Ultimaker 3

Applications

- Visual and functional prototyping
- Short-run manufacturing

Filament specifications

Filament diameter: 2.85±0.10 mm

Net filament weight: 700 g

Filament length: ~93 m

Optimized for: Ultimaker S5, Ultimaker 3, and Ultimaker 2+ series

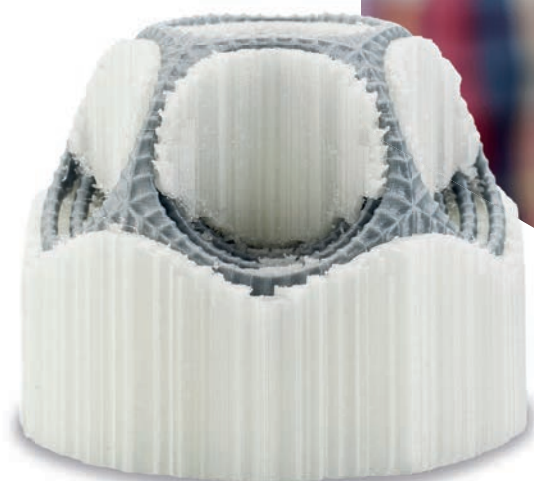
Colors



Learn more at ultimaker.com

Complete design freedom with water-soluble support

PVA



Ultimaker PVA (polyvinyl alcohol) is a water-soluble support material for multi-extrusion 3D printing. With a good thermal stability, it's ideal for printing complex models that require large overhang supports, deep internal cavities, or intricate geometries. It adheres well to PLA, CPE, and Nylon ensuring astonishing results for versatile applications.

Key features

- Good thermal stability, resulting in better degradation resistance (when compared to other PVA filaments)
- Can be printed and stored in standard office conditions
- Great adhesion to PLA, CPE, and Nylon
- Safe dissolution in tap water (no harmful chemicals required)
- Biodegradable with no hazardous by-products

Applications

- Reliable 3D printing of water-soluble support structures for PLA, CPE, and Nylon build materials
- PVA molds

Filament specifications

Filament diameter: 2.85±0.10 mm
Net filament weight: 350 g / 750 g
Filament length: ~45 m / ~96 m
Optimized for: Ultimaker S5 and Ultimaker 3 series

Dissolving steps

1. Submerge your 3D print in cold or lukewarm water depending on the build material.
2. After PVA supports are dissolved, rinse the 3D print to remove any excess PVA solution.
3. Let the 3D print dry and apply additional post processing to the build material if necessary.

Colors



Quick to remove
support for accurate parts

Breakaway



Ultimaker Breakaway is a support material for multi-extrusion 3D printing. Breakaway support is quick to remove and does not need further post-processing for a quality finish on your 3D print. Once removed by peeling away the support, you have a dimensionally accurate part, true to your design. Created for a hassle-free 3D printing experience, Breakaway provides good adhesion to ABS, Nylon, PLA, CPE, or CPE+.

Key features

- No sanding or waiting for support material to dissolve
- Ensures a quality surface finish on your model
- Prints are dimensionally accurate
- Good adhesion to ABS, Nylon, PLA, CPE or CPE+
- Longer shelf life and less moisture sensitive compared to water-soluble support material, such as PVA
- Ideal for use with build materials that could be sensitive to water

Applications

- Support material for ABS, Nylon, PLA, CPE and CPE+

Colors



Filament specifications

Filament diameter: 2.85±0.05 mm
Net filament weight: 750 g
Filament length: ~96 m
Optimized for: Ultimaker S5 and Ultimaker 3 series

Removal steps

1. Begin by removing the majority of the inner support structure, using gripping pliers to tear away the interior area.
2. Loosen the support from the model around the corners with cutting pliers. Pull the Breakaway support from the model.
3. If a layer of support remains, find a loose edge and peel it away from the model. Remove any final traces with pliers or tweezers.

Material compatibility

Ultimaker's broad range of materials are compatible in various combinations, offering plenty of scope for creativity. However, not all materials work well together. The overview below details which Ultimaker materials can be used in which combination, and which should be used separately.

	✓	ⓘ	✗	✗	✗	✗	✗	✗	✗	✓	✓
Tough PLA	✓	✗	✗	✗	✗	✗	✗	✗	✗	✓	✓
ABS		✓	✗	✗	✗	✗	ⓘ	✗	ⓘ	✓	✓
Nylon			ⓘ	✗	✗	✗	ⓘ	✗	✓	✓	✓
CPE				✓	✗	✗	✗	✗	✓	✓	✓
CPE+					ⓘ	✗	✗	✗	ⓘ	✓	✓
PC						ⓘ	ⓘ	✗	✗	ⓘ	ⓘ
TPU 95A							ⓘ	✗	ⓘ	ⓘ	ⓘ
PP								ⓘ	✗	✗	✗
PVA									✗	✗	✗
Breakaway											✗

✓ Officially supported ⓘ Experimental ✗ Not supported

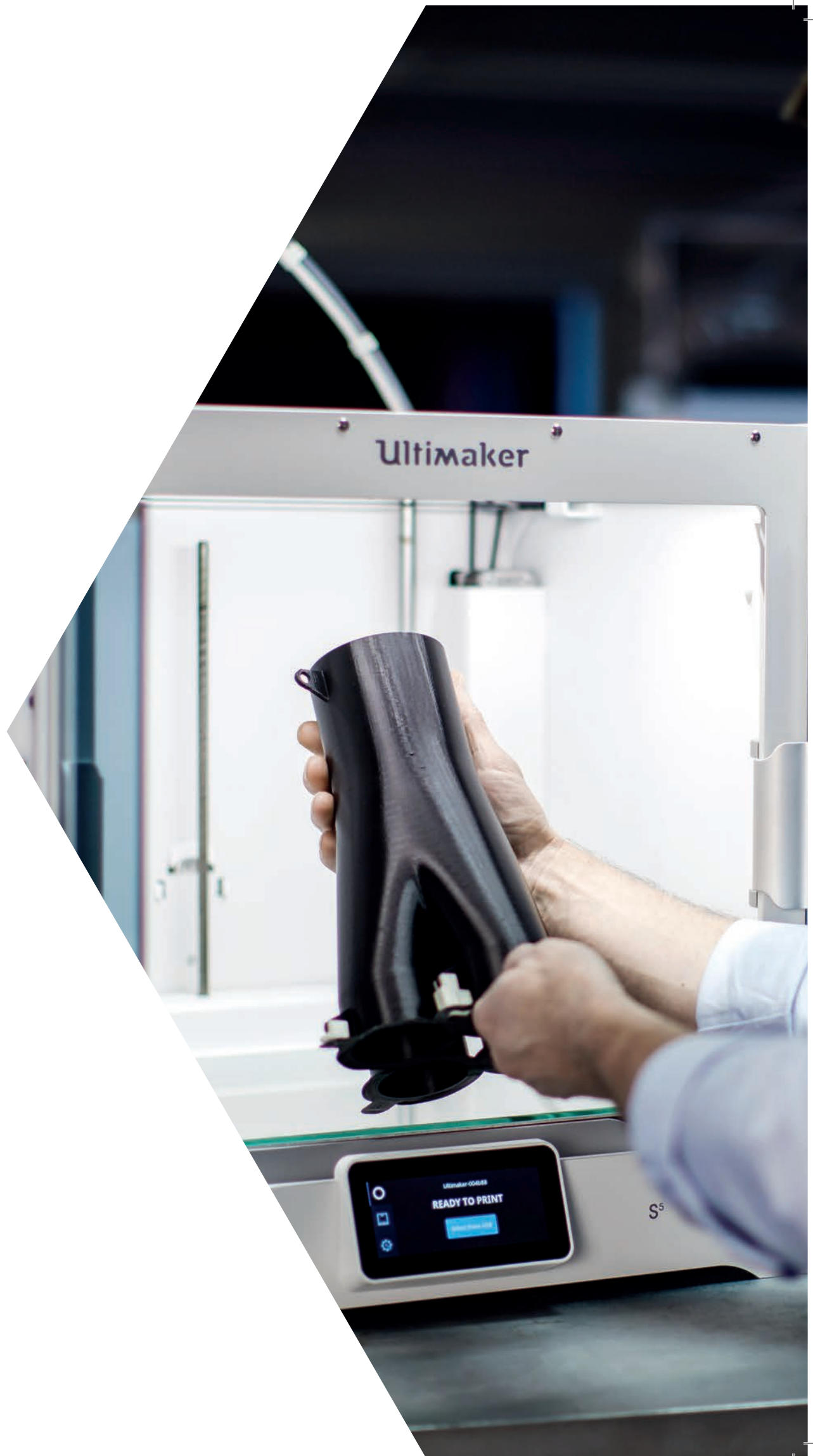
For more information, please visit ultimaker.com/materialcompatibility

Compatibility per printer

Not all printing materials are fully compatible with every Ultimaker 3D printer. This overview details which Ultimaker materials are officially supported, experimental, or not recommended per 3D printer. Please keep in mind that this is applicable for single-extrusion prints only.

	PLA	Tough PLA	ABS	Nylon	CPE	CPE+	PC	TPU 95A	PP	PVA	Breakaway
Ultimaker S5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ultimaker 3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ultimaker 2+	✓	ⓘ	✓	✓	✓	✓	✓	✓	✓	ⓘ	✗
Ultimaker 2	✓	ⓘ	✓	ⓘ	✓	ⓘ	ⓘ	✗	✗	✗	✗
Ultimaker 2 Go	✓	ⓘ	✗	✗	✗	✗	✗	✗	✗	✗	✗
Ultimaker Original+	✓	ⓘ	✓	ⓘ	✓	ⓘ	ⓘ	✗	✗	✗	✗
Ultimaker Original	✓	ⓘ	ⓘ*	ⓘ*	ⓘ*	ⓘ*	ⓘ*	✗	✗	✗	✗

*These combinations only work experimentally when the heated build plate upgrade is installed.





Ultimaker

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