UltiMaker materials

Professional results start with professional materials

UltiMaker materials

Designed for UltiMaker. Engineered for results.

PET CF

PETG

PPS CF

Nylon CF Slide

TPU 95A

CPE

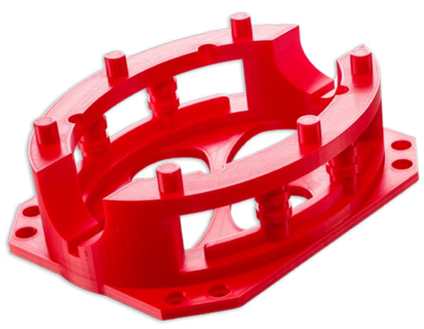
CPE+

Nylon

ABS

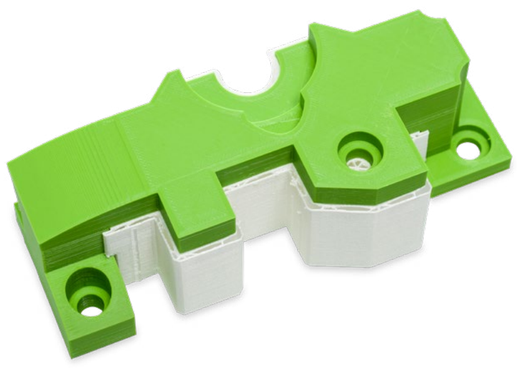
PC

PLA



Tough PLA

PVA



Breakaway

Defense

Mission-critical accuracy. Anytime. Anywhere.

PETG

Versatility meets performance

UltiMaker PETG is the go-to material when you need everyday reliability without compromising on chemical or heat resistance. It prints just as easily as PLA – even at high speeds – and works seamlessly with UltiMaker support materials like PVA and Breakaway. Unlike PLA, PETG withstands alcohols, weak acids and bases, and temperatures up to 76 °C – making it a smarter choice for functional parts that last.

Key features

- Prints easily, even at high speeds
- Reliable performance across different environments
- Ideal for detailed, high-resolution parts
- Great surface finish for visual and functional prototypes
- Suitable for casting methods (e.g. lost-wax casting for metal parts)
- Good tensile strength and dimensional accuracy
- Available in a wide range of colors
- Compatible with PVA and Breakaway for clean dual extrusion prints

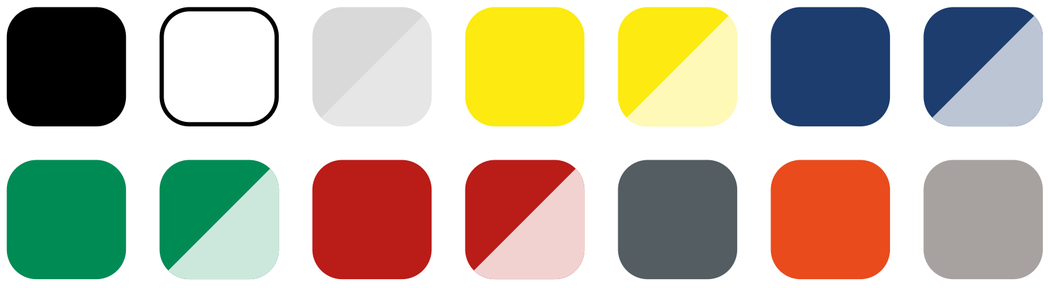
Ideal for

- Visual and functional prototypes
- Fit and form testing
- Short-run production parts
- Tooling and custom jigs
- Liquid-handling components
- Custom connectors or enclosures

Filament specification

Diameter:	2.85 mm ± 0.05 mm
Net weight:	750 g
Length:	~ 93 m
Optimized for:	S series Factor series

Available colors



Why PETG?

When you need the ease of PLA but demand more resistance and durability, PETG delivers – with the speed, strength, and surface quality professionals rely on.

PET CF

Composite strength made easy

UltiMaker PET CF gives you the strength and stiffness of a carbon fiber composite – with none of the usual print challenges. It's easier to use than other composites, highly resistant to moisture, and available in three colors. For even greater performance, printed parts can be annealed to increase temperature resistance up to 181 °C and boost strength by 30% and stiffness by 10%.

Key features

- Easier to print than most carbon fiber composites
- Improved moisture resistance – even better when stored in the UltiMaker Material Station
- Available in multiple colors: black, blue, and gray
- Compatible with PVA and Breakaway for complex geometries
- Annealing increases temperature resistance from 80 °C to 181 °C
- Annealing also increases part strength (+30%) and stiffness (+10%)

Ideal for

- Strong, functional prototypes
- Durable manufacturing aids
- High-performance tooling

Filament specification

Diameter:	2.85 mm ± 0.1 mm
Net weight:	750 g
Length:	~ 85 m
Optimized for:	S series
	Factor series

Available colors

Why PET CF?

When you need stiffness and heat resistance without sacrificing ease of use, UltiMaker PET CF gives you a powerful composite solution that works right out of the box – and even better when annealed.

PPS CF

Industrial strength without industrial compromise

UltiMaker PPS CF is a cost-effective alternative to metal and PEEK, offering excellent chemical, thermal, and flame resistance. Made for the Factor series, it delivers precise, reliable prints that withstand extreme conditions, with > 230 °C heat resistance, V0 flame retardancy, and high chemical stability below 200 °C. Its strength, stiffness, and dimensional stability make it ideal for demanding industrial applications.

Key features

- Intrinsically flame-retardant (V0 rated)
- Excellent resistance to chemicals and solvents
- Moisture-insensitive for consistent performance
- High dimensional stability under stress
- Withstands temperatures above 230 °C

Ideal for

- Functional prototyping under stress
- End-use parts in extreme environments
- Injection and foam mold tooling
- Electrically insulating components
- Manufacturing aids for high-temp operations
- Metal or PEEK part replacement)

Filament specification

Diameter: 2.85 mm ± 0.1 mm
Net weight: 500 g
Length: ~ 61 m
Optimized for: Factor series

Available colors

Why PPS CF?

When failure isn’t an option, PPS CF delivers – combining industrial-grade durability, accuracy, and chemical resistance with the flexibility of in-house 3D printing.

Packaging and manufacturing lines

Your production line – now more agile than ever

Nylon CF Slide

Engineered for motion. Designed for durability.

UltiMaker Nylon CF Slide is a tribological-grade material designed for motion. It offers low friction and high wear resistance against stainless steel, making it a strong alternative to POM without PFAS. Its Nylon 6/12 base provides excellent strength, stiffness, printability, and better moisture resistance. Perfect for sliding parts and mechanisms, it helps moving components last longer and perform efficiently in demanding production environments.

Key features

- Low-friction and wear-resistant
- Slides easily against stainless steel
- Strong, stiff, and impact-resistant
- Excellent layer adhesion
- Ideal for motion-intensive parts
- Good moisture resistance
- Easy to print with clean results
- PFAS-free formulation

Ideal for

- Manufacturing tools
- Spare and end-use parts
- Maintenance-free grippers
- Sliding or motion-driven components
- Wear-resistant assemblies

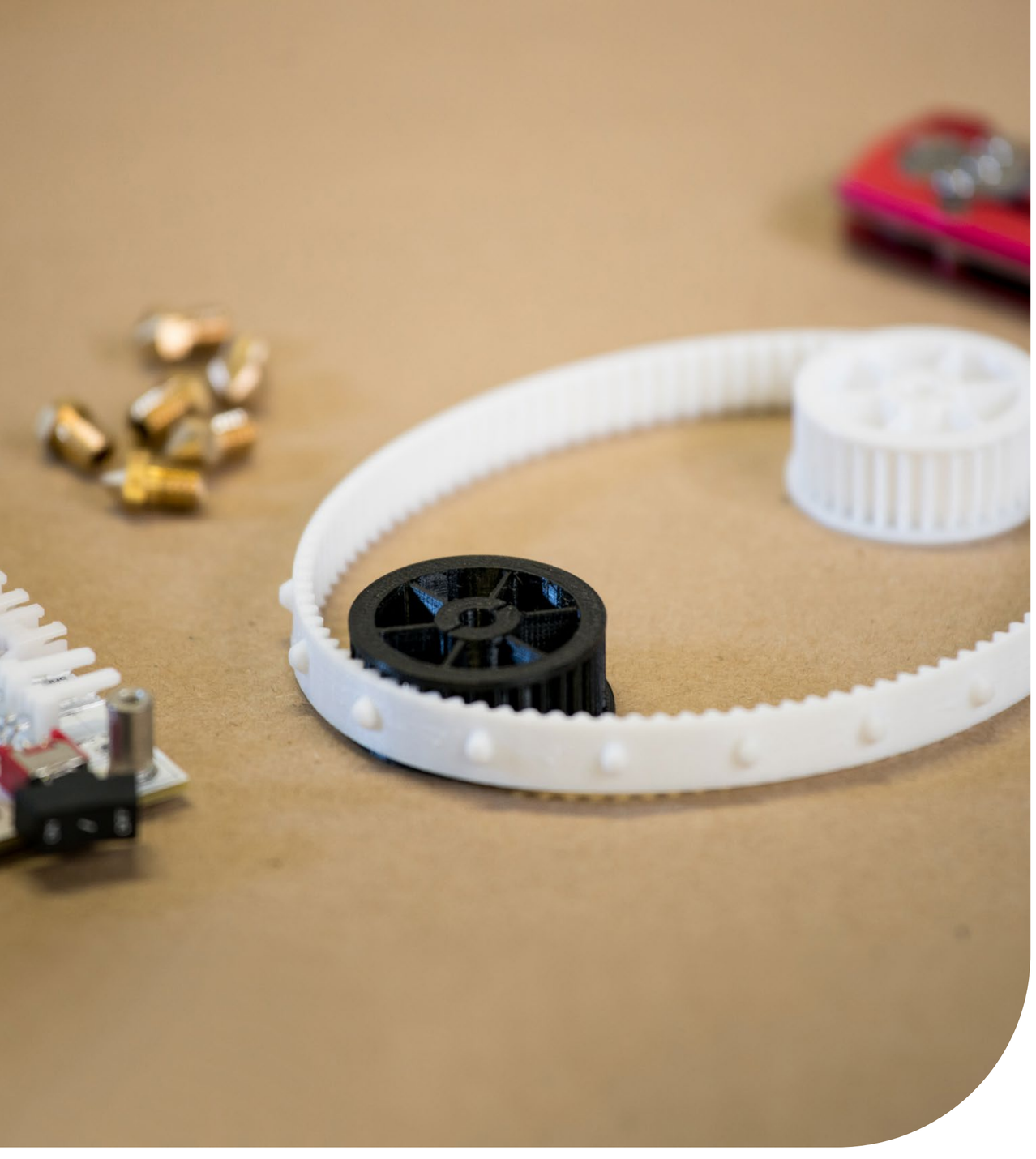
Filament specification

Diameter: 2.85 mm ± 0.1 mm
Net weight: 750 g
Length: ~ 114 m
Optimized for: S series
Factor series

Available colors

Why Nylon CF Slide?

For engineers working with motion-intensive assemblies, UltiMaker Nylon CF Slide offers a PFAS-free, POM-like solution that delivers low friction, long part life, and easy printability – all in one.



TPU 95A

Flexible. Durable. Ready for impact.

UltiMaker TPU 95A delivers the flexibility of rubber with the durability of plastic – without the printing pain. It's fast and easy to print, with excellent layer bonding and up to 580% elongation at break. Designed for parts that flex, grip, or absorb impact, TPU 95A performs wherever strength and flexibility are essential

Key features

- High wear and tear resistance
- Strong impact absorption
- Shore-A hardness of 95
- Up to 580% elongation
- Resistant to oils and chemicals
- Prints cleanly and reliably

Ideal for

- Functional prototypes
- Grips and guides
- Snap-fit parts and hinges
- Sleeves and protective covers

Filament specification

Diameter:	2.90 ± 0.1 mm
Net weight:	750 g
Length:	~ 96 m
Optimized for:	S series
	Factor series

Available colors

Why TPU 95A?

UltiMaker TPU 95A gives you the freedom to print tough, flexible parts that can take a hit — and bounce back. Easy to print, reliable in use, and ready for demanding prototypes or end-use components.

CPE

Tough, stable, and chemically resistant

UltiMaker CPE is made for prototypes and short-run parts that need to survive in real-world conditions. It delivers excellent chemical resistance, impact strength, and dimensional stability – with minimal emissions and easy dual-extrusion support. Ideal for engineers who need a reliable, clean-printing material that doesn't compromise on toughness.

Key features

- Excellent chemical resistance
- High dimensional stability
- Strong and tough under stress
- Low UFP and VOC emissions
- Clean dual-extrusion printing
- Prints well in enclosed setups

Ideal for

- Functional prototypes
- Visual mock-ups
- Short-run manufacturing

Filament specification

Diameter:	2.85 mm ± 0.1 mm
Net weight:	750 g
Length:	~ 95 m
Optimized for:	S series
	Factor series

Available colors

Why CPE?

CPE bridges the gap between printability and performance.
When you need parts that hold up to chemicals and daily wear,
UltiMaker CPE delivers tough, stable results – every time.

CPE+

Stronger prototypes. Smarter performance.

UltiMaker CPE+ takes everything you expect from co-polyesters – and pushes it further. With greater toughness, higher temperature resistance (up to 100 °C), and excellent dimensional stability, CPE+ is the go-to material for functional prototypes and mechanical parts that need to perform under pressure. It's also compatible with Breakaway for clean, complex prints.

Key features

- High heat and chemical resistance
- Tough and dimensionally stable
- Good interlayer and bed adhesion
- Works well in enclosed printers
- Breakaway-compatible for dual extrusion
- Optional transparent finish

Ideal for

- Functional prototypes
- Mechanical and visual parts
- Short-run manufacturing

Filament specification

Diameter:	2.85 mm ± 0.1 mm
Net weight:	700 g
Length:	~ 93 m
Optimized for:	S series
	Factor series

Available colors

Why CPE+?

When your parts need to stay tough under heat and pressure, CPE+ delivers. It builds on CPE's reliability with even greater strength and resistance – giving you industrial-grade performance with everyday printability.

Nylon

Abrasion-resistant and durable

UltiMaker Nylon offers the strength and durability professionals expect – without the printability issues they don’t. Based on PA6/66, it combines a high strength-to-weight ratio with low friction, corrosion resistance, and reduced humidity absorption. With strong support material compatibility, it’s ideal for functional parts that need to move, flex, or endure.

Key features

- Strong impact and abrasion resistance
- Lightweight with high strength-to-weight ratio
- Low-friction performance
- Resistant to alkalis and organic chemicals
- Reduced moisture uptake
- Compatible with PVA and Breakaway for dual material printing

Ideal for

- Functional prototypes
- Custom tooling
- Industrial modeling
- End-use mechanical parts

Filament specification

Diameter:	2.85 ± 0.05 mm
Net weight:	750 g
Length:	~ 103 m
Optimized for:	S series Factor series

Available colors

Why Nylon?

UltiMaker Nylon is the smart choice for engineers who need reliable toughness without print trouble. With reduced moisture sensitivity and excellent mechanical performance, it’s ready for everything from prototypes to production parts.

Automotive

Optimize production processess with 3D printing

ABS

Tough. Reliable. Easy to print.

Formulated for reduced warping and improved adhesion, it delivers strong mechanical performance and high thermal resistance (up to 85 °C). Ideal for complex prototypes, tooling, and end-use parts – with better surface finish than typical ABS materials.

Key features

- Strong mechanical performance
- Resists warping and delamination
- Withstands heat up to 85 °C
- Excellent interlayer adhesion
- Clean surface finish for visible parts
- Good bed adhesion with UltiMaker kits
- Compatible with Breakaway supports

Ideal for

- Functional prototypes
- Fit testing and concept models
- Custom tooling and end-use parts
- Visual prototypes and small batches

Filament specification

Diameter:	2.85 mm ± 0.1 mm
Net weight:	750 g
Length:	~ 107 m
Optimized for:	S series
	Factor series

Available colors

Why ABS?

UltiMaker ABS is made for professionals who need strength and accuracy – without the frustration of unreliable prints. From test rigs to end-use parts, it delivers consistent results with a clean, professional finish.

PET CF

Composite strength made easy

UltiMaker PET CF gives you the strength and stiffness of a carbon fiber composite – with none of the usual print challenges. It's easier to use than other composites, highly resistant to moisture, and available in three colors. For even greater performance, printed parts can be annealed to increase temperature resistance up to 181 °C and boost strength by 30% and stiffness by 10%.

Key features

- Easier to print than most carbon fiber composites
- Improved moisture resistance – even better when stored in the UltiMaker Material Station
- Available in multiple colors: black, blue, and gray
- Compatible with PVA and Breakaway for complex geometries
- Annealing increases temperature resistance from 80 °C to 181 °C
- Annealing also increases part strength (+30%) and stiffness (+10%)

Ideal for

- Strong, functional prototypes
- Durable manufacturing aids
- High-performance tooling

Filament specification

Diameter:	2.85 mm ± 0.1 mm
Net weight:	750 g
Length:	~ 85 m
Optimized for:	S series
	Factor series

Available colors

Why PET CF?

When you need stiffness and heat resistance without sacrificing ease of use, UltiMaker PET CF gives you a powerful composite solution that works right out of the box – and even better when annealed.

PC

Strong, tough, and heat-resistant

UltiMaker PC offers unmatched strength, toughness, and heat resistance — giving you the confidence to print parts that perform under pressure. With excellent stability up to 110 °C and strong interlayer bonding, it’s ideal for molds, tooling, lighting components, and functional prototypes. Choose from translucent or opaque options for greater flexibility in technical designs.

Key features

- High toughness and strength
- Heat resistant up to 110 °C
- Flame-retardant properties
- Excellent dimensional stability
- Strong interlayer bonding
- Prints reliably in enclosed printers
- Transparent option for lighting parts

Ideal for

- Lighting components
- Molds and tooling
- Engineering-grade prototypes
- Short-run functional parts

Filament specification

Diameter: 2.85 mm ± 0.05 mm
Net weight: 750 g
Length: ~ 99 m
Optimized for: S series
Factor series

Available colors

Why PC?

UltiMaker PC delivers high strength and heat resistance for professionals who demand more from their prints. It’s the smart choice for functional parts that must hold shape, handle stress, and stay reliable under demanding conditions.

Education

Empower the next generation through 3D printing

PLA

High-quality models. In any environment.

UltiMaker PLA is the go-to material for safe, high-speed printing with excellent visual quality. Whether you're creating concept models, educational tools, or aesthetic prototypes, PLA delivers sharp details and smooth surfaces — with wide color options and easy dual-material printing using PVA or Breakaway.

Key features

- Easy to print, even at high speed
- Excellent surface finish and detail
- Ideal for models and concept parts
- Works well in most environments
- Great for casting and mold creation
- Compatible with PVA and Breakaway
- Available in many color options

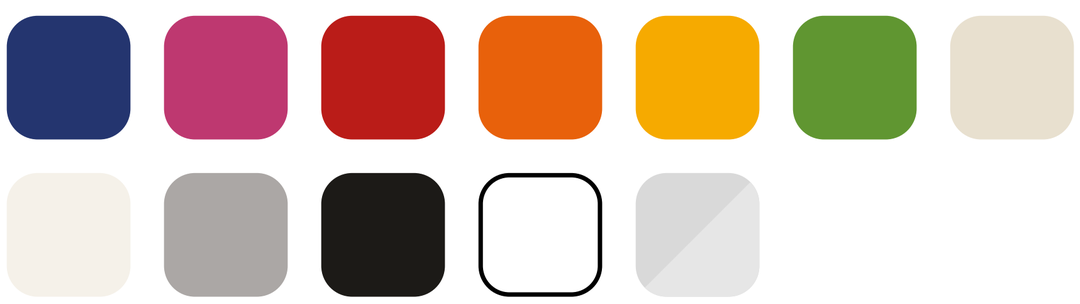
Ideal for

- Concept and visualization models
- Casting and mold-making
- Education and student projects
- Household tools and design studies
- Manufacturing and assembly aids

Filament specification

Diameter:	2.85 mm ± 0.1 mm
Net weight:	750 g
Length:	~ 95 m
Optimized for:	S series
	Factor series

Available colors



Why PLA?

UltiMaker PLA offers dependable, high-quality results – quickly and safely. It's the perfect choice for anyone needing detailed prototypes, educational models, or stress-free daily printing.

Tough PLA

The toughness of ABS. The ease of PLA

UltiMaker Tough PLA combines the mechanical strength of ABS with the simplicity of PLA – ideal for high-strength models and large prototypes. It prints safely and consistently, even at high speeds and larger sizes, while delivering clean detail and strong performance. Compatible with PVA and Breakaway, it’s perfect for dual-extrusion prints that demand both form and function.

Key features

- Strong like ABS, easy like PLA
- Prints cleanly at high speeds
- Great surface quality and resolution
- Ideal for larger, technical models
- Works in most environments
- Compatible with PVA and Breakaway
- Wide color range available

Ideal for

- Manufacturing and visualization aids
- Functional concept models
- Casting and mold creation
- Education and training projects
- Durable household or custom tools

Filament specification

Diameter:	2.85 mm ± 0.1 mm
Net weight:	750 g
Length:	~ 95 m
Optimized for:	S series
	Factor series

Available colors

Why Tough PLA?

UltiMaker Tough PLA bridges the gap between printability and strength. It’s the smart choice for professionals who want clean, reliable, high-strength prints – without ABS complications.

PETG

Versatility meets performance

UltiMaker PETG is the go-to material when you need everyday reliability without compromising on chemical or heat resistance. It prints just as easily as PLA – even at high speeds – and works seamlessly with UltiMaker support materials like PVA and Breakaway. Unlike PLA, PETG withstands alcohols, weak acids and bases, and temperatures up to 76 °C – making it a smarter choice for functional parts that last.

Key features

- Prints easily, even at high speeds
- Reliable performance across different environments
- Ideal for detailed, high-resolution parts
- Great surface finish for visual and functional prototypes
- Suitable for casting methods (e.g. lost-wax casting for metal parts)
- Good tensile strength and dimensional accuracy
- Available in a wide range of colors
- Compatible with PVA and Breakaway for clean dual extrusion prints

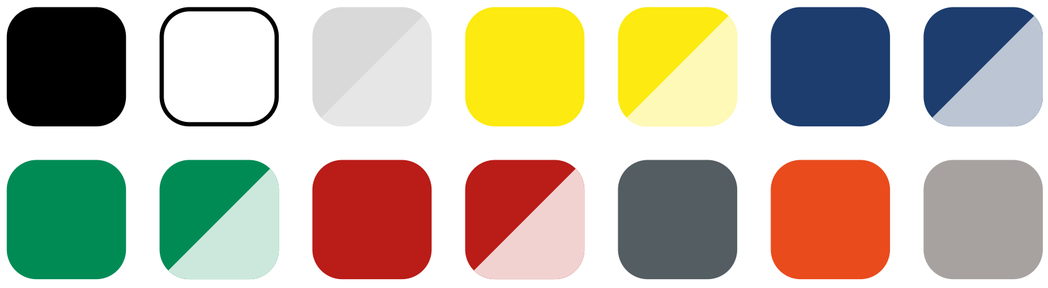
Ideal for

- Visual and functional prototypes
- Fit and form testing
- Short-run production parts
- Tooling and custom jigs
- Liquid-handling components
- Custom connectors or enclosures

Filament specification

Diameter:	2.85 mm ± 0.05 mm
Net weight:	750 g
Length:	~ 93 m
Optimized for:	S series Factor series

Available colors



Why PETG?

When you need the ease of PLA but demand more resistance and durability, PETG delivers – with the speed, strength, and surface quality professionals rely on.

Support materials

Optimized to work with UltiMaker build materials

PVA

Design freedom with water-soluble support

UltiMaker PVA is a water-soluble support material that makes complex, dual-extrusion 3D printing easier than ever. With great thermal stability and strong adhesion to PLA, Tough PLA, CPE, and Nylon, PVA lets you print detailed models with large overhangs and internal channels – then simply dissolve the supports in water, no tools or chemicals required.

Key features

- Water-soluble and easy to dissolve
- Strong adhesion to PLA, CPE, Nylon, Tough PLA
- Good thermal stability and shelf life
- Biodegradable with no harmful by-products
- Stores safely in office conditions

Ideal for

- Water-soluble support for multi-material prints
- Complex models with deep cavities or overhangs
- Mold creation and architectural forms

How to dissolve PVA

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

Filament specification

Diameter:	2.85 mm ± 0.1 mm
Net weight:	350 or 750 g
Length:	~ 45 m or ~ 96 m
Optimized for:	S series Factor series

Available colors

Why PVA?

UltiMaker PVA enables freedom in design. With reliable adhesion, clean water-based removal, and safe storage, it’s the ideal support for complex dual-extrusion parts – no compromise, no cleanup hassle.

Breakaway

Easy-removable support

UltiMaker Breakaway is a fast, clean-removal support material designed for multi-extrusion prints. It peels away easily with no need for water baths or sanding, leaving your part dimensionally accurate and true to design. Compatible with ABS, Nylon, PLA, Tough PLA, CPE, and CPE+, Breakaway is the ideal support when speed and finish matter.

Key features

- Quick, clean manual removal
- No water or sanding required
- Smooth surface finish
- Great dimensional accuracy
- Compatible with multiple materials
- Long shelf life and moisture resistance
- Ideal when water exposure must be avoided

Ideal for

- Support material for PLA, ABS, Nylon, Tough PLA, CPE, and CPE+
- Dry environments and water-sensitive projects
- Parts requiring clean undersides or tight tolerances

How to remove Breakaway

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

Filament specification

Diameter:	2.85 mm ± 0.05 mm
Net weight:	750 g
Length:	~ 96 m
Optimized for:	S series Factor series

Available colors

Why Breakaway?

UltiMaker Breakaway gets you from print to final part – fast. No waiting, no soaking, just clean removal and professional-quality results. It’s the efficient choice for teams who value speed, precision, and simplicity.

Material compatibility

UltiMaker materials are designed to work together in powerful combinations — whether you're printing complex parts, supports, or dual-color models. But not every pairing is compatible. Use the overview below to see which materials can be combined for best results, and which combinations to avoid. For deeper insights or edge cases, visit our support page.

	PLA	Tough PLA	PETG	ABS	PET CF	PPS CF	Nylon CF Slide	PC	Nylon	CPE	CPE+	TPU 95A	PVA	Break-away
PLA	✓	✓	/	/	/	/	/	×	/	/	×	◊	✓	✓
Tough PLA		✓	/	/	/	/	/	×	/	/	×	◊	✓	✓
PETG			✓	/	/	/	/	×	/	/	×	◊	✓	✓
ABS				✓	/	/	/	×	/	/	×	◊	◊	✓
PET CF					✓	/	/	/	/	/	/	/	✓	✓
PPS CF						/	/	/	/	/	/	/	/	/
Nylon CF Slide							/	/	/	/	/	/	/	/
PC								✓	×	×	/	◊	×	◊
Nylon									✓	/	×	◊	✓	✓
CPE										✓	×	◊	◊	✓
CPE+											✓	◊	◊	✓
TPU 95A												◊	◊	◊
PVA													n/a	n/a
Breakaway														n/a

✓ Supported, ◊ Experimental, × Unsupported, / Not tested

Printer compatibility

Every UltiMaker material is engineered for compatibility with the S series and Factor series printers. The overview below shows which materials are officially supported by each model – so you can always choose the right material for your setup and print with confidence.

	PLA	Tough PLA	PETG	ABS	PET CF	PPS CF	Nylon CF Slide	PC	Nylon	CPE	CPE+	TPU 95A	PVA	Break-away
Factor 4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
S8	✓	✓	✓	✓	✓	×	✓	✓	✓	✓	✓	✓	✓	✓
S7	✓	✓	✓	✓	✓	×	✓	✓	✓	✓	✓	✓	✓	✓
S6	✓	✓	✓	✓	✓	×	✓	✓	✓	✓	✓	✓	✓	✓
S5	✓	✓	✓	✓	✓	×	✓	✓	✓	✓	✓	✓	✓	✓

✓ Supported, × Unsupported

The UltiMaker ecosystem

Powering the next generation of product development

One ecosystem. Seamless printing. Real results.

UltiMaker’s integrated ecosystem brings together reliable hardware, tested materials, and powerful software – so you can focus on creating, not troubleshooting. With optimized material profiles in UltiMaker Cura, printer and material settings adjust automatically. That means easier setup, smoother workflows, and faster print success – from first idea to finished part.

Reliable 3D printers, ready for production

UltiMaker 3D printers deliver high uptime, fast material changeovers, and consistently excellent results. Designed for functional prototypes, manufacturing tools, and detailed mechanical parts, these systems are built for speed, precision, and reliability – even when printing complex dual-material models with soluble supports.

Advanced software that adapts to your needs

UltiMaker Cura is trusted by millions for fast, flexible print preparation and consistently excellent output. With preconfigured print profiles for all UltiMaker materials and printers, Cura helps you succeed more often – and the open architecture gives advanced users full control to fine-tune their print experience.

Print with confidence using industrial-grade materials

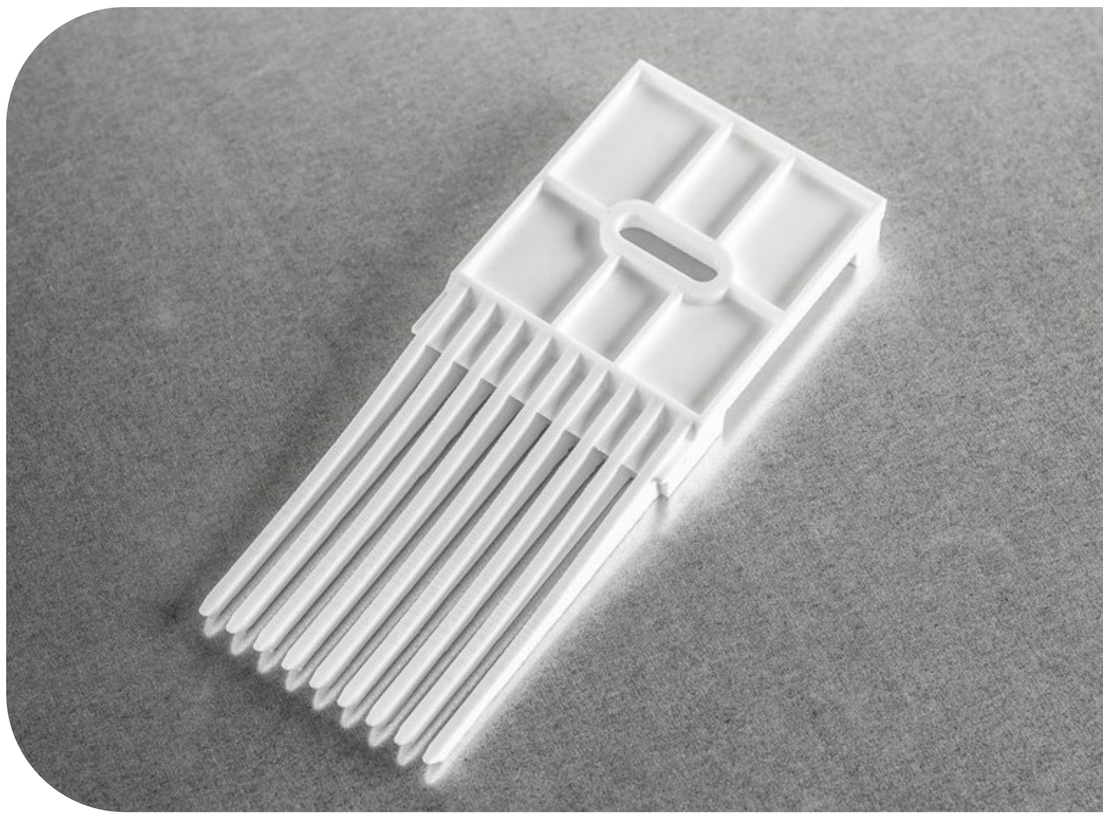
From high-strength polymers to dual-material and support combinations, UltiMaker materials are engineered for professional results. Whether you’re combining Nylon and PVA, PLA and PVA, or experimenting with third-party filaments via our open system, the UltiMaker ecosystem ensures smoother workflows and exceptional print quality – every time.

Support that scales with your business

UltiMaker customers benefit from global support with a local touch. Our certified service partners provide expert technical help in your language and time zone — with spare parts and materials close at hand. Combined with lifetime technical support and outstanding customer service, you stay productive and supported, wherever your business grows.

High-performance materials. Limitless possibilities.

UltiMaker works with leading materials manufacturers to bring advanced polymers and composites into your workflow. From heat resistance to high tensile strength, these third-party materials are fully compatible with UltiMaker's accessible platform – enabling engineers and designers to create more durable prototypes and end-use parts with confidence.



Print core durability that keeps your workflow moving

UltiMaker's modular print core system lets you choose the right nozzle for each material – quickly and easily. With hardened CC and CC+ cores built for composite and abrasive materials, you get maximum uptime and part quality without compromising productivity. Swap, print, and stay focused on what matters.

Smarter material management, built in

UltiMaker materials are NFC-tagged for automatic recognition – whether you use the Material Station or not. As soon as a spool is loaded, your configuration appears in UltiMaker Cura and Digital Factory. The system knows what you're printing, suggests compatible settings, and supports all validated dual-extrusion combinations for maximum convenience and confidence.

Trusted profiles for perfect prints – every time

UltiMaker Cura gives you access to the industry's leading print profile library – including materials from top global manufacturers. These pre-tuned profiles ensure optimal print settings for both UltiMaker and third-party filaments. With additional plugins and add-ons, Cura helps you tailor your workflow and achieve professional results – with minimal effort.

Data-driven choices. Maximum material performance.

UltiMaker provides complete, multilingual data sheets to help you choose and use materials with confidence. Explore detailed technical specs, safety information, and application data for every filament – including mechanical and thermal properties. Whether you're testing or scaling up, you'll have the insight needed to get the best from every material.

Why professionals choose UltiMaker.

Engineers and designers need to move fast – without sacrificing quality. But clunky tools and slow processes often stand in the way of great ideas. That's why UltiMaker offers a complete 3D printing solution – printers, software, and materials that just work. With the fastest printers on the market and easy-to-use software like Cura, we help professionals turn ideas into parts – every single day. Since 2011, our global team has helped thousands of innovators shift to local, digital manufacturing.

TRI-TECH 3D
STANFORD MARSH GROUP

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