

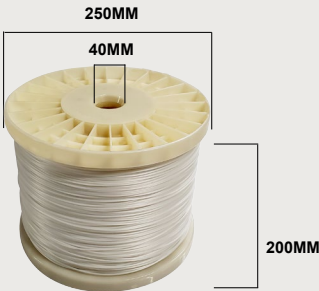
FILAMENT PARAMETERS

Material	Print temp	Bottom temp	Cabin temp	Print speed	Density	Wire Diameter Tolerance	Nozzle diameter(mm)	Glass transition temp
PLA	190-220°C	40-60°C	0-40°C	60-80mm/s	1.23	+/- 0.02 mm	0.4	60-65°C
Silk	195-205°C	40-60°C	0-40°C	60-80mm/s	1.23	+/- 0.02 mm	0.4	60-65°C
Soft Material	195-220°C	40-60°C	0-40°C	60-80mm/s	1.2	+/- 0.03 mm	0.6	60-65°C
Gradient Silk	195-205°C	40-60°C	0-40°C	60-80mm/s	1.23	+/- 0.02 mm	0.4	60-65°C
Rapid Discoloration	195-205°C	40-60°C	0-40°C	60-80mm/s	1.23	+/- 0.02 mm	0.4	60-65°C
Wood	195-205°C	40-60°C	0-40°C	60-80mm/s	1.15	+/- 0.02 mm	0.5	60-65°C
Glitter PLA	190-220°C	40-60°C	0-40°C	60-80mm/s	1.23	+/- 0.02 mm	0.5	60-65°C
Luminous PLA	195-220°C	40-60°C	0-40°C	60-80mm/s	1.23	+/- 0.02 mm	0.4	60-65°C
luminous starry sky	195-220°C	40-60°C	0-40°C	60-80mm/s	1.23	+/- 0.02 mm	0.5	60-65°C
Marble PLA	195-220°C	40-60°C	0-40°C	60-80mm/s	1.23	+/- 0.02 mm	0.4	60-65°C
Carbon Fiber PLA	195-220°C	40-60°C	0-40°C	60-80mm/s	1.21	+/- 0.02 mm	0.4	60-65°C
Water Soluble	225-240°C	30-60°C	0-40°C	60-80mm/s	1.23	+/- 0.02 mm	0.4	60-65°C
PVB	205-225°C	40-60°C	0-40°C	60-80mm/s	1.18	+/- 0.02 mm	0.4	50-55°C
ABS	225-245°C	80-90°C	0-40°C	60-80mm/s	1.1	+/- 0.03 mm	0.4	90-100°C
PETG	210-245°C	40-60°C	0-40°C	60-80mm/s	1.3	+/- 0.02 mm	0.4	88-90°C
PTFE	240-260°C	60-80°C	0-40°C	60-80mm/s	1.4	+/- 0.02 mm	0.4	60-65°C
PEEK/PEEK+CF	400-450°C	≥90°C	≥90°C	60-80mm/s	1.34	+/- 0.05 mm	0.5	240-260°C
Gradient PLA	190-220°C	40-60°C	0-40°C	60-80mm/s	1.23	+/- 0.02 mm	0.4	60-65°C
TPU 64D	220-240°C	40-60°C	0-40°C	60-80mm/s	1.18	+/- 0.03 mm	0.6	-40°C
Orange Stick PLA	190-220°C	40-60°C	0-40°C	60-80mm/s	1.23	+/- 0.03 mm	0.6	60-65°C
Orange Stick PVB	190-220°C	40-60°C	0-40°C	60-80mm/s	1.18	+/- 0.03 mm	0.6	50-55°C

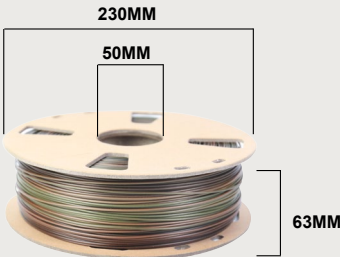
SPOOL



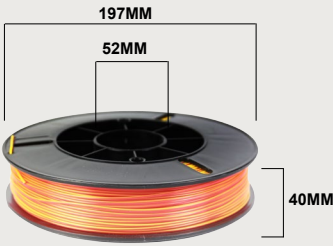
SPOOL 1 2KG FILAMENT



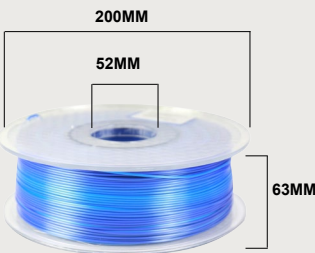
SPOOL 2 5KG FILAMENT



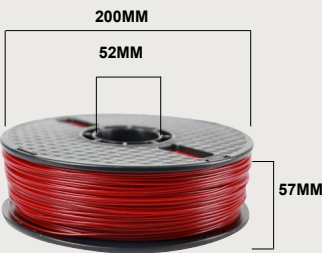
SPOOL 3 1KG FILAMENT



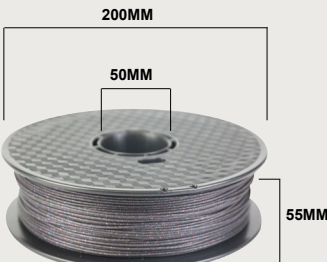
SPOOL 4 0.5KG FILAMENT



SPOOL 6 1KG FILAMENT



SPOOL 7 1KG FILAMENT



SPOOL 8 1KG FILAMENT

Dimensions:
7.5" L x 0.125" H x 0.5" W

TPU	PC	HIPS	Woodfill
Nominal 3.00 mm $\pm$ 0.05 mm Nominal 1.75 mm $\pm$ 0.05 mm $\pm$ 0.05 mm			
230-240°C	300-315°C	240°C	195-220°C
70°C to 80°C	135°C to 145°C	100°C to 110°C	60°C
Spool Outer Diameter: 200 mm Spool Inner Diameter: 32mm Width: 60mm			
Vacuum - sealed PE bag with desiccant, outer cardboard protective box			
1kg $\pm$ 0.05kg			
1.4kg			

Filament Characterization

On average, we spend 2 weeks testing and characterizing each new material, diameter and color combination through various semi- automated tests. Above and beyond the manufacturing quality control, we re-run these tests on a quarterly basis to ensure we always ship that provides reliable and repeatable print results.



Market of the future: 3D printing

The 3D printing market has generated sales worth several billion US dollars over the last few years. Analysts have projected that this market will continue to grow substantially in the near future. Around half of this revenue is attributable to services as well as consumables, such as plastic filaments.

3D printing process

In 3D printing with polymer filaments, the molten filament is deposited in layers through a movable nozzle to form a three-dimensional structure. The individual layers fuse into one another and the material solidifies as it cools, allowing complex geometries to be realised as 3D models.

Consistent material quality

Due to the ease with which they can be processed, filaments made of the bio-based plastic PLA (polylactide) and the transparent material PETG (polyethylene terephthalate) are particularly suitable for 3D printing. Thanks to the informed choice of raw material, systematic adjustment of the formula and comprehensive testing, YUMi has developed a PLA filament offering an outstanding and above all consistent material quality.

PRODUCTION PROCEDURE



Stirring material



Drying



Production line



Filament winding



Quality Inspection



Sticker paste



To be packaged



Vacuum packing



Temporary storage



Package & Storage



Loading Container

TESTING LABORATORY





PC filament produced by PC Material.

PC material is a kind of amorphous thermoplastic resin material with excellent comprehensive performance. It has excellent electrical insulation, elongation, dimensional stability and chemical corrosion resistance, high strength, heat resistance and cold resistance. It can withstand high temperatures of 125 degrees and low temperatures of -40 degrees.

Physical Properties	Typical Value	Test Method
Relative density	1.41g/cm	3 ASTMD792
Melting index	70g/10min	10kg 250 (C) ASTMD 1238
Shrink rate(MD)	0.43%	flow at 3.2mm(MD)ASTM D955
TD	0.47%	X-flow at 3.2mm(TD)ASTM D955

Technical Properties	Typical Value	Test Method
Fracture strength(at Yield)	560kgf/cm2	50mm/min ASTMD 638
Fracture elongation(at break)	45%	50mm/min ASTMD 638

Technical Properties	Typical Value	Test Method
Lzod notched 1/4 inch at 23℃	16 kgf-cm/cm	ASTMD 256
Hardness	118	R-scale ASTMD785
Thermal deformation tem	114℃	18.56kgf/cm2 6.4mm ASTMD 648
Microcard softening tem	140℃	B/50 ISO R306

Electrical performance		
Flame retardancy	V-2	UL94

Printing properties	Typical Value
Printing temperature	280-300℃
Hot Pad	120-160℃
Fan layer	off

Size	N.W	G.W	Diameters	Packing Characteristics
M	300g	450g	1.75mm	SmartBag ,Security Seal
XM	500g	700g	1.75mm/2.85mm/3.00mm	SmartBag ,Security Seal
L	1000g	1200g	1.75mm/2.85mm/3.00mm	SmartBag ,Security Seal



Nota: None of our filament is produced with recycled material in order to get the highest quality filaments

PLA wooden filament made by PLA and 10-15% Bamboo powder

They are nature color and white color. Wood texture is realistic. Wood power is special treatment, wrapped with material, It is not easy to be carbonized and reduced blockage problem. When printing, you can smell the scent of wood powder. Filament has a high MFR, which is recommended printing temperature less than 200 °C .

Physical Properties	Typical Value	Test Method
Material Density	1.02g/cm ³	GB/T1033.1-2008

Technical Properties	Typical Value	Test Method
Tensile strength	25-30	25UM ASTM D1992
Bending strength kg/cm ²	213-230	ASTM D790/ISO 178
Elongation at break	14%	GB/T1040.1-2006
Bending strength (kg/cm ²)	230-240 °C	ASTM D790/ISO 178

Technical Properties	Typical Value	Test Method
Vicat softening point	61.5 °C	GB/T19466.2-2004
Melting Index(g/10min)	8(200 °C ,5kg)	GB/T3682-2000
Melting point	168 °C	GB/T19466-2004

Printing properties	Typical Value
Printing temperature	180-200 °C
Hot Pad	0-40 °C
Fan layer	off(Max20%)

Size	N.W	G.W	Diameters	Packing Characteristics
M	300g	450g	1.75mm	SmartBag ,Security Seal
XM	500g	700g	1.75mm/2.85mm/3.00mm	SmartBag ,Security Seal
L	1000g	1200g	1.75mm/2.85mm/3.00mm	SmartBag ,Security Seal



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PLA PRO +

PLA PRO + is one kind of composite of PLA, special addition add to make PLA melting lower, bright, Lower viscosity, easy to remove support. It's molecular weight is uniform distributed. making the molecules in the material more compatible, stable diameter accuracy and printing effect.

Physical Properties	Typical Value	Test Method
Material Density	1.21-1.30g/cm ³	GB/T1033.1-1986

Mechanical Properties	Typical Value	Test Method
Tensile strength	17-18 25um	ASTM D1992
Tensile strength	≥50Mpa	GB/T1040-1992
Elongation at break	4.6-5.3%	GB/T1040.1-1992
Impact intensity (KJ/M,Izod2)	1-3	GB/T1043-1992

Thermal Properties	Typical Value	Test Method
Vicat softening point	61.5℃	GB/T19466.2-2004
Melting Index(g/10min)	4-6(190℃ ,2.15kg)	GB/T3682-2000
Melting point	178.5℃	GB/T19466-2004

Printing properties	Typical Value
Printing temperature	190-220℃
Hot Pad	0-40℃
Fan layer	off(Max20%)

Size	N.W	G.W	Diameters	Packing Characteristics
M	300g	450g	1.75mm	SmartBag ,Security Seal
XM	500g	700g	1.75mm/2.85mm/3.00mm	SmartBag ,Security Seal
L	1000g	1200g	1.75mm/2.85mm/3.00mm	SmartBag ,Security Seal



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Water-soluble filament made by Easter with special material

It is very compatible with materials such as PLA / ABS / PC, so adhesion well. Filament needs to be soaked in warm water and dissolve. Higher water temperature, the faster dissolves. When dissolved, stir the water to ensure that warm water is in full contact with the filament. Replace or add water in a time, when the solution reaches dissolution saturation.

Physical Properties	Typical Value	Test Method
Relative density	1.25g/cm ³	GB/T1033.1-2008

Mechanical Properties	Typical Value	Test Method
Tensile strength	23.5	ISO527
Bending strength kg/cm ²	213-230	ASTM D790/ISO 178
Elongation at break	19%	ISO527
Bending strength (kg/cm ²)	45.5Mpa	ASTM D790/ISO 178
Bond strength	1.08Gpa	ASTM D790/ISO 178

Thermal Properties	Typical Value	Test Method
Glass transition temperature	57.3 °C	GB/T19466.2-2004
Melting Index(g/10min)	2.8(200 °C ,5kg)	GB/T3682-2000
Melting point	168 °C	GB/T19466-2004
Vicat softening point	59 °C	GB/T19466.2-2004
Hydroxyl value	10 mg/g	

Printing properties	Typical Value
Printing temperature	200-300 °C
Hot Pad	0-40 °C
Fan layer	off(Max20%)

Size	N.W	G.W	Diameters	Packing Characteristics
M	300g	450g	1.75mm	SmartBag ,Security Seal
XM	500g	700g	1.75mm/2.85mm/3.00mm	SmartBag ,Security Seal
L	1000g	1200g	1.75mm/2.85mm/3.00mm	SmartBag ,Security Seal



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PLA Silky

PLA Silky is one kind of composite of PLA, special addition add to make PLA melting lower, bright, Lower viscosity, easy to remove support. It's molecular weight is uniform distributed. making the molecules in the material more compatible, stable diameter accuracy and printing effect.

Physical Properties	Typical Value	Test Method
Material Density	1.21-1.30g/cm ³	GB/T1033.1-1986
Mechanical Properties	Typical Value	Test Method
Tensile strength	17-18 25um	ASTM D1992
Tensile strength	≥50Mpa	GB/T1040-1992
Elongation at break	4.6-5.3%	GB/T1040.1-1992
Impact intensity (KJ/M,Izod2)	1-3	GB/T1043-1992
Thermal Properties	Typical Value	Test Method
Vicat softening point	61.5 ℃	GB/T19466.2-2004
Melting Index(g/10min)	4-6(190 ℃ ,2.15kg)	GB/T3682-2000
Melting point	178.5 ℃	GB/T19466-2004
Printing properties	Typical Value	
Printing temperature	190-220 ℃	
Hot Pad	0-40 ℃	
Fan layer	off(Max20%)	

Size	N.W	G.W	Diameters	Packing Characteristics
M	300g	450g	1.75mm	SmartBag ,Security Seal
XM	500g	700g	1.75mm/2.85mm/3.00mm	SmartBag ,Security Seal
L	1000g	1200g	1.75mm/2.85mm/3.00mm	SmartBag ,Security Seal



Nota: None of our filament is produced with recycled material in order to get the highest quality filaments

PETG

PETG With high transparency and toughness. Bright luster, very easy to print, this material is jointly developed by YUMi and Sinopec Group China.

Physical Properties			Typical Value	Test Method
Material Density			1.27g/cm ³	ASTM D1505
Mechanical Properties			Typical Value	Test Method
Tensile strength Yield			53Mpa	ASTM D638
Tensile strength break			26Mpa	ASTM D638
Elongation at break			70%	ASTM D638
Flexural Strength			80Mpa	ASTM D790
Flexural Modulus			2150Mpa	ASTM D790
Lzod impact strength			90J/M	ASTM D256
Thermal Properties			Typical Value	Test Method
Heat Distortion temperature			74℃	ASTM D648
Vicat Softening temperature			83℃	ASTM D1525
Transmittance			89%	ASTM D1003
Dielectric strength			16KV/mm	ASTM 149
Surface Ressistivity			10(16)	ASTM D257
Printing properties			Typical Value	
Printing temperature			190-220℃	
Hot Pad			0-40℃	
Fan layer			off(Max20%)	
Size	N.W	G.W	Diameters	Packing Characteristics
M	300g	450g	1.75mm	SmartBag ,Security Seal
XM	500g	700g	1.75mm/2.85mm/3.00mm	SmartBag ,Security Seal
L	1000g	1200g	1.75mm/2.85mm/3.00mm	SmartBag ,Security Seal



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TPU

TPU material produced by Wanhua Chemica group. The shore hardness date is 64D. Material have good elongation. And filament accuracy can controlled +/-0.03mm .

Physical Properties			Typical Value	Test Method
Material Density			1.23g/cm ³	ISO1183
Mechanical Properties			Typical Value	Test Method
Hardness			64D	ISO868
100% elongation Mpa			15	ISO037
300% elongation Mpa			30	ISO037
tensile strength Mpa			45	ISO037
Ultimate elongation			%350	ISO037
tear strength			160KN/m	ISO034
Technical Properties			Typical Value	Test Method
Lzod notched 1/4 inch at 23 ℃			16 kgf-cm/cm	ASTMD 256
Hardness			118	R-scale ASTMD785
Thermal deformation tem			114 ℃	18.56kgf/cm2 6.4mm ASTMD 648
Microcard softening tem			140 ℃	B/50 ISO R306
Printing properties			Typical Value	
Printing temperature			220-240 ℃	
Hot Pad			0-40 ℃	
Fan layer			off(Max20%)	
Size	N.W	G.W	Diameters	Packing Characteristics
M	300g	450g	1.75mm	SmartBag ,Security Seal
XM	500g	700g	1.75mm/2.85mm/3.00mm	SmartBag ,Security Seal
L	1000g	1200g	1.75mm/2.85mm/3.00mm	SmartBag ,Security Seal



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ABS

ABS With high transparency and toughness. Very Low warpage, print smooth, glossy Bright luster, very easy to print, this material is jointly developed by Sting3d and Sinopec Group China. This material developed by Sinopec specially for 3d printer.

Physical Properties	Typical Value	Test Method
Malt flow rate (200℃ /2.16Kg)	g/10min 2.6	GB/T 3682-2000
Material Density (A)	g/cm3 1.057	GB/T 1033.1-2008
Mechanical Properties	Typical Value	Test Method
Glass transition temp	106.7	GB/T 19466.3-2004/ISO 11357-3:1999
Tensile strength break(50mm/min)	33.2Mpa	GB/T 1040.2-2006
Tensile strength rate(50mm/min)	2.9%	GB/T 1040.2-2006
Technical Properties	Typical Value	Test Method
Heat Distortion temperature	106℃	ASTM D648
Notched Impact Strength	kJ/m ² P16	GB/T 1043.1-2008/ISO 179-1:2000
Load deformation temperature	87℃	GB/T 1634.2-2004
Rockwell hardness	R 108	GB/T 3398.2-2008/ISO 2039-2: 1987
Bending modulus	2260MPa	GB/T 9341-2008/ISO 178: 2001
bending stress	66.9MPa	GB/T 9341-2008/ISO 178: 2001
Molding shrinkage	0.5%	GB/T 17037.4-2003/ISO 294-4: 2001

Printing properties				Typical Value
Printing temperature				230-250℃
Hot Pad				80-120℃
Fan layer				off(Max20%)
Size	N.W	G.W	Diameters	Packing Characteristics
M	300g	450g	1.75mm	SmartBag ,Security Seal
XM	500g	700g	1.75mm/2.85mm/3.00mm	SmartBag ,Security Seal
L	1000g	1200g	1.75mm/2.85mm/3.00mm	SmartBag ,Security Seal



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Yumi Intelligent Manufacturing (Hangzhou) Co., Ltd
NO.18 ZHENSHAN ROAD, CHANGKOU TOWN, FUYANG,
HANGZHOU,ZHEJIANG, CHINA, 311400