JIANYU 3D Printing
Filaments

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INTRODUCTION

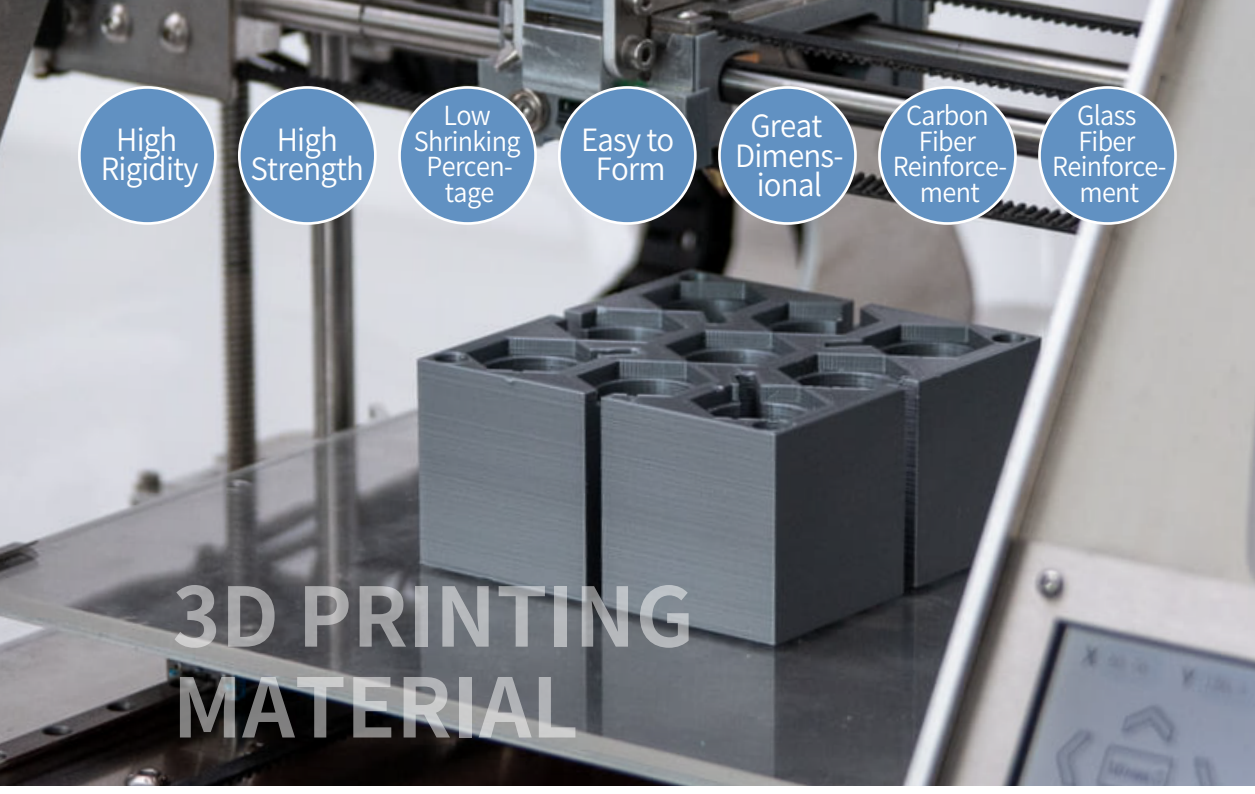
聚丰 POLYFUL | Company Introduction

Hangzhou Polyful Advanced Material Co., Ltd., established in 2018, is a professional high-tech enterprise engaged in the research, development, production, and sales of high-end polymer products. POLYFUL specializes in developing, producing, and selling high-end polymer products, including compostable resins and products, 3D printing pellets and filaments, modified PPO, thermoplastic silicone elastomers, and modified engineering resins.

莹语 JianYu | 3D Printing Brand Introduction

JIANYU is a dedicated brand of 3D printing materials under POLYFUL. Leveraging the technological advantages and expertise accumulation in polymer materials held by POLYFUL, as well as possessing independent core intellectual property rights and R&D production capabilities, JIANYU aims to serve the domestic and international additive manufacturing market by offering high-performance 3D printing filaments.

A technology-driven company specializing in advanced polymer research, production, and sales.
Committed to being a leader in the field of advanced polymer technologies.
Keep developing safe, pro-environment, sustainable solutions in the area of advanced polymer technologies.
Achieve the goals of low-carbon environmental protection, and promote the sustainable development of society.

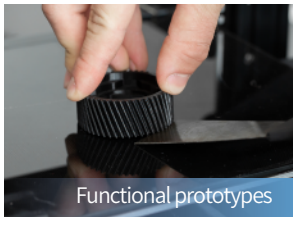


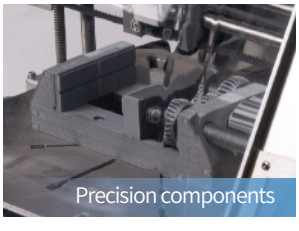
Birch

High-strength

Birch is a product series of JIANYU, which refers to the 3D printing solution of "Reinforced", the Birch Series has excellent mechanical performance and printing quality, great tensile capacity and durability. The Birch Series is suitable for long-term stress applications.

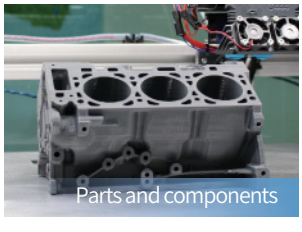
Applications


Functional prototypes


Precision components


Auto spare parts


Casting molds


Parts and components


Electronic and electrical housings

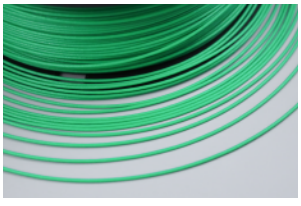
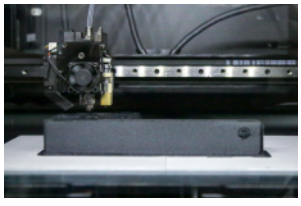
COCOON PP-Birch(GF) EP012406

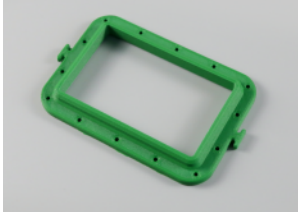
It is an enhanced PP material, solving problems of warping, layer adhesion and bed adhesion. It has the features of low warping, and strong layer adhesion. An easy-to-print PP maintains the typical PP benefits (high chemical resistance, recyclability possibilities, fracture resistance and semi-toughness). Also, it offers customizable color options. This material is ideal for 3D printing functional prototypes and mechanical parts for industry, automotive, mould components.

Testing Ite ms	Testing Conditions	Testing Methods	Units	Typical Values
Physical Properties				
Density	23°C	ISO 1183	g/cm^3	1.04
Melt Flow Rate	230°C,2.16kg	ISO 1133	g/10min	13
Thermal Property				
Heat Deflection Temperature	0.45MPa	ISO 75-1	°C	145
Printed Specimen Performance				
Tensile Strength(X-Y)	5mm/min	ISO 527-1	MPa	65
Tensile Strength(Z)	5mm/min	ISO 527-1	MPa	11
Impact Strength, Notched	2.75J	ISO 179-1	kJ/m^2	11

Diameter 1.75/2.85mm | Weight 1/5kg | Tolerance ±0.05mm | Printing Temp. 235-260°C | Board Temp. Not heated | Printing Speed 60-100mm/s | Specialized Build Plate From JIANYU

Product and application display



Colors

COCOON PP-Birch(GF) EP015606

It is an enhanced PP material, solving problems of warping, layer adhesion and bed adhesion. It has the features of low warping, and good surface. An easy-to-print PP maintains the typical PP benefits (high chemical resistance, recyclability possibilities, fracture resistance and semi-toughness). Also, it offers customizable color options. This material is ideal for 3D printing functional prototypes and mechanical parts for industry, automotive, mould components.

Testing Items	Testing Conditions	Testing Methods	Units	Typical Values
Physical Properties				
Density	23°C	ISO 1183	g/cm^3	1.13
Melt Flow Rate	230°C,2.16kg	ISO 1133	g/10min	15
Thermal Property				
Heat Deflection Temperature	0.45MPa	ISO 75-1	°C	135
Printed Specimen Performance				
Tensile Strength(X-Y)	50mm/min	ISO 527-1	MPa	27
Tensile Strength(Z)	50mm/min	ISO 527-1	MPa	11
Impact Strength, Notched	2.75J	ISO 179-1	kJ/m^2	5

Diameter 1.75/2.85mm

Weight 1/5kg

Tolerance ±0.05mm

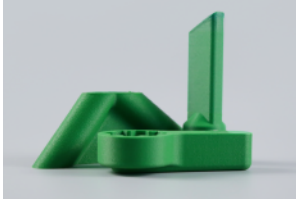
Printing Temp. 235-260°C

Board Temp. Not heated

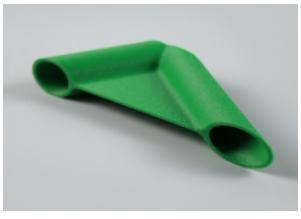
Printing Speed 60-100mm/s

Specialized Build Plate From JIANYU

Product and application display





Colors

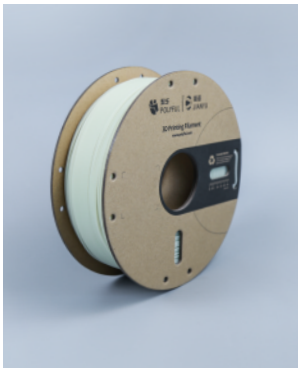
COCOON PA-Birch(GF) EP052506(1)

It is an enhanced PA6 material, with relatively improved tensile strength, suitable for 3D printing of industrial parts that require high strength and good wear resistance. Components printed with this material have good heat resistance and impact resistance.

Testing Items	Testing Conditions	Testing Methods	Units	Typical Values
Physical Properties				
Density	23°C	ISO 1183	g/cm^3	1.31
Melt Flow Rate	235°C,2.16kg	ISO 1133	g/10min	4
Printed Specimen Performance				
Tensile Strength(X-Y)	50mm/min	ISO 527-1	MPa	93
Tensile Modulus(X-Y)	50mm/min	ISO 527-1	MPa	4500
Tensile Strength(Z)	50mm/min	ISO 527-1	MPa	25
Tensile Modulus(Z)	50mm/min	ISO 527-1	MPa	1900
Flexural Strength	2mm/min	ISO 178	MPa	142
Flexural Modulus	2mm/min	ISO 178	MPa	4700
Impact Strength, Notched	2.75J	ISO 179-1	kJ/m^2	22

Diameter	Weight	Tolerance	Printing Temp.	Board Temp.	Printing Speed
1.75/2.85mm	1/5kg	±0.05mm	280-300°C	100°C	40-70mm/s

Product and application display



Colors

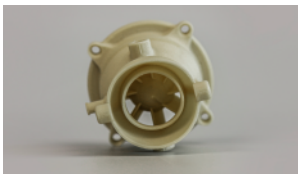
COCOON PA-Birch(GF) EP052506(3)

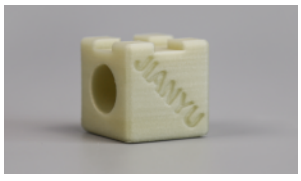
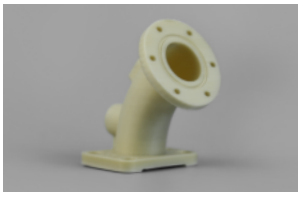
It is a PA12-based reinforced material with high rigidity and toughness, excellent creep resistance, and low water absorption. Parts printed using this material have high strength, abrasion resistance, low warping, low moisture absorption, outstanding toughness and fatigue resistance, etc. It can maintain effective mechanical properties and dimensional stability when used in long-term working environments. It can be widely used in mechanical engineering, electronics and electrical appliances, automobile manufacturing, aerospace, and other fields.

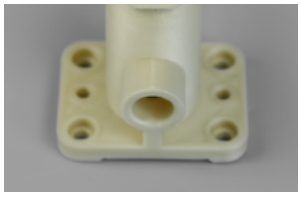
Testing Items	Testing Conditions	Testing Methods	Units	Typical Values
Physical Properties				
Density	23°C	ISO 1183	g/cm^3	1.2
Melt Flow Rate	230°C,2.16kg	ISO 1133	g/10min	2.5
Thermal Property				
Heat Deflection Temperature	1.8MPa	ISO 75-1	°C	105
Printed Specimen Performance				
Tensile Strength(X-Y)	50mm/min	ISO 527-1	MPa	63
Tensile Strength(Z)	50mm/min	ISO 527-1	MPa	29
Flexural Strength	2mm/min	ISO 178	MPa	67

Diameter	Weight	Tolerance	Printing Temp.	Board Temp.	Printing Speed
1.75/2.85mm	1/5kg	±0.05mm	280-300°C	80-100°C	40-70mm/s

Product and application display





Colors

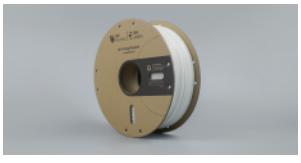
COCOON PA-Birch(GF) EP052506(4)

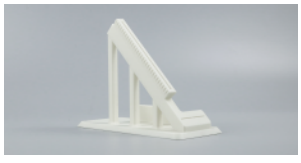
It is a 3D printing specialty filament primarily made from renewable natural plants, featuring high strength, high fluidity, low moisture absorption, low shrinkage, and low warping. Compared to traditional petroleum-based polyamides, its raw materials are renewable and offer better sustainability. Components printed with this material have excellent dimensional stability. This filament is suitable for printing structural parts with specific strength or environmental requirements, such as wind turbine blades, low-voltage electrical structural components, electric tools, gears, etc.

Testing Items	Testing Conditions	Testing Methods	Units	Typical Values
Physical Properties				
Density	23°C	ISO 1183	g/cm^3	1.23
Melt Flow Rate	230°C,2.16kg	ISO 1133	g/10min	7
Thermal Property				
Heat Deflection Temperature	1.8MPa	ISO 75-1	°C	180
Printed Specimen Performance				
Tensile Strength(X-Y)	50mm/min	ISO 527-1	MPa	99
Tensile Strength(Z)	50mm/min	ISO 527-1	MPa	42
Flexural Strength	2mm/min	ISO 178	MPa	155
Impact Strength, Notched	2.75J	ISO 179-1	kJ/m^2	16

Diameter	Weight	Tolerance	Printing Temp.	Board Temp.	Printing Speed
1.75/2.85mm	1/5kg	±0.05mm	280-300°C	80-100°C	40-70mm/s

Product and application display






Colors

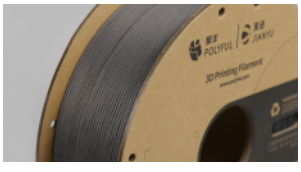
COCOON PA-Birch(CF) EP059506

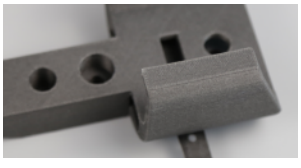
It is a carbon fiber reinforced heat-resistant PA6 filament that offers great heat resistance, impact resistance, oil and abrasion resistance, and electrical insulation. It has a heat deflection temperature of 190°C. The surface of the printed products has a good quality, presenting a matte and sand-like texture. It is suitable for use in 3D printed gears, bearings, pump impellers, fasteners, oil-resistant gaskets, and other industrial load-bearing structural parts or tooling fixtures.

Testing Items	Testing Conditions	Testing Methods	Units	Typical Values
Physical Properties				
Density	23°C	ISO 1183	g/cm^3	1.29
Melt Flow Rate	235°C,2.16kg	ISO 1133	g/10min	4
Thermal Property				
Heat Deflection Temperature	1.8MPa	ISO 75-1	°C	190
Printed Specimen Performance				
Tensile Strength(X-Y)	50mm/min	ISO 527-1	MPa	111
Tensile Strength(Z)	50mm/min	ISO 527-1	MPa	23
Flexural Strength	2mm/min	ISO 178	MPa	154
Flexural Modulus	2mm/min	ISO 178	MPa	5800
Impact Strength, Notched	2.75J	ISO 179-1	kJ/m^2	19

Diameter	Weight	Tolerance	Printing Temp.	Board Temp.	Printing Speed
1.75/2.85mm	1/5kg	±0.05mm	280-300°C	100°C	40-70mm/s

Product and application display




Colors

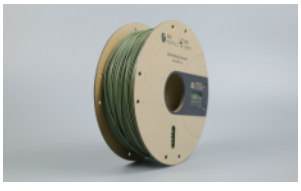
COCOON PLA-Birch(CF) DP023106

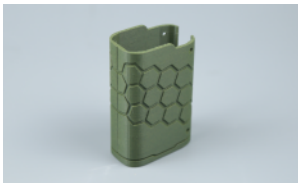
It is a premium PLA carbon fiber composite material known for its high rigidity, refined texture, and ease of printing. It produces parts with an impressive texture characterized by a sand-like smooth surface, discreetly hidden layer lines, and a matte, pristine finish. It is outstanding for printing projects that demand both functionality and aesthetic appeal. It provides exceptional printing performance along with superior mechanical strength. It is particularly well-suited for producing items that feature pronounced surface effects, such as device enclosures, functional artistic creations, and prototypes for industrial product designs.

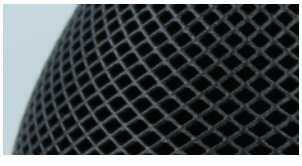
Testing Items	Testing Conditions	Testing Methods	Units	Typical Values
Physical Properties				
Density	23°C	ISO 1183	g/cm^3	1.25
Melt Flow Rate	190°C,2.16kg	ISO 1133	g/10min	4
Printed Specimen Performance				
Tensile Strength(X-Y)	50mm/min	ISO 527-1	MPa	62
Tensile Strength(Z)	50mm/min	ISO 527-1	MPa	35
Flexural Strength	2mm/min	ISO 178	MPa	93
Impact Strength, Notched	2.75J	ISO 179-1	kJ/m^2	4.8

Diameter	Weight	Tolerance	Printing Temp.	Board Temp.	Printing Speed
1.75/2.85mm	1/5kg	±0.05mm	200-230°C	50-65°C	60-200mm/s

Product and application display





Colors

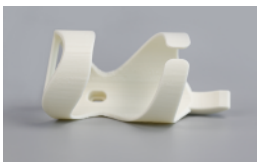
COCOON ABS-Birch(GF) EP062206

It is a glass fiber-reinforced ABS material that supports printing in an open environment. It offers a well-balanced combination of strength, rigidity, and warp resistance. With a heat resistance up to 82°C and a printing speed up to 200mm/s. It combines great mechanical properties, thermal stability, and printing efficiency. It is suitable for 3D printing applications that require certain levels of strength, rigidity, and heat resistance, such as jigs and fixtures, manufacturing tools, housings, and structural components.

Testing Items	Testing Conditions	Testing Methods	Units	Typical Values
Physical Properties				
Density	23°C	ISO 1183	g/cm³	1.11
Melt Flow Rate	220°C,10kg	ISO 1133	g/10min	30
Thermal Property				
Heat Deflection Temperature	0.45MPa	ISO 75-1	°C	82
Printed Specimen Performance				
Tensile Strength(X-Y)	50mm/min	ISO 527-1	MPa	36
Tensile Modulus(X-Y)	50mm/min	ISO 527-1	MPa	2650
Tensile Strength(Z)	50mm/min	ISO 527-1	MPa	20
Tensile Modulus(Z)	50mm/min	ISO 527-1	MPa	1600
Elongation@Break	50mm/min	ISO 527-1	%	3
Flexural Strength	2mm/min	ISO 178	MPa	55
Flexural Modulus	2mm/min	ISO 178	MPa	2700
Impact Strength, Notched	2.75J	ISO 179-1	kJ/m²	6

Diameter	Weight	Tolerance	Printing Temp.	Board Temp.	Printing Speed
1.75/2.85mm	1/5kg	±0.05mm	240-280°C (270°C is recommended)	90°C	100-200mm/s

Product and application display




Colors

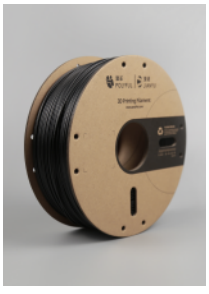
COCOON ABS-Birch(CF) EP063106

It is an ABS chopped carbon fiber composite material that achieves a precise balance in mechanical properties, printability, and surface quality. It features high strength, high rigidity, and the ability to suppress warping. Printed products are robust and durable with a matte, clean finish. Its excellent mechanical properties and outstanding surface quality make it suitable for 3D printing applications that require both strength and stiffness, such as tooling fixtures, manufacturing jigs, casings, and structural components.

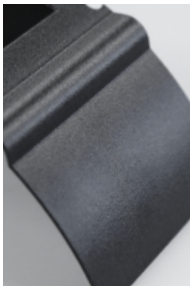
Testing Items	Testing Conditions	Testing Methods	Units	Typical Values
Physical Properties				
Density	23°C	ISO 1183	g/cm^3	1.06
Melt Flow Rate	220°C,10kg	ISO 1133	g/10min	20
Thermal Property				
Heat Deflection Temperature	0.45MPa	ISO 75-1	°C	95
Printed Specimen Performance				
Tensile Strength(X-Y)	50mm/min	ISO 527-1	MPa	55
Tensile Strength(Z)	50mm/min	ISO 527-1	MPa	27
Flexural Strength	2mm/min	ISO 178	MPa	78
Flexural Modulus	2mm/min	ISO 178	MPa	4250
Impact Strength, Notched	2.75J	ISO 179-1	kJ/m^2	5

Diameter	Weight	Tolerance	Printing Temp.	Board Temp.	Printing Speed
1.75/2.85mm	1/5kg	±0.05mm	270-290°C	90-100°C	100-200mm/s

Product and application display







Colors

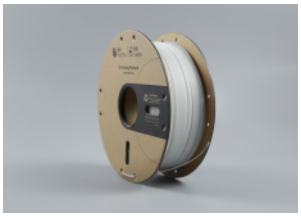
COCOON PETG-Birch(GF) EP082206

It is an enhanced PETG material with great fluidity and is easy to print and mold. Additionally, it exhibits low odor and excellent chemical resistance. The parts printed with this material are tough and durable, with good dimensional stability, presenting a matte and delicate frosted texture, which is suitable for printing structural parts or outdoor models with high anti-drop and impact resistance requirements.

Testing Items	Testing Conditions	Testing Methods	Units	Typical Values
Physical Properties				
Density	23°C	ISO 1183	g/cm³	1.33
Melt Flow Rate	250°C,5kg	ISO 1133	g/10min	10
Printed Specimen Performance				
Tensile Strength(X-Y)	50mm/min	ISO 527-1	MPa	61
Tensile Strength(Z)	50mm/min	ISO 527-1	MPa	19
Flexural Strength	2mm/min	ISO 178	MPa	84
Impact Strength, Notched	2.75J	ISO 179-1	kJ/m²	6

Diameter	Weight	Tolerance	Printing Temp.	Board Temp.	Printing Speed
1.75/2.85mm	1/5kg	±0.05mm	250°C	60-70°C	60-150mm/s

Product and application display






Colors

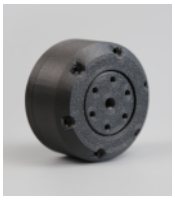
COCOON PETG-Birch(CF) EP083206

It is a PETG chopped carbon fiber composite filament that effectively reduces nozzle clogging, offers high strength and modulus, and is easy to print. The printed products have a glossy surface with hidden layer lines, and are resistant to yellowing, chemical corrosion, durable, environmentally friendly, and odorless. It supports open printing and achieves a precise balance of mechanical properties, printing performance, and surface quality. It is suitable for applications requiring high load-bearing capacity and rigidity, such as tooling fixtures, precision instrument housings, and structural components.

Testing Items	Testing Conditions	Testing Methods	Units	Typical Values
Physical Properties				
Density	23°C	ISO 1183	g/cm^3	1.31
Melt Flow Rate	230°C,2.16kg	ISO 1133	g/10min	5
Thermal Property				
Heat Deflection Temperature	0.45MPa	ISO 75-1	°C	71
Printed Specimen Performance				
Tensile Strength(X-Y)	50mm/min	ISO 527-1	MPa	69
Tensile Modulus(X-Y)	50mm/min	ISO 527-1	MPa	4200
Tensile Strength(Z)	50mm/min	ISO 527-1	MPa	35
Tensile Modulus(Z)	50mm/min	ISO 527-1	MPa	1800
Flexural Strength	2mm/min	ISO 178	MPa	98
Flexural Modulus	2mm/min	ISO 178	MPa	4950
Impact Strength, Notched	2.75J	ISO 179-1	kJ/m^2	5

Diameter	Weight	Tolerance	Printing Temp.	Board Temp.	Printing Speed
1.75/2.85mm	1/5kg	±0.05mm	240-270°C	70°C	100-300mm/s

Product and application display

Colors