

EP052506NC004-TDS

COCOON PA-Birch(GF)

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.

Part 1 Injection-Molded Specimen Performance

Testing Items	Testing Conditions	Testing Methods	Units	Typical Values
Physical Properties				
Density	23°C	GB/T 1033	g/cm ³	1.23
Melt Volume Rate	235°C,2.16kg	GB/T 3682	g/10min	7
Mechanical Properties				
Tensile Strength	5mm/min	GB/T 1040.2	MPa	125
Elongation @ Break	5mm/min	GB/T 1040.2	%	8
Flexural Strength	2mm/min	GB/T 9341	MPa	200
Flexural Modulus	2mm/min	GB/T 9341	MPa	5600
Izod Impact Strength	1J	GB/T 1843	kJ/m ²	15
Thermal Property				
HDT	1.8MPa	GB/T 1643	°C	180

Note: The typical physical properties are not intended for use as sales specifications.

Part 2 Printed Specimen Performance

Testing Items	Testing Conditions	Testing Methods	Units	Typical Values
Mechanical Properties				
Tensile Strength(X-Y)	50mm/min	GB/T 1040.2	MPa	99
Tensile Strength(Z)	50mm/min	GB/T 1040.2	MPa	42
Flexural Strength	2mm/min	GB/T 9341	MPa	155
Impact Strength, Notched	2.75J	GB/T 1843	kJ/m ²	16

Note: All specimens are printed under the following conditions: nozzle temperature = 290°C, printing speed = 60 mm/s, build plate temperature=90°C infill = 100%, nozzle diameter = 0.4mm.



Printing Path Direction of Specimen (Z)



Printing Path Direction of Specimen (X-Y)

Part 3 Printing Guidelines

Parameters	Settings
Nozzle Temperature	280-300°C
Build Plate Temp.	80-100°C
Build Plate Material	Glass、PEI、 Steel Spring Build Plate
Bottom Layer Printing Temp.	280-300°C
Enclosed-chamber Printing	yes
Print Speed	40-70mm/s
Drying recommendations	100-120 °C in a hot air dryer for 6-8hours

Disclaimer:

The values provided in this data sheet are for reference and comparison purposes only. They should not be used for design specifications or quality control. Actual values may vary depending on printing conditions. The ultimate performance of printed parts depends not only on the material but also on the part design, environmental conditions, and printing conditions. The product specifications are subject to change without notice.

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