

# EP112606BK001-TDS

## COCOON PPS-Birch(GF)

It is a high-performance modified PPS material designed for FDM 3D printing technology. It features exceptional mechanical strength, high-temperature resistance, and resistance to weather, corrosion, and wear, as well as flame retardancy and electrical insulation, delivering outstanding overall performance. Printed parts exhibit low shrinkage and excellent dimensional stability, maintaining high strength retention even under high-temperature, high-humidity, and variable-frequency conditions. This material meets a flame retardancy rating of V0 (UL94, 0.8mm) and is suitable for applications in automotive, electronics, machinery, chemical engineering, sports equipment, and other industries.

### Part 1 Injection-Molded Specimen Performance

Testing Items	Testing Conditions	Testing Methods	Units	Typical Values
Physical Properties				
Density	23°C	ISO 1183	g/cm <sup>3</sup>	1.53
Melt Volume Rate	300°C, 2.16kg	ISO 1133	g/10min	18
Mechanical Properties				
Tensile Strength	5mm/min	ISO 527-1	MPa	140
Flexural Strength	2mm/min	ISO 178	MPa	200
Flexural Modulus	2mm/min	ISO 178	MPa	9200
Impact Strength, Notched	1J	ISO 179-1	kJ/m <sup>2</sup>	9
Thermal Property				
Heat Deflection Temperature	1.8MPa	ISO 75-1	°C	208
Flame-retardant Property				
Flame Class Rating	0.8mm	UL94	-	V0

*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	ISO 527-1	MPa	95
Tensile Modulus(X-Y)	50mm/min	ISO 527-1	MPa	6500
Tensile Strength(Z)	50mm/min	ISO 178	MPa	40
Tensile Modulus(Z)	50mm/min	ISO 178	MPa	3000
Flexural Strength	2mm/min	ISO 178	MPa	155
Flexural Modulus	2mm/min	ISO 178	MPa	8300
Impact Strength, Notched	2.75J	ISO 179-1	kJ/m <sup>2</sup>	11
Thermal Property				
Heat Deflection Temperature	1.8MPa	ISO 75-1	°C	208

*Note: All specimens are printed under the following conditions: nozzle temperature = 330°C, printing speed = 105 mm/s, build plate temperature=100°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	320-340°C
Build Plate Temp.	100°C
Build Plate Material	PEI Build Plate
Bottom Layer Printing Temp.	340°C
Enclosed-chamber Printing	Yes
Print Speed	60-150mm/s
Drying recommendations	80-100 °C in a hot air dryer for 4-6hours

### 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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