

# EP059506BK001-TDS

## COCOON PA-Birch(CF)

COCOON PA-Birch(CF) 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.

### 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>	1.29
Melt Flow Rate	235°C,2.16kg	ISO 1133	g/10min	4
Mechanical Properties				
Tensile Strength	5mm/min	ISO 527-1	MPa	130
Elongation @ Break	5mm/min	ISO 527-1	%	5
Flexural Strength	2mm/min	ISO 178	MPa	190
Flexural Modulus	2mm/min	ISO 178	MPa	6800
Impact Strength, Notched	1J	ISO 179-1	kJ/m <sup>2</sup>	12
Thermal Property				
Heat Deflection Temperature	1.8MPa	ISO 75-1	°C	190

*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	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 <sup>2</sup>	19
Thermal Property				
Heat Deflection Temperature	0.45MPa	ISO 75-1	°C	190

*Note: All specimens are printed under the following conditions: nozzle temperature = 290°C, printing speed = 55 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	280-300°C
Build Plate Temp.	100°C
Build Plate Material	Glass、PEI、 Steel Spring Build Plate
Bottom Layer Printing Temp.	280°C
Enclosed-chamber Printing	yes
Print Speed	40-70mm/s
Drying recommendations	100-120°C, 6-8h

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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