

# EP083206BK001-TDS

## COCOON PETG-Birch(CF)

COCOON PETG-Birch (CF) 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.

### 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>	1.31
Melt Flow Rate	230°C, 2.16kg	ISO 1133	g/10min	5
Mechanical Properties				
Tensile Strength	5mm/min	ISO 527-1	MPa	70
Elongation @ Break	5mm/min	ISO 527-1	%	5
Flexural Strength	2mm/min	ISO 178	MPa	110
Flexural Modulus	2mm/min	ISO 178	MPa	4800
Impact Strength, Notched	1J	ISO 179-1	kJ/m <sup>2</sup>	4

*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	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 <sup>2</sup>	5
Thermal Property				
Heat Deflection Temperature	0.45MPa	ISO 75-1	°C	71

*Note: All specimens are printed under the following conditions: nozzle temperature = 255°C, printing speed = 200 mm/s, build plate temperature=75°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	240-270°C
Build Plate Temp.	70°C
Build Plate Material	Glass、PEI、 Steel Spring Build Plate
Bottom Layer Printing Temp.	/
Enclosed-chamber Printing	Support open printing / Enclosed printing provides better results
Print Speed	100-300mm/s
Drying recommendations	60-70 °C in a hot air dryer for 4-8hours

#### 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.

Each user is responsible for determining the safety, legality, technical suitability, and disposal/recycling of the intended use. Unless otherwise stated, POLYFUL makes no warranties of any kind, express or implied, regarding the suitability of its materials for any use or application. POLYFUL shall not be liable for any damages, injuries, or losses caused by the use of POLYFUL materials in any application.