

EP062206NC001-TDS

COCOON ABS-Birch(GF)

COCOON ABS-Birch(GF) 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.

Part 1 Injection-Molded Specimen Performance

Testing Items	Testing Conditions	Testing Methods	Units	Typical Values
Physical Properties				
Density	23°C	ISO 1183	g/cm ³	1.11
Melt Flow Rate	220°C, 10kg	ISO 1133	g/10min	30
Mechanical Properties				
Tensile Strength	5mm/min	ISO 527-1	MPa	45
Elongation @ Break	5mm/min	ISO 527-1	%	3
Flexural Strength	2mm/min	ISO 178	MPa	70
Flexural Modulus	2mm/min	ISO 178	MPa	3300
Impact Strength, Notched	2.75J	ISO 179-1	kJ/m ²	6

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	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/m ²	6
Thermal Property				
Heat Deflection Temperature	0.45MPa	ISO 75-1	°C	82

Note: All specimens are printed under the following conditions: nozzle temperature = 270°C, printing speed = 150 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	240-280°C, recommended 270°C
Build Plate Temp.	90°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	100-200mm/s
Drying recommendations	60 °C in a hot air dryer for 4hours

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.