

EP052506BK003-TDS

COCOON PA-Birch(GF)

It is a PA12-based reinforced material with high rigidity and toughness, excellent creep resistance, and low water absorption. Parts printed using this material have high strength, abrasion resistance, low warping, low moisture absorption, outstanding toughness and fatigue resistance, etc. It can maintain effective mechanical properties and dimensional stability when used in long-term working environments. It can be widely used in mechanical engineering, electronics and electrical appliances, automobile manufacturing, aerospace, and other fields.

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	1.2
Melt Flow Rate	230°C,2.16kg	ISO 1133	g/10min	2.5
Mechanical Properties				
Tensile Strength	50mm/min	ISO 527-1	MPa	100
Elongation @ Break	50mm/min	ISO 527-1	%	4.5
Flexural Strength	2mm/min	ISO 178	MPa	145
Flexural Modulus	2mm/min	ISO 178	MPa	4300
Impact Strength, Notched	1J	ISO 179-1	kJ/m ²	10
Thermal Property				
Heat Deflection Temperature	0.45MPa	ISO 75-1	°C	168

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	68
Tensile Modulus(X-Y)	50mm/min	ISO 527-1	MPa	3398
Tensile Strength(Z)	50mm/min	ISO 178	MPa	28
Tensile Modulus(Z)	50mm/min	ISO 178	MPa	1224
Elongation @ Break	50mm/min	ISO 527-1	%	6
Flexural Strength	2mm/min	ISO 178	MPa	94
Flexural Modulus	2mm/min	ISO 178	MPa	3104
Impact Strength, Notched	2.75J	ISO 179-1	kJ/m2	28
Thermal Property				
Heat Deflection Temperature	0.45MPa	ISO 75-1	°C	165

Note: All specimens are printed under the following conditions: nozzle temperature = 280°C, printing speed = 55 mm/s, build plate temperature=110°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	260-300°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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