

Item	Test Way	Test Condition	Unit	ABS	ASA	Easy ABS	Easy PA	PCL	PETG	PLA	PLA Meta	PLA Marble	PLA WOOD	PLA+	LA Carbon Fiber	Matte PLA	Flow in Dark PLA	PVA	PVB	TPU	High Speed PLA	TPU Silk	Silk PLA+	
Tensile Strength	ASTM D638	50mm/min	MPa	42	50	36	75	/	61.4	61	50	61	48.6	53.4	44.8	50.5	49	23	53.3	21.7	54.1	21.4	60.6	
Young's Modulus	ASTM D638	1mm/min	MPa	2270	2220	2015	1790	/	2990	3500	2000	3500	3240	3170	3530	4780	/	/	/	50.2	3282	537	2760	
Elongation at Break	ASTM D638	50mm/min	%	7.8	15	20	32	800	5.3	3.1	17	3.1	8.1	20.3	4.1	9.6	21	215	31.9	536	13.9	436	6.3	
Bending Strength	ASTM D790	2mm/min	MPa	55	73	50	98	/	74.8	83	72	83	58	81.8	64	61	79	/	63.3	4.26	75.2	17.5	65	
Flexural modulus	ASTM D790	2mm/min	MPa	1829	2114	1681	2350	/	1686	2240	2139	2240	2212	2740	2432	2234	2155	/	1651.9	87.6	2357	617	1895	
Notched Cantilever Beam Impact Strength	ASTM D256	3.2mm	J/m	126	18	94	62	/	35	31	48	48	40	19.8	32	40	31	/	4.5	Non-failure	5.9	756	33	
HDT - The temperature at which a polymer deforms under load.	ASTM D648	0.45MPa	°C	84	96	57.9	121	/	63	53	53	53	53	53.8	53	53	53	55	53	52	57.3	131	53	
Dry Before Printing	/	/	/	No	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Drying Condition	/	/	/	50°C-4h	50°C-4h	50°C-4h	80-110°C-6h	/	50°C-4h	50°C-4h	50°C-4h	50°C-4h	50°C-4h	50°C-4h	50°C-4h	50°C-4h	50°C-4h	/	50°C-4h	70-80°C-4h	50°C-4h	50°C-4h	50°C-4h	
Build Plate & Bed Temperature	/	/	/	Engineering Plate 80-100°C	PEI Plate/High Temperature Plate 90-110°C	PEI Plate/High Temperature Plate 60-70°C	Engineering Plate 30-50°C	/	PEI Plate/High Temperature Plate 60-70°C	Cool Plate/PLA Plate 50-60°C	Cool Plate/PLA Plate 50-60°C	Cool Plate/PLA Plate 50-60°C	Cool Plate/PLA Plate 50-60°C	Cool Plate/PLA Plate 50-60°C	Cool Plate/PLA Plate 50-60°C	Cool Plate/PLA Plate 50-60°C	Cool Plate/PLA Plate 50-60°C	Cool Plate/PLA Plate 50-60°C	Cool Plate/PLA Plate 50-60°C	Cool Plate/PLA Plate 50-60°C	Cool Plate/PLA Plate 50-60°C	Cool Plate/PLA Plate 50-60°C	Cool Plate/PLA Plate 50-60°C	
Printing with Enclosure	/	/	/	Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	Not Required	
Printing Speed	/	/	/	≤200mm/s	≤200mm/s	≤200mm/s	≤200mm/s	/	50-200mm/s	50-200mm/s	50-200mm/s	50-150mm/s	50-200mm/s	50-300mm/s	50-200mm/s	50-230mm/s	50-200mm/s	50-200mm/s	50-200mm/s	50-200mm/s	50-150mm/s	50-600mm/s	50-200mm/s	
Nozzle Temperature	/	/	/	250-260°C	255-265°C	225-235°C	255-265°C	75-85°C	230-240°C	200-210°C	185-195°C	210-220°C	205-215°C	205-215°C	215-225°C	205-215°C	205-215°C	200-210°C	200-210°C	195-205°C	205-215°C	210-220°C	205-215°C	
Cooling Fan Setting	/	/	/	100%	100%	100%	100%	/	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	70%	100%	70%	100%	
Application Scenarios	/	/	/	Industrial mechanical plastic components, model machinery, electronic appliances, instrumentation	Outdoor applications, construction industry, electronic product casings, amusement facilities, gardening supplies	Industrial mechanical plastic components, model machinery, electronic appliances, instrumentation, and other industrial sectors.	Rapid Prototyping, Functional Part Manufacturing, Electronics Manufacturing	Medical Field, Prototyping and Education, Biodegradable Products, Cosmetic Products, 3D Printed Art	Home Appliance Parts, Toys, Stationery Items, Electronics Accessories, Cosmetic Containers,	Prototyping, Model Making, Experimental Apparatuses, Science Exhibits, Arts and Crafts, Custom Products	Daily accessories, Decorative objects, Toys, Sculptural pieces, Enclosures, COSPLAY	Decorative and home accents/accessories, Artworks and sculptures, Architectural models and landscape designs, Displays, Cultural heritage	Residential ornamental objects, Domestic furnishings and household articles, Artisanal products and mementos, Instructional and exhibitory applications,	Mechanical equipment, Electronic appliances, Decorative components, Cosplay	Functional component manufacturing, Sports equipment, Electronic product enclosures	Daily accessories, Decorative objects, Toys, Sculptural pieces, Enclosures, COSPLAY	Luminous decorative items, Luminous toys, Safety markings, Luminous decorative and artisanal objects, Luminous tool and equipment markings	Support structure, multi-material printing, model fabrication.	Optical components Decorations and art pieces, Biomedical applications Sustainable products	Insole materials, machinery, automotive, electronics, sporting goods	Prototype production, model making, experimental apparatus, scientific exhibits, Personalized/customized products.	Clothing and fashion design, home goods, sports equipment, medical and health field, art and creative design.	Daily accessories, decorations, toys, sculptures, enclosure, COSPLAY,	