Xometry

Datasheet

PA12-MJF

Description

MJF Nylon PA12 is a widely used printing material and does not require support structures. The PA 12 material used in Multi Jet Fusion technology features remarkable granularity, resulting in higher density and lower porosity in the printed parts compared to those produced by laser sintering. This characteristic also makes MJF Nylon PA12 an ideal choice when more detailed surface resolution or thinner walls are required than what laser sintering can achieve.

Features

[Print size]: 380x284x380 mm

[Features]: Chemical resistant, impact resistant, high strength and UV stability, heat-resistant, flexible, high resolution, and high detail.

Colors: Dyed black, pure gray

[Advantages]: No need for support structures, direct color printing of parts, good physical and mechanical properties, excellent cost-performance ratio, short lead time, reduced waste

Disadvantages: Limited material options, relatively rough surface

Recommended applications: Consumer goods, medical, cases, eyewear frames, game consoles, prosthetics, automotive components, electrical applications

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Parameters

Category	Measurement	Value	Method
General properties	Powder melting point (DSC)	187 °C/369 °F	ASTM D3418
	Particle size	60 µm	ASTM D3451
	Bulk density of powder	0.425 g/cm^3	ASTM D1895
	Density of parts	1.01 g/cm^3	ASTM D792
Mechanical properties	Tensile strength, max load[9], XY	48 MPa/6960 psi	ASTM D638
	Tensile strength, max load[9], Z	48 MPa/6960 psi	ASTM D638
	Tensile modulus[9], XY	1700 MPa/247 ksi	ASTM D638
	Tensile modulus[9], Z	1800 MPa/261 ksi	ASTM D638
	Elongation at break[9], XY	20%	ASTM D638
	Elongation at break[9], Z	15%	ASTM D638
	Flexural strength (@ 5%)[10], XY	65 MPa/9425 psi	ASTM D790
	Flexural strength (@ 5%)[10], Z	70 MPa/10150psi	ASTM D790
	Flexural modulus[10], XY	1730 MPa/251 ksi	ASTM D790
	Flexural modulus[10], Z	1730 MPa/251 ksi	ASTM D790
	Izod impact strength - notched (@ 3.2 mm, 23°C), XYZ	3.5 kJ/m2	ASTM D256 Test Method A

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Thermal properties	Heat Deflection Temperature (@ 0.45 MPa, 66 psi), XY	175 °C/347 °F	ASTM D648 Test Method A
	Heat Deflection Temperature (@ 0.45 MPa, 66 psi), Z	175 °C/347 °F	ASTM D648 Test Method A
	Heat Deflection Temperature (@ 1.82 MPa, 264 psi), XY	95 °C/203 °F	ASTM D648 Test Method A
	Heat Deflection Temperature (@ 1.82 MPa, 264 psi), Z	106 °C/223 °F	ASTM D648 Test Method A
Recyclability	Refresh ratio for stable performance	20%	
Certifications	USP Class I-VI and US FDA guidance for Intact Skin Surface Devices, RoHS[11], EU REACH, PAHs		

	HP 3D High Reusability PA 12	HP 3D High Reusability PA 12 Bundle 12 units	HP 3D High Reusability PA 12
Product Number	V1R10A	V1R15A	V1R16A
Weight	13 kg	156 kg	130 kg
Capacity	30L[12]	360L[12]	300L[12]
Dimensions (xyz)	600x333x302 mm	600x333x302 mm	800 x 600 x 1205 mm
Compatibility	HP Jet Fusion 3D 4210/4200/3200 Printing Solution	HP Jet Fusion 3D 4200 Printing Solution	HP Jet Fusion 3D 4210/4200 Printing Solution