MAGFORMS

PA6-CF

Description

- PA6-CF contains 17% carbon fiber, delivering outstanding rigidity and dimensional stability in dry conditions for long-term load-bearing applications without deformation. Under humid conditions, its toughness increases, providing enhanced impact resistance and reducing the risk of cracking.
- Offers excellent aging resistance and wear resistance, while maintaining a premium surface finish and texture.
- Its low density makes it ideal for RC aircraft and drone applications, helping improve flight efficiency and extend endurance.
- Suitable for automotive components, where it can replace certain metal parts to achieve lightweight designs, as well as for mechanical parts, connectors, and other functional engineering applications.

Technical Properties

TECHNICAL DATA - FILAMENT PROPERTIES	
Appearance	Black FDM 3D Printing Filament
Melt Flow Rate	3-12g/10min
Density（25 ℃）	1.13g/cm^3

TECHNICAL DATA – MECHANICAL PROPERTIES			
Mechanical Property	**Test Method**	**SI Metric**	
		XY-axis	**Z-axis**
Tensile Strength (MPa)	ISO 527	93	52
Tensile Modulus (MPa)	ISO 527	3560	2280
Elongation at Break (%)	ISO 527	5.5	2.4%
Flexural Strength (MPa)	ISO 178	135	78
Flexural Modulus (MPa)	ISO 178	3840	2420

NextShapes Technology Co., Ltd
Building C, Huanzhou North Road, Tanzhou Town, Zhongshan City, Guangdong Province, China.
Phone: (+86) 760-8628 1333
Email: Jessica@greatsimple.net
Website: www.greatsimple.net

Notched Impact Strength (kJ/m²)	ISO 180	6.5	N/A

Thermal Property	**Test Method**	**SI Metric**
Heat Deflection Temperature (°C)	ISO 75	165
Max Service Temperature (°C)	Continuous service: 20,000 h	195
Vicat Softening Temperature (°C)	ISO 306	215
Glass Transition Temperature (°C)	ISO 3146	68
Flammability	UL94	HB @ 3mm
Electrical Property	**Test Method**	**SI Metric**
Surface Resistivity	IEC 600093	＜ 9.E12 ohm/sq
Volume Resistivity	IEC 600093	＜ 9.E12 ohm.cm
Dielectric Constant	IEC 60250	/
Physical Property	**Test Method**	**SI Metric**
Density (g/cm³)	ISO 1183	1. 13
Water Absorption (%)	ISO 62	2. 1

Recommended Printing Parameters

Items	**Recommended value**
Nozzle Temperature	260℃-290℃
Platform Temperature	80℃ - 100℃
Cooling Fan	0-60%
Printing / storage humidity (RH)	20% RH or below
First-layer Speed	50 ㎜/s
First- Layer Infill Speed	105 ㎜/s
Outer Wall Speed	50 ㎜/s
Inner Wall Speed	60 ㎜/s
Infill Speed	50 ㎜/s
Top-layer Speed	30 ㎜/s
Annealing Parameters	80–130°C oven annealing for 6–12 h, used to enhance mechanical performance and dimensional stability of printed parts.

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