

PA6CF20

Carbon Fiber Reinforced PA 6

PA6CF20 is a carbon fiber reinforced PA6 filament. The carbon fiber reinforcement provides significantly improved stiffness, strength and heat resistance with outstanding layer adhesion. This material can operate in extremely demanding applications in the automotive, research, manufacturing, and engineering industries.

Mechanical Properties	Standard	Value	Unit
Ultimate Tensile Strength	ISO 527	105	MPa
Tensile Modulus	ISO 527	7453	MPa
Elongation at Break	ISO 527	3	%
Flexural Strength	ISO 178	169	MPa
Flexural Modulus	ISO 178	8339	MPa
Hardness Shore	Standard	Value	Unit
Hardness			

Thermal Properties	Standard	Value	Unit
HDT @ 0.45 MPa	ISO 75	215	°C
Glass Transition Temp	DSC	74.2	°C
Physical Properties	Standard	Value	Unit
Density	ISO 1183	1.17	g/cm ³
Certifications and Tests	Standard	Value	Unit
Flammability (UL 94)			
USP Class VI Certified			

Characteristics

- High strength, stiffness and toughness
- Mechanical properties can be tailored by adjusting fill orientation
- Superior printed part surface finish quality
- Ease of handling filament during loading and printing

Applications

- Automotive, aerospace, general manufacturing, medical
- Ducting for automotive and aerospace
- Casting patterns

Considerations

- PA6CF20 is a polyamide 6 based material which makes it very hygroscopic. This means that it is susceptible to absorbing moisture from the atmosphere which can subsequently affect the quality and mechanical properties of the final prints. We recommend storing it in an MMS, PolyBox or Print Dry to prevent moisture absorption. If the filament has absorbed moisture, it will need to be dried before printing. It should always be stored and used under dry conditions (relative humidity below 20%).
- PA6CF20 contains 20% chopped carbon fibers by weight, which makes it very abrasive. It is important to have anti-abrasive (hardened) nozzles installed while printing. PA6CF20 can easily damage brass nozzles after a few hundred grams of printing.

Printing Skill & Experience: Beginner Intermediate Advanced Expert

- We recommend annealing all models printed in PA6CF20. This allows users to take advantage of the full mechanical and thermal properties of this material. The annealing process consists of putting the model in an oven at 90°C for 2 hours.

Printer Compatibility

<input checked="" type="checkbox"/> 3ntr A2v4	<input checked="" type="checkbox"/> 3ntr A4v4	<input type="checkbox"/> EVO-T	<input type="checkbox"/> EVO22-T
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Available Colors from [TRAK](#): Black
Available Colors from [Plural AM](#): Black