alzament

Alzament Filament

Technical Data Sheet V1.0

PLA-CF

· Basic Info

Alzament PLA-CF is a PLA based with chopped carbon fiber reinforced FFF material that improves warping resistance,reduces size shrinkage during printing and improves overhang surface qualitywhile giving the material a frosted surface texture.

· Specifications

Subjects	Data
Diameter	1.75 mm
Net Filament Weight	1 kg
Filament Length	330m
Tolerance	± 0.03mm

· Recommended Printing Settings

Subjects	Data
Nozzle temperature	210-240(℃)
Build surface material	Glass、PEI Film or Coating with PVP glue
Build plate temperature	30-60(℃)
Cooling fan	on
Printing speed	40-80(mm/s)
Raft separation distance	0.2(mm)
Retraction distance	3 (mm)
Retraction speed	40mm/s

• Properties

Alzament has tested the differing aspects in the performance of PLA-CF material, including physical and chemical properties. Typical values are listed as followed:

Physical Properties		
Subjects	**Testing Methods**	**Data**
Density	ISO 1183,GB/T1033	1.22 g/cm3
Melt Index	220 °C, 2.16 kg	3.7±0.6 g/10 min
Light transmission	N/A	N/A
Flame retardancy	N/A	N/A

Mechanical Properties		
Subjects	**Testing Methods**	**Data**
Young's modulus (X-Y)	ISO 527, GB/T 1040	3280.7± 79.6 MPa
Young's modulus (Z)		2213.1±42.9MPa
Tensile strength (X-Y)	ISO 527, GB/T 1040	31.2 ±0.7 MPa
Tensile strength (Z)		15.1±0.7 MPa
Elongation at break (X-Y)	ISO 527, GB/T 1040	13.2±1.7%
Elongation at break (Z)		0.9±0.1%
Bending modulus (X-Y)	ISO 178, GB/T 9341	3380.5±52.1 MPa
Bending modulus (Z)		N/A
Bending strength (X-Y)	ISO 178, GB/T 9341	51.7±0.6MPa
Bending strength (Z)		N/A
Charpy impact strength (X-Y)	ISO 179, GB/T 1043	5.5±0.2KJ/㎡

• Additional Suggestions

1. The wear resistance of copper nozzle is poor. It is recommended to use stainless steel or hardened steel nozzle to print, which can effectively improve the printing quality.

2. Please put filament into a dry box, which can effectively reduce the oozing, rough surface and so on.

• Disclaimer

The performance values are tested by standard samples at Alzament, and the values are for design reference and comparison only. Actual 3D printing model performance is related to many other factors, including printers, printing conditions, printing models, printing parameters, etc.

In the process of using Alzament 3D printing filaments, users are responsible for the legality, safety, and performance indicators of printing. Alzament is not responsible for the use of materials and scenarios and is not responsible for any damage that occurs in the process of using our filaments.

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