alzament

Alzament Filament

Technical Data Sheet V1.0

ABS

• Basic Info

Alzament ABS is a technical material for 3D printing, known for its superior comprehensive properties such as high temperature resistance, UV resistance and water resistance. However, the disadvantage is that it warps easily and stinks when printing. Alzament ABS is designed to reduce warping and cracking but maintain outstanding impact resistance. In addition, it's very suitable for high-speed printing because of its good flow behavior.

• Specifications

Subjects	Data
Diameter	1.75 mm
Net Filament Weight	1 kg
Filament Length	330m
Tolerance	±0.02mm

• Recommended Printing Settings

Subjects	Data
Nozzle Temperature	240– 270 (℃)
Drying Settings before Printing	Blast Drying Oven: 80 °C, 8 h X1 Series Printer Heatbed: 90 - 100°C, 12 h
Printing and Storage Humidity	< 20% RH (Sealed, with desiccant)
Nozzle Size	0.2, 0.4, 0.6, 0.8 mm
Base Plate Temperature	80 - 100(˚C)
Build Plate Type	Engineering Plate, High Temperature Plate or Textured PEI Plate
Printing speed	< 300 mm/s
Retraction speed	20 - 40 mm/s
Chamber Temperature	45 - 60 °C
Max Overhang Angle	~ 70°
Max Bridging Length	~ 40 mm

• Properties

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

Physical Properties		
Subjects	**Testing Methods**	**Data**
Density	ISO 1183	1.05 g/cm³
Melt Index	260 °C, 2.16 kg	34.2 ± 3.8 g/10 min
Glass Transition Temperature	DSC,10°C/min	N / A
Crystallization Temperature	DSC,10°C/min	N / A
Saturated Water Absorption Rate	25 °C, 55% RH	0.65%

Mechanical Properties		
Subjects	**Testing Methods**	**Data**
Young's Modulus (X-Y)	ISO 527, GB/T 1040	2200 ± 190 MPa
Young's Modulus (Z)	ISO 527, GB/T 1040	1960 ± 110 MPA
Tensile Strength (X-Y)	ISO 527, GB/T 1040	33 ± 3 MPa
Tensile Strength (Z)	ISO 527, GB/T 1040	28 ± 2 MPa
Breaking Elongation Rate (X-Y)	ISO 527, GB/T 1040	10.5 ± 1.0 %
Breaking Elongation Rate (Z)	ISO 527, GB/T 1040	4.7 ± 0.8 %
Bending Modulus (X-Y)	ISO 178, GB/T 9341	1880 ± 110 MPa
Bending Modulus (Z)	ISO 178, GB/T 9341	1590 ± 100 MPa
Bending Strength (X-Y)	ISO 178, GB/T 9341	62 ± 4 MPa
Bending Strength (Z)	ISO 178, GB/T 9341	39 ± 4 MPa
Impact Strength (X-Y)	ISO 179, GB/T 1043	39.3 ± 3.6 kJ/m²； 21.5 ± 2.2 kJ/m² (notched)
Impact Strength (Z)	ISO 179, GB/T 1043	7.4 ± 1.2 kJ/m²

Other Physical and Chemical Properties	
Subjects	**Data**
Odor	Odorless
Composition	ABS
Skin Hazards	Not hazard
Chemical Stability	Stable under normal storage and handling conditions
Solubility	Insoluble in water
Resistance to Acid	Resistant
Resistance to Alkali	Resistant
Resistance to Organic Solvent	Not resistant to some organic solvents
Resistance to Oil and Grease	Not resistant to some kinds of oil and grease
Flammability	Flammable
Combustion Products	Water, carbon oxides, nitrogen oxides
Odor of Combustion Products	Pungent odor

• 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.

Manufacturer:

Landu Innovations Technology Co., Ltd.
D1504, Building 3, Phase 1, Tianan Industrial Park, Bantian Street, Longgang District, Shenzhen City, 518129, China.

Tested and designed by:

Alza.cz, a.s.
Jankovcova 1522/53, Holešovice, 170 00
Prague 7, Czech Republic.