alzament

Alzament Filament

Technical Data Sheet V1.0

ASA

• Basic Info

Alzament ASA is a highly durable material that offers exceptional UV, weather, mechanical, and thermal resistance. Its unique combination of properties makes it an ideal material for printing outdoor models (plant signs, mailboxes, wind vanes, etc.) and structural parts that require long-term exposure to challenging outdoor conditions.

• 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
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
Cooling Fan	0 - 80%
Printing speed	< 250 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 ASA 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	7.0 ± 0.8 g/10 min
Melting Temperature	DSC, 10°C/min	210 °C
Glass Transition Temperature	DSC,10°C/min	N / A
Crystallization Temperature	DSC,10°C/min	N / A
Vicar Softening Temperature	ISO 306, GB/T 1633	106 °C
Heat Deflection Temperature	ISO 75 1.8 MPa	92 °C
Saturated Water Absorption Rate	25 °C, 55% RH	0.45%

Mechanical Properties		
Subjects	**Testing Methods**	**Data**
Young's Modulus (X-Y)	ISO 527, GB/T 1040	2450 ± 270 MPa
Young's Modulus (Z)	ISO 527, GB/T 1040	2120 ± 260 MPa
Tensile Strength (X-Y)	ISO 527, GB/T 1040	37 ± 3 MPa
Tensile Strength (Z)	ISO 527, GB/T 1040	31 ± 4 MPa
Breaking Elongation Rate (X-Y)	ISO 527, GB/T 1040	9.2 ± 1.4 %
Breaking Elongation Rate (Z)	ISO 527, GB/T 1040	4.6 ± 0.8 %
Bending Modulus (X-Y)	ISO 178, GB/T 9341	1920 ± 130 MPa
Bending Modulus (Z)	ISO 178, GB/T 9341	1650 ± 120 MPa
Bending Strength (X-Y)	ISO 178, GB/T 9341	65 ± 5 MPa
Bending Strength (Z)	ISO 178, GB/T 9341	40 ± 3 MPa
Impact Strength (X-Y)	ISO 179, GB/T 1043	41.0 ± 2.3 kJ/m²; 19.6 ± 1.8 kJ/m² (notched)
Impact Strength (Z)	ISO 179, GB/T 1043	4.9 ± 0.6 kJ/m²

Other Physical and Chemical Properties	
Subjects	**Data**
Odor	Odorless
Composition	acrylonitrile - styrene - acrylate
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.

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Tested and designed by:

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