BEDROCK 3D
make anything

BEDROCK 3D PA6 GF30

Glass Fiber Reinforced. Durable. Precise. Industrial-Ready.

Technical Documentation Sheet

version 1.0

Technical Data Sheet

PA6 GF30

Glass Fiber Reinforced. Durable. Precise. Industrial-Ready.

BEDROCK 3D PA6 GF30 is a glass-fiber reinforced filament designed for professionals who need high-performance parts straight from a standard FFF printer. Its 30% glass fiber content reduces warping, ensures strong layer adhesion, and makes it ideal for demanding industrial applications.

Filament Properties		
Filament Diameter	1.75 mm	2.85 mm
Average diameter Tolerance	±0.050 mm	±0.1 mm
Average ovality	<0.050 mm	<0.050 mm
Available Spool size	700 g, 2.2 kg	700 g, 2.2 kg
Available colors	black	

Spool Properties				
Spool size	750 g	2.0 kg	4.0 kg	8.0 kg
Outer diameter	200 mm	300 mm	350 mm	355 mm
Inner diameter	50.5 mm	51.5 mm	51.7 mm	36 mm
Width	55 mm	103 mm	103 mm	167 mm

Recommended 3D-Print processing parameters		Used for test specimens
Printer	FFF printer	Raise 3D Pro2
Nozzle Temperature[1)]	240 – 280 °C / 464 – 536 °F	250 °C
Build Chamber Temperature	passively heated, closed chamber	-
Bed Temperature	70 – 100 °C / 158 – 212 °F	95 °C
Bed Material	glass	PEI

[1] Fast printing might require an additional increase of the nozzle temperature; the stated printing speed is based on current validations. As equipment and technology continues to evolve, it is possible that even higher printing speeds may be attainable in the future.

Nozzle Diameter	≥ 0.6 mm	0.6 mm
Print Speed	30 - 60 mm/s	60 mm/s
Max Volumetric Speed[2)]	15 mm^3/s	//

Please check your standard and/or high speed print profile availability for an easy start at www.bedrock3d.com.

Further Recommendations	
Drying recommendations to ensure printability and best mechanical properties[3)]	100 °C in a hot air dryer or vacuum oven for 4 to 16 hours
Support material compatibility	Single material breakaway, BEDROCK 3D BVOH
Warehousing	BEDROCK 3D PA6 GF30 filament should be stored at 15 - 25°C in its originally sealed package in a clean and dry environment. If the recommended storage conditions are observed the products will have a minimum shelf life of 12 months.

General Properties	Standard	Average Values
Filament Density[4)]	ISO 1183-1	1356 kg/m^3

Tensile Properties[5)]	Standard	Average Values		
		XY-Direction	XZ-Direction	ZX-Direction
Tensile strength[6)] conditioned[7)]	ISO 527	46.4 MPa	-	12.2 MPa
Tensile strength[6)] dry[8)]	ISO 527	78.3 MPa	-	14.9 MPa
Elongation at Break[6)] conditioned[7)]	ISO 527	3.2 %	-	1.9 %
Elongation at Break[6)] dry[8)]	ISO 527	2.2 %	-	0.8 %

[2] Based on Bambu Lab X1C with a nozzle diameter of 0.6 mm

[3] Please note: To ensure constant material properties the material should always be kept dry.

[4] measured on filament

[5] Samples were conditioned in standard climate (23°C, 50% RH 72h)

[6] Testing speed: 5 mm/min

[7] Samples were conditioned in standard climate (23°C, 50% RH 72h)

[8] Samples were dried at 80°C vacuum until weight constancy

Young's Modulus[9] conditioned[7]	ISO 527	2469 MPa	-	1156 MPa
Young's Modulus[9] dry[8]	ISO 527	5036 MPa	-	2380 MPa

[9] Testing speed: 1 mm/min

Flexural Properties[6) 10)]	Standard	Average Values		
		XY-Direction	XZ-Direction	ZX-Direction
Flexural Strength conditioned[7)]	ISO 178	80.2MPa	130.0 MPa	29.1 MPa
Flexural Strength dry[8)]	ISO 178	147.4 MPa	188.2 MPa	44.2 MPa
Flexural Modulus conditioned[7)]	ISO 178	2861 MPa	4301 MPa	1070 MPa
Flexural Modulus dry[8)]	ISO 178	4694 MPa	8103 MPa	2371 MPa
Flexural Elongation at Break conditioned[7)]	ISO 178	11.6 %	6.5 %	5.3 %
Flexural Elongation at Break dry[8)]	ISO 178	4.0 %	2.7 %	2.0 %

Impact Properties[6)]	Standard	Average Values		
		XY-Direction	XZ-Direction	ZX-Direction
Impact Strength Charpy (notched) conditioned[7)]	ISO 179-2	17.0 kJ/m^2	20.9 kJ/m^2	2.7 kJ/m^2
Impact Strength Charpy (notched) dry[8)]	ISO 179-2	8.9 kJ/m^2	16.2 kJ/m^2	-
Impact Strength Charpy (unnotched) conditioned[7)]	ISO 179-2	41.8 kJ/m^2	48.8 kJ/m^2	3.1 kJ/m^2
Impact Strength Charpy (unnotched) dry[8)]	ISO 179-2	38.9 kJ/m^2	45.5 kJ/m^2	2.2 kJ/m^2
Impact Strength Izod (notched) conditioned[7)]	ISO 180	20.9 kJ/m^2	19.0 kJ/m^2	2.7 kJ/m^2
Impact Strength Izod (notched) dry[8)]	ISO 180	9.2 kJ/m^2	13.4 kJ/m^2	-
Impact Strength Izod (unnotched) conditioned[7)]	ISO 180	36.9 kJ/m^2	41.4 kJ/m^2	3.8 kJ/m^2
Impact Strength Izod (unnotched) dry[8)]	ISO 180	38.4 kJ/m^2	28.7 kJ/m^2	2.6 kJ/m^2

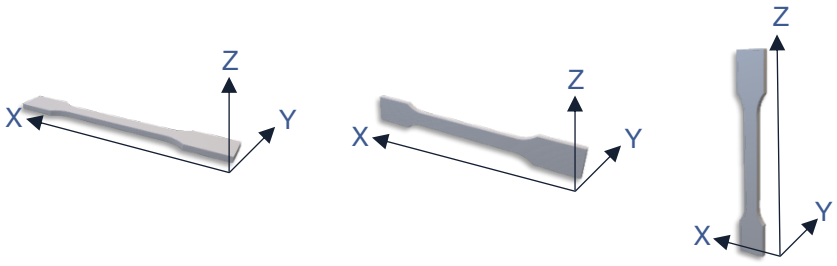
[10] Testing speed: 2 mm/min
Measured on milled specimens

Thermal Properties[6]	Standard	Average Values
HDT A at 1.8 MPa conditioned[7]	ISO 75-2	87 °C
HDT A at 1.8 MPa dry[8]	ISO 75-2	82 °C
HDT B at 0.45 MPa conditioned[7]	ISO 75-2	114 °C
HDT B at 0.45 MPa dry[8]	ISO 75-2	110 °C
Vicat softening point at 50 N conditioned[7]	ISO 306	163 °C
Vicat softening point at 50 N dry[8]	ISO 306	192 °C
Vicat softening point at 10 N conditioned[7]	ISO 306	183 °C
Vicat softening point at 10 N dry[8]	ISO 306	199 °C
Glass Transition Temperature	ISO 11357-2	67 °C
Crystallization Temperature	ISO 11357-3	167 °C
Melting Temperature	ISO 11357-3	209 °C
Melt Volume-Flow Rate (MVR)	ISO 1133	58.3 cm^3/10 min (275°C, 5 kg)

Fire, Smoke, Toxicity (FST) properties[6]	Standard	Average Values
Flame class rating	UL 94	HB (1.6 mm) HB (3.1 mm)

Print direction explanation

The orientation of the 3D printed part in the printer is always aligned with the longest axis first. The print direction is consistently along the Z-axis.



The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed. Values in this document are average values, measured and calculated according to the instructions in the listed standards. The used specimens are produced with the Fused Filament Fabrication method. Measured values can vary depending on used print orientation and print parameters.

Please contact us for further product information, like for example REACH, RoHS, FCS.

The safety data given in this publication is for informational purposes only and does not constitute a legally binding MSDS. The relevant MSDS can be obtained upon request from your supplier or you may contact Forward AM Technologies Netherlands B.V. directly at customerservice@bedrock3d.com

Process materials in a well-ventilated room,or use professional extraction systems.