



BEDROCK 3D
make anything

BEDROCK 3D ABS

Strong. Heat-Resistant. Ready for everything.

Technical Documentation Sheet

version 1.0





Technical Data Sheet

ABS

Strong. Heat-Resistant. Ready for everything.

BEDROCK 3D ABS is built for users who need more than just a pretty print. Strong, flexible and heat-resistant. It's a perfect fit for functional prototypes, durable parts, and components that face tough conditions, all while printing smoothly on standard fff printers.

Filament Properties

Filament Diameter	1.75 mm	2.85 mm
Diameter Tolerance	±0.050 mm	±0.1 mm
Average ovality	<0.050 mm	<0.050 mm
Available Spool size	750 g	750 g
Available colors	Natural White, Black, Blue, Red	

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	Ultimaker 3
Nozzle Temperature ¹⁾	240 – 260 °C / 464 – 500 °F	260 °C / 500 °F
Build Chamber Temperature	-	Closed chamber, passively heated
Bed Temperature	90 – 110 °C / 194 – 230 °F	100 °C / 212 °F
Bed Material	Tape, spray, glue	Glass+3DLac
Nozzle Diameter	≥ 0.4 mm	0.4 mm
Print Speed	40 - 80 mm/s	40 mm/s

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.



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Max Volumetric Speed ²⁾	22 mm ³ /s	//
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Please check your standard and/or high speed print profile availability for an easy start at www.bedrock3d.com.

² Based on Bambu Lab X1C with a nozzle diameter of 0.4 mm



Further Recommendations

Drying recommendations to ensure printability and best mechanical properties³⁾ 60 °C in a hot air dryer or vacuum oven for 4 to 16 hours

Support material compatibility	Single material breakaway
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Warehousing	BEDROCK 3D ABS 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.
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General Properties	Standard	Average Values
Filament Density ⁴⁾	ISO 1183-1	1037 kg/m ³

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

⁴ measured on filament



Tensile Properties ⁵⁾	Standard	Average Values		
		XY-Direction	XZ-Direction	ZX-Direction
Tensile strength ⁶⁾	ISO 527	36.3 MPa	-	21.3 MPa
Elongation at Break ⁶⁾	ISO 527	7.4 %	-	1.8 %
Young's Modulus ⁷⁾	ISO 527	1958 MPa	-	1608 MPa

Flexural Properties ^{6) 8)}	Standard	Average Values		
		XY-Direction	XZ-Direction	ZX-Direction
Flexural Strength	ISO 178	56.6 MPa	58.3 MPa	38.6 MPa
Flexural Modulus	ISO 178	1833 MPa	1767 MPa	1586 MPa
Flexural Elongation at Break	ISO 178	5.3 %	5.0 %	3.1 %

Impact Properties ⁶⁾	Standard	Average Values		
		XY-Direction	XZ-Direction	ZX-Direction
Impact Strength Charpy (notched)	ISO 179-2	16 kJ/m ²	17.4 kJ/m ²	2.8 kJ/m ²
Impact Strength Charpy (unnotched)	ISO 179-2	36.4 kJ/m ²	42.2 kJ/m ²	6.8 kJ/m ²
Impact Strength Izod (notched)	ISO 180	18.8 kJ/m ²	18.9 kJ/m ²	3.5 kJ/m ²
Impact Strength Izod (unnotched)	ISO 180	40 kJ/m ²	35.7 kJ/m ²	7.2 kJ/m ²

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

⁶ Testing speed: 5 / 200 mm/min

⁷ Testing speed: 1 mm/min

⁸ Testing speed: 2 mm/min

Measured on milled specimens

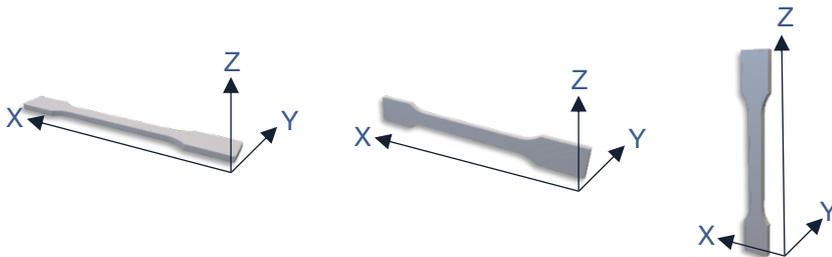


Thermal Properties ⁶⁾	Standard	Average Values
HDT A at 1.8 MPa	ISO 75-2	90 °C
HDT B at 0.45 MPa	ISO 75-2	96 °C
Vicat softening point at 50 N	ISO 306	94 °C
Vicat softening point at 10 N	ISO 306	102 °C
Glass Transition Temperature	ISO 11357-2	104 °C
Melt Volume-Flow Rate (MVR)	ISO 1133	24 cm ³ /10 min (260 °C, 5 kg)

Hardness and Abrasion	Standard	Typical Values
Shore Hardness D (15s)	DIN ISO 7619-1	71

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.





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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.