BEDROCK 3D
make anything

BEDROCK 3D BVOH

Superior Support Material. Water-Soluble. 3x Faster Printing. Compatible with more than 13 materials. Less Nozzle Glogging.

Technical Documentation Sheet

version 1.0

Technical Data Sheet

BVOH

Superior Support Material. Water-Soluble. 3x Faster Printing. Compatible with more than 13 materials. Less Nozzle Clogging.

BEDROCK 3D BVOH is a premium water-soluble support filament designed to make complex prints without limits. Print intricate geometries with confidence. Once your print is done, simply dissolve the support material in water. Clean, flawless overhang features regardless of size are easy to do, even in places where break away supports can't be removed

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	750 g, 2.0 kg, 4.0 kg, 8.0 kg	750 g, 2.0 kg, 4.0 kg, 8.0 kg
Available colors	natural	

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 S5
Nozzle Temperature[1)]	190 - 210°C	210°C
Build Chamber Temperature	-	Closed chamber, passively heated

[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.

Bed Temperature	60 – 100°C	60°C
Bed Material	Glass	Glass + PVA glue
Nozzle Diameter	≥ 0.4 mm	0.4 mm
Print Speed	30 - 60 mm/s	40 mm/s
Max Volumetric Speed[2)]	-	-

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)]	BEDROCK 3D BVOH can be dried at 60°C in a hot air dryer or vacuum oven for 4 to 16 hours
Printin in closed / heated chambers	Ultrafuse® BVOH can show softening effects in environments >60°C. Ensure a proper filament cooling before the filament enters the nozzle to avoid extrusion issues.
Warehousing	BEDROCK 3D ASA 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	To be evaluated

Tensile Properties[5)]	Standard	Average Values		
		XY-Direction	XZ-Direction	ZX-Direction
Tensile strength[6)]	ISO 527	33.7 MPa	-	8.7 MPa
Elongation at Break[6)]	ISO 527	14.8%	-	0.6%

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

Young's Modulus[7)]	ISO 527	2339 MPa	-	1426 MPa

[7] Testing speed: 1 mm/min

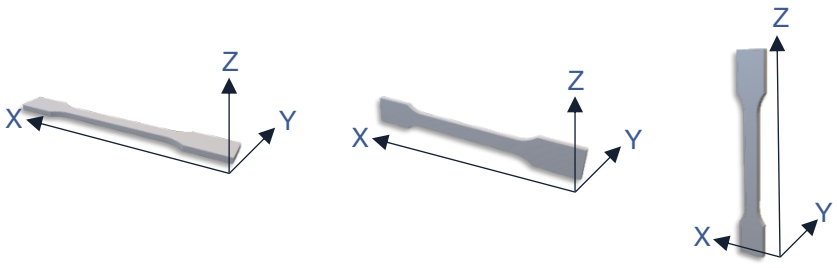
Flexural Properties[6) 8)]	Standard	Average Values		
		XY-Direction	XZ-Direction	ZX-Direction
Flexural Strength	ISO 178	53.8 MPa	50.3 MPa	11.4 MPa
Flexural Modulus	ISO 178	2236 MPa	1807 MPa	1081 MPa
Flexural Elongation at Break	ISO 178	4.8%	4.4%	1.0%

Thermal Properties[6)]	Standard	Average Values
Glass Transition Temperature	ISO 11357-2	69°C
Melting Temperature	ISO 11357-3	175°C
Melt Volume-Flow Rate (MVR)	ISO 1133	11.4 cm^3/10 min (210°C, 2.16kg)

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

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.



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

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.