BEDROCK 3D
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BEDROCK 3D rPET

Multi Functional. Blue Transparant Color.
Sustainable.

Technical Documentation Sheet

version 1.0

Technical Data Sheet

rPET

Multi Functional. Blue Transparant Color. Sustainable.

With plastics generating a huge portion of industrial waste, BEDROCK 3D rPET offers a smarter alternative, in an amazing blueish color. It's designed for makers who want sustainable solutions and a prime-quality material.

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	750 g
Available colors	Natural Blue	

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)]	225 – 245 °C	235 °C
Build Chamber Temperature	-	With cover
Bed Temperature	65 – 85 °C	75 °C
Bed Material	Glass + adhesive spray	Glass + adhesive spray
Nozzle Diameter	≥ 0.4 mm	0.4 mm
Print Speed	30 - 60 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.

Max Volumetric Speed[2)]	12 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)]	BEDROCK 3D rPET 60 °C in a hot air dryer or vacuum oven for at least 8 to 10 hours.
Support material compatibility	Single material breakaway, BEDROCK 3D BVOH
Warehousing	BEDROCK 3D rPET 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	1287 kg/m^3

[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

Tensile Properties[5]	Standard	Average Values		
		XY-Direction	XZ-Direction	ZX-Direction
Tensile strength[6]	ISO 527	38.6 MPa	-	14.7 MPa
Elongation at Break[6]	ISO 527	4.3 %	-	1.2 %
Young's Modulus[7]	ISO 527	1640 MPa	-	1334 MPa

Flexural Properties[6] [8]	Standard	Average Values		
		XY-Direction	XZ-Direction	ZX-Direction
Flexural Strength	ISO 178	66.9 MPa	65.4 MPa	30.2 MPa
Flexural Modulus	ISO 178	1662 MPa	1551 MPa	829 MPa
Flexural Elongation at Break	ISO 178	5.5 %	4.8%	3.0%

Impact Properties[6]	Standard	Average Values		
		XY-Direction	XZ-Direction	ZX-Direction
Impact Strength Charpy (notched)	ISO 179-2	4.0 kJ/m²	2.0 kJ/m²	1.0 kJ/m²
Impact Strength Charpy (unnotched)	ISO 179-2	55.5 kJ/m²	33.7 kJ/m²	3.3 kJ/m²
Impact Strength Izod (notched)	ISO 180	4.4 kJ/m²	3.3 kJ/m²	1.5 kJ/m²
Impact Strength Izod (unnotched)	ISO 180	48.2 kJ/m²	21.9 kJ/m²	4.4 kJ/m²

[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

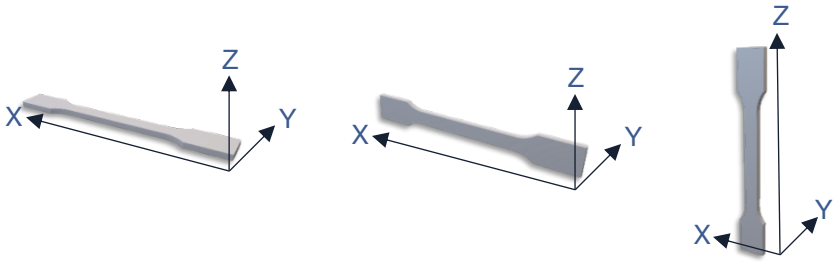
Thermal Properties[6)]	Standard	Average Values
HDT A at 1.8 MPa	ISO 75-2	69 °C
HDT B at 0.45 MPa	ISO 75-2	73 °C
Vicat softening point at 50 N	ISO 306	75 °C
Vicat softening point at 10 N	ISO 306	80 °C
Glass Transition Temperature	ISO 11357-2	83 °C
Melt Volume-Flow Rate (MVR)	ISO 1133	15.1 cm^3/10 min (220 °C, 5 kg)

Hardness and Abrasion	Standard	Typical Values
Shore Hardness D (15s)	DIN ISO 7619-1	69

Certification	Standard	
Food Contact Certification (FCC)	The used raw materials comply with food contact regulations of the European Parliament	EC 2023/2006

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.