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BEDROCK 3D TPU 95A

Flexible. Fast & Easy Printing. Get started with Flexibles. From the BASF Legacy.

Technical Documentation Sheet

version 1.0

Technical Data Sheet

TPU 95A

Flexible. Fast & Easy Printing. Get started with Flexibles. From the BASF Legacy.

BEDROCK 3D TPU 95A is developed to enable fast and easy printing with a flexible filament based on BASF's Elastollan®. A perfect choice to start with flexibles. Designed for FFF printing, it combines flexibility with durability, making it easy to print even for those new to flexible materials. A flexible filament manufactured with highest precision, meaning constant diameters.

Filament Properties		
Filament Diameter	1.75 mm	2.85 mm
Diameter Tolerance	±0.050 mm	±0.1 mm
Roundness	±0.050 mm	±0.05 mm
Available Spool size	750 g, 2.5 kg	750 g, 2.5 kg
Available colors	Natural	

Spool Properties		
Available Spool size	750 g	2.5 kg
Outer diameter	200 mm	300 mm
Inner diameter	50.5 mm	51.5 mm
Width	55 mm	103 mm

Recommended 3D-Print processing parameters		Used for test specimens
Printer	FFF printer	Prusa i3 MK3
Nozzle Temperature[1)]	210 – 230°C / 410 – 446°F	220°C / 428°F
Build Chamber Temperature	-	-
Bed Temperature	40°C / 104°F	40°C / 104°F
Bed Material	Glass	PEI coated sprint sheet

[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	≥ 0.4 mm	0.4 mm
Print Speed	15 – 40 mm/s	25 mm/s
Max Volumetric Speed[2)]	8 mm^3/s	//

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 properties[3)]	BEDROCK 3D TPU 95A
Support material compatibility	BEDROCK 3D BVOPH
Warehousing	BEDROCK 3D TPU 95A 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	1149 kg/m³ / 72 lb/ft³

[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	44.2 MPa	-	12.2 MPa
Elongation at Break[6]	ISO 527	661%	-	192%
Young's Modulus[7]	ISO 527	48.4 MPa	-	46.7 MPa
Stress at 50% Elongation[6]	ISO 527	8.3 MPa	-	7.9 MPa
Stress at 100% Elongation[6]	ISO 527	10.5 MPa	-	9.9 MPa
Stress at 300% Elongation[6]	ISO 527	20.3 MPa	-	-

Impact Properties[6]	Standard	Average Values		
		XY-Direction	XZ-Direction	ZX-Direction
Impact Strength Charpy (notched)	ISO 179-2	No break	No break	16.8 kJ/m²
Impact Strength Charpy (notched), -30°C	ISO 179-2	128 kJ/m²	120 kJ/m²	14.9 kJ/m²
Impact Strength Izod (notched)	ISO 180	No break	No break	No break
Tensile Notched Impact Strength	ISO 8256/1	No break	No break	No break

Thermal Properties[6]	Standard	Average Values
Vicat softening point at 50 N	ISO 306	< 27°C / < 81°F
Vicat softening point at 10 N	ISO 306	75°C / 167°F
Glass Transition Temperature	ISO 11357-2	-25°C / -13°F
Melting Temperature	ISO 11357-3	144°C / 291°F
Melt Volume-Flow Rate (MVR)	ISO 1133	20.7 cm³/10 min / 1.87 in³/10 min (210°C, 5 kg)

[5] Samples were conditioned in standard climate (23°C, 50% RH 72h)
[6] Testing speed: 200 mm/min
[7] Testing speed: 1 mm/min

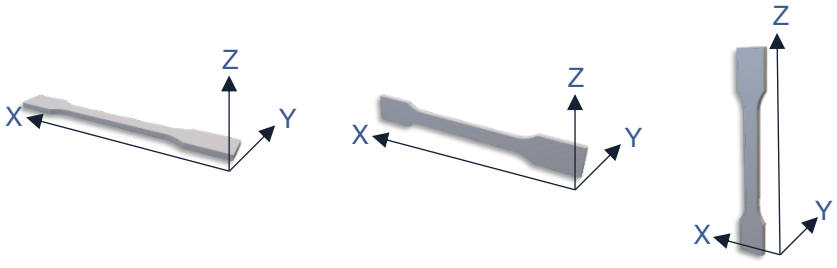
Mechinal Properties[6)]	Standard	Average Values		
		XY-Direction	XZ-Direction	ZX-Direction
Tear Strength	ISO 34-1, A	90 kN/m	8 kN/m	14 kN/m

Hardness and Abrasion	Standard	Typical Values
Shore Hardness A (3s)	DIN ISO 7619-1	92
Shore Hardness D (15s)	DIN ISO 7619-1	45
Abrasion Resistance	DIN ISO 4649	64 mm^3 / 0.004 in^3
Compression Set at 23°C, 72 h	ISO 815	38%
Compression Set at 70°C, 24 h	ISO 815	90%

Biocompatibility	Standard	Typical Values
Cytotoxicity - Neutral Red	EN ISO 10993-5 (2009)	PASS[8]
Human Skin Irritation Test	EN ISO 10993-10 (2013)	PASS[7)]
In vitro Sensitization Testing-KeratinoSens™	prEN ISO 10993-10 (2020)	PASS[7)]

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.

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