PA Carbon Filament

AON3D Readyprint™ PA Carbon is a nylon-based filament reinforced with carbon fiber. It's a tough, high-performance material known for its excellent mechanical strength, heat resistance, and chemical durability. It's ideal for printing strong, rigid parts that need to perform in high-temperature environments. Prints come out with great dimensional stability and a sleek matte finish — and thanks to the carbon fiber, there's minimal warping during the print. Just keep in mind that, like all nylons, it's moisture-sensitive — so we recommend drying it before use for best results.

- Excellent mechanical properties; strong and rigid
- Excellent heat resistance
- Great dimensional stability, low warping
- Complies with the RoHS and REACH standard

Filament Properties

Properties	Test Methods	Values
Diameter	INS-6712	1.75 ± 0.1 mm
Density	ISO 1183-1	1.192 g/cm^3
Melt Flow Index (MFI)	ISO 1133-1 (@240°C, 5 kg)	14.5 g/10 min
Glass Transition Temperature (Tg)	ISO 11357-1 DSC (10°C/min - 0-420°C)	71 °C
Melting Temperature (Tf)	ISO 11357-1 (DSC)	229 °C

Print Parameters & Specimens Dimensions

Printing Direction	XY
Printing Speed	45 mm/s
Infill	100% - rectilinear
Infill Angle	0°/0°
Nozzle Temperature	280°C
Bed T°	115°C

Thermal Properties

Properties	Test Methods	Values
Heat Distortion Temperature (HDT) (0,45Mpa)	ASTM D648	-
Heat Distortion Temperature (HDT) (1,8Mpa)	ASTM D648	120 °C

Questions? Contact Us. help@aon3d.com (833) 772-6633

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Mechanical Properties

Properties	Test Methods	Values
Tensile Modulus	ISO 527-2/1A/50	10,800 MPa
Tensile Strength	ISO 527-2/1A/50	127 MPa
Strain at Tensile Strength	ISO 527-2/1A/50	3 %
Tensile Stress at Break	ISO 527-2/1A/50	127 MPa
Elongation at Break	ISO 527-2/1A/50	3 %
Flexural Modulus	ISO 178	5,460 MPa
Flexural Strain at Break	ISO 178	4%
Flexural Strength*	ISO 178	177 MPa
Flexural Stress at 3.5% Strain*	ISO 178	176 MPa
Flexural Stress at Break	ISO 178	177 MPa
Strain at Flexural Strength	ISO 178	4%
Charpy Notched Impact Strength	ISO 179-1/1eA	3.4 kJ/m²
Shore Hardness (D)	ISO 868	81.3 D

Note 1: Tests end at 5% strain per ISO 178 even if the specimen does not break.
Note 2: Values are indicative only — actual properties may vary depending on production conditions.

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