



# Carbon Fiber ABS 3D Filament

AON3D Readyprint™ Carbon Fiber ABS is a composite filament of ABS and chopped carbon fibers. Compared to standard ABS, Carbon Fiber ABS's main advantages are minimum shrinkage, good dimensional stability while printing, higher tensile strength, and tensile modulus. Carbon Fiber is versatile material, suited to printing with a full range of nozzle sizes to meet a wide variety of mechanical properties, surface finish, and productivity requirements. The AON3D Carbon Fiber ABS filament has the following properties:

- No shrinkage
- Better tensile modulus than ABS-S
- Less warpage than ABS-S
- Complies with the REACH standard

2-year AON3D warranty.

## Filament Properties

Properties	Test Methods	Values
Diameter	INS-6712	1.75 ± 0.1 mm / 2.85 ± 0.1 mm
Density	ISO 1183-1	1.045 g/cm <sup>3</sup>
Moisture Rate	INS-6711	< 0.5 %
Melt Flow Index (MFI)	ISO 1133-1 (@220°C – 10 kg)	17.4 g/10min
Glass Transition Temperature (Tg)	ISO 11357-1 DSC (10°C/min – 20–220°C)	108 °C

## Print Parameters & Specimens Dimensions

Printing Direction	XY
Printing Speed	50–60 mm/s
Infill	100% – rectilinear
Infill Angle	45°/-45°
Nozzle Temperature	245–260°C
Bed T°	90–95°C

## Printed Specimens Properties

Properties	Test Methods	Values
Tensile Modulus	ISO 527-2/5A/50	3,396 MPa
Tensile Strength	ISO 527-2/5A/50	36.7 MPa
Tensile Stress at Break	ISO 527-2/5A/50	31 MPa
Tensile Strain at Break (type A)	ISO 527	1.9%
Flexural Modulus	ISO 178	2,952 MPa
Deformation at Flexural Strain	ISO 178	>5%
Flexural Stress at Conventional Deflection (3.5% strain)*	ISO 178	173 MPa
Charpy Impact Resistance	ISO 179-1/1eA	18 kJ/m <sup>2</sup>
Shore Hardness	ISO 868	78.2D

\*According to ISO 178, end of the test at 5% deformation even if there is no specimen break.

\*The data should be considered as indicative values – Properties can be influenced by production conditions.