

## FDM MATERIAL PRODUCTION - GRADE

Fused Deposition Modeling (FDM) – Nylon 12 CF™ / 3D Printing – Additive Manufacturing

**Nylon 12 CF™** - Material, is a carbon-filled thermoplastic comprised of a blend of Nylon 12 resin and chopped carbon fiber at a loading of 35% by weight. One of the strongest plastics in the FDM material offering.

<b>Technology:</b>	FDM
<b>Material type:</b>	Thermoplastics
<b>Elongation at Break – Type 1, 0.125", 0.2"/min-psi (ASTM D638):</b>	XZ Axis – 1.9% ~ ZX Axis – 1.2%
<b>Flexural Strength – Method 1, 0.05"/min-psi (ASTM D790):</b>	XZ Axis – 142 MPa ~ ZX Axis – 58 MPa
<b>Flexural Modulus – Method 1, 0.05"/min-psi (ASTM D790):</b>	XZ Axis – 10.3 GPa ~ ZX Axis – 2.07 GPa
<b>Flexural Strain at Break – Method 1, 0.05"/min-psi (ASTM D790):</b>	XZ Axis – 3% ~ ZX Axis – 3%
<b>Heat Deflection (HDT) @ 264 psi, (ASTM D648):</b>	Value ~ 289.4°F ~ 143°C
<b>Glass Transition Temperature (Tg), (ASTM D7426-08):</b>	105.8°F ~ 41°C
<b>Impact Strength Notched – Method A, 23°C ft-lb (ASTM D256):</b>	XZ Axis – 85 J/m ~ ZX Axis – 21 J/m
<b>Impact Strength Un-notched – Method A, 23°C ft-lb (ASTM D256):</b>	XZ Axis – 307 J/m ~ ZX Axis – 85 J/m
<b>Available Colors:</b>	Black – (Standard).
<b><u>Net Build Size Parts Up To:</u></b>	(XYZ) 14 x 12 x 12 in. ~ 355 x 305 x 305 mm
<b><u>Layer thickness:</u></b>	0.010 in. ~.254 mm
<b><u>Accuracy:</u></b>	±.005 in. / ±.127 mm
<b>Applications:</b>	Uses include strong and lightweight tooling applications, functional prototypes, and automotive, industrial, also recreational manufacturing industries.

Disclaimer: The data above is general information and may vary from machine to machine or supplier to supplier. All tolerance specifications reflect the approximate range of a process's capabilities and should be viewed only as a guide. Actual capabilities are dependent upon manufacturing, equipment, materials, and part requirements.