

PA 603-CF

PA 603-CF is a **carbon fiber filled nylon 12** easy to process, strong light weight filled material. Its peculiarities are: low specific weight, good dimensional stability while maintaining excellent mechanical properties and excellent resistance to warping at elevated temperatures. The mixture has been optimized to produce a smooth surface finish without sacrificing feature detail for mechanical properties.

PA 603-CF is an excellent choice for rugged industrial applications with an HDT of **~177°C**, high impact sports equipment, high performance racing applications, wind tunnel model testing and applications requiring the highest stiffness and heat resistance.

General properties

Property	Test Method	English	Metric
Color/Appearance	Visual	Dark Grey	Dark Grey
Bulk Density	ASTM D1895	0.237 oz/in ³	0.41 g/cm ³
Average Particle Size (D50)	Laser Diffraction	0.002 inches	50 microns
Particle Size Range (D10-D90)	Laser Diffraction	0.001 – 0.004 inches	35 – 100 microns
Sintered Part Density	ASTM D792	0.0634 oz/in ³	1.10 g/cm ³

Mechanical properties

Property	Test Method	English	Metric
Ultimate Tensile Strength (XY)	ASTM D638	12,328 psi	85 MPa
Tensile Modulus (XY)	ASTM D638	1,145,797 psi	7,900 MPa
Flexural Modulus (XY)	ASTM D790	1,329,995 psi	9,170 MPa
Elongation at Break (XY)	ASTM D638	4%	4%
Izod Impact Strength – Notched (XY)	ASTM D256	1.58 ft-lb/in	84 J/m
Izod Impact Strength – Unnotched (XY)	ASTM D256	3.03 ft-lb/in	161 J/m

Thermal properties

Property	Test Method	English	Metric
Heat Deflection Temperature	ASTM D648	343° F @ 264 psi	173° C @ 1.82 MPa
Heat Deflection Temperature	ASTM D648	354° F @ 66 psi	179° C @ 0.45 MPa