

Material Properties	TEST METHOD	CARBON FIBER NYLON 12	CARBON FIBER PEEK	FIBERGLASS NYLON 12	FIBERGLASS PEEK
Tensile Strength	ASTM D638	100 MPa <i>(14.5 kpsi)</i>	140 MPa <i>(20.3 kpsi)</i>	80 MPa <i>(11.6 kpsi)</i>	120 MPa <i>(17.4 kpsi)</i>
Tensile Modulus	ASTM D638	9.38 GPa <i>(1360 kpsi)</i>	12.74 GPa <i>(1848 kpsi)</i>	6.3 GPa <i>(914 kpsi)</i>	8.5 GPa <i>(1233 kpsi)</i>
Elongation %	ASTM D638	1.20%	1.04%	2.1%	2.5%
Ultimate Flexural Strength	ASTM D790	132 MPa <i>(19.1 kpsi)</i>	176.7 MPa <i>(25.6 kpsi)</i>	132 MPa <i>(19.1 kpsi)</i>	225 MPa <i>(32.6 kpsi)</i>
Flex Modulus	ASTM D790	9.05 GPa <i>(1312 kpsi)</i>	12.4 GPa <i>(1803 kpsi)</i>	N/A	8.5 GPa <i>(1233 kpsi)</i>
Heat Deflection Temperature (HDT)	ASTM D648 <i>0.455MPa / 66Pis</i>	167 °C <i>(333 °F)</i>	>300 °C <i>(>572 °F)</i>	N/A	N/A
Density		1.10 g/cm3 <i>(0.0397 lb /in3)</i>	1.40 g/cm3 <i>(0.0506 lb /in3)</i>	1.17 g/cm3 <i>(0.0422 lb /in3)</i>	1.25 g/cm3 <i>(0.0452 lb /in3)</i>



ASTM testing conducted at Composites Innovation Center in Winnipeg, Canada, except that the testing for tensile strength and tensile modulus additionally conducted by Impossible Objects. Tensile strength and modulus, as well as other properties, can vary based on build process settings. This representative data was tested, measured, or calculated using standard methods and is subject to change without notice. Impossible Objects makes no warranties of any kind, express or implied, including, but not limited to, the warranties of merchantability or fitness for a particular use, and assumes no liability in connection with the use of this information. The data listed here should not be used to establish design, quality control, or specification limits, and is not intended to substitute for your own testing to determine suitability for your particular application.