

## Continuous Carbon/PEEK Composite Typical Material Properties

Material Properties	
<b>Color</b>	Black
<b>Density</b>	0.058 lb/in <sup>3</sup>
<b>Specific Gravity (liquid)</b>	1.603
<b>Fiber Weight Percentage</b>	68%
<b>Fiber Volume Percentage</b>	61%
<b>Glass Transition Temperature (T<sub>g</sub>)</b>	289°F
<b>Crystallization Temperature (T<sub>c</sub>)</b>	552°F
<b>Melting Temperature (T<sub>m</sub>)</b>	653°F
<b>Water Absorption (212°F, 15 days)</b>	+0.23% Weight Change
<b>Shore D Hardness (Unidirectional Laminate)</b>	95
<b>Coefficient of Friction</b>	0.10 to 0.33

Mechanical Properties						
Temp.	0° Tensile Strength	0° Tensile Modulus	0° Comp. Strength	0° Comp. Modulus	90° Tensile Strength	90° Tensile Modulus
<b>-67°F</b>	300 ksi	20.0 Msi	-	-	14.3 ksi	1.52 Msi
<b>73°F</b>	300 ksi	20.0 Msi	197 ksi	18.0 Msi	12.5 ksi	1.48 Msi
<b>180°F</b>	295 ksi	20.0 Msi	182 ksi	18.0 Msi	12.0 ksi	1.39 Msi
<b>250°F</b>	290 ksi	20.0 Msi	170 ksi	18.0 Msi	-	-
<b>IL Shear Strength (Unidirectional Sample, 73°F, In-situ process)</b>					9.0 ksi	
<b>In-Plane Shear Strength (+/- 45° Sample, 73°F)</b>					24.9 ksi	

Coefficient of Thermal Expansion (CTE, α)		
	Longitudinal (0°)	Transverse (90°)
<b>-67°F</b>	0.006 x 10 <sup>-6</sup> in/in/°F	15.0 x 10 <sup>-6</sup> in/in/°F
<b>73°F</b>	0.15 x 10 <sup>-6</sup> in/in/°F	17.0 x 10 <sup>-6</sup> in/in/°F
<b>250°F</b>	0.28 x 10 <sup>-6</sup> in/in/°F	24.0 x 10 <sup>-6</sup> in/in/°F
<b>450°F</b>	0.56 x 10 <sup>-6</sup> in/in/°F	42.0 x 10 <sup>-6</sup> in/in/°F

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