

## Carbon Fiber Uni Roll Wrapped Tubes



ACP's Carbon Fiber Uni Roll Wrapped Tubes are manufactured by wrapping carbon fiber unidirectional prepreg tape onto a mandrel and cured at high temperatures and pressure. The layers are oriented in a 0°/90° orientation with the majority of the fibers positioned in the longitudinal access. Fibers oriented at 90° (hoop) are wrapped around the circumference to provide high crushing strength and stiffness. The fibers that run along the length, in the 0° direction, provide high bending strength and stiffness. All of our roll wrapped tubes feature a slight rib texture spiraling along their length and can easily be sanded and polished away.

### Physical Properties

Outer Diameter (OD)	+/- .015"	Test Method-Caliper
Inner Diameter (ID)	+/- .010"	Test Method-Caliper
Color	Natural dark gray to black	No color match
Surface Finish	Gloss with slight spiral rib texture	Minimum-Visual
Composite Type	0°/90° unidirectional orientation	For reference only
Resin Type	Epoxy with built in UV inhibitor	For reference only
Fiber Type	33 to 35 MSI standard modulus carbon fiber	For reference only
Fiber Volume	58%	+/- 5%
Cuts	Rough abrasive cut both ends, small burrs may be apparent.	Minimum-Visual
Thermal Properties	150°F maximum	Operating Temperature

### Technical Properties

Tensile Strength	275 ksi
Tensile Modulus	17 msi
Compressive Strength	132 ksi
Compressive Modulus	14.5 msi
Torsional Strength	15 msi
Torsional Modulus	1.3 msi
CTE	(-0.24 in/in/°F)(10 <sup>6</sup> )
Glass Transition Temp	100°C
Fatigue Strength	90 (10 <sup>6</sup> )
Density	1.52 g/cm <sup>3</sup>

All the information contained in these properties is believed to be reliable. It is intended for comparison purposes only as each manufactured lot will exhibit variations. The user should evaluate the suitability of each product for their application. We cannot anticipate the variations in all end use and we make no warranties and assume no liability in connection with the use of this information.