



## Carlisle Carbon Composites Grade C31-HDC

### General Product Information

Chopped fiber Carbon / Carbon material heat treated to 2300 C.  
Oxidation treated. Excellent oxidation resistance up to 1400 F (750 C)  
Custom machining to print also available.

### Typical Physical Properties

	Direction	Typical Values
<b>Bulk Density</b>	N/A	1.70 g/cm <sup>3</sup>
<b>Total Porosity</b>	N/A	8%
<b>Flexural Strength</b>	In-Plane	15,000 psi
	Perpendicular	13,000 psi
<b>Compressive Strength</b>	In-Plane	18,000 psi
	Perpendicular	8,000 psi
<b>Flexural Modulus</b>	In-Plane	4.1 x 10 <sup>6</sup> psi
	Perpendicular	
<b>Thermal Conductivity</b>	In-Plane	50 W / m-K
	Perpendicular	16 W / m-K
<b>Secant Value CTE</b> (ambient to 1000 °C)	In-Plane	1.0 x 10 <sup>-6</sup> / °C
	Perpendicular	7.0 x 10 <sup>-6</sup> / °C
<b>Electrical Resistivity</b>	In-Plane	
	Perpendicular	
<b>Rockwell Hardness</b>	(R15X scale)	70 - 80
<b>Ash Content</b>	N/A	0.3%

### Available Stock Sizes

Limited availability, please call for available stock sizes. To be replaced by Grade T26-HDP.