

## Grade: AD-A996

**Manufacturer:** Graphtek LLC

**Description:** Chemical Composition: Alumina (Al<sub>2</sub>O<sub>3</sub>) >99.6%; Silica (SiO<sub>2</sub>) <0.10%; Iron Oxide (Fe<sub>2</sub>O<sub>3</sub>) <0.050%; Sodium Oxide (Na<sub>2</sub>O), Lithium (L), Potassium (K) <0.10%

PROPERTY	US VALUE		METRIC VALUE	
Density	<b>0.137</b>	lb/in <sup>3</sup>	<b>3.80</b>	gr/cm <sup>3</sup>
Porosity	<b>&lt;0.5</b>	% VOL	<b>&lt;0.5</b>	% VOL
Flex Strength	<b>54,955</b>	psi	<b>379</b>	MPa
Compress. Strength	<b>37,7098</b>	psi	<b>2,600</b>	MPa
Thermal Conductivity	<b>20.7</b>	BTU/(h.ft <sup>2</sup> °F/ft)	<b>35</b>	W/(m <sup>2</sup> . K/m)
Coefficient of Thermal Expansion	<b>4.67</b>	x 10 <sup>-6</sup> /F	<b>8.4</b>	x 10 <sup>-6</sup> /C
Bulk Modulus	<b>33,068,604</b>	psi	<b>228</b>	GPa
Elastic Modulus	<b>54,389,151</b>	psi	<b>375</b>	GPa
Shear Modulus	<b>22,045,736</b>	psi	<b>152</b>	GPa
Hardness	<b>2,048,161</b>	psi	<b>1,440</b>	kg/mm <sup>2</sup>
Poisson's Ratio	<b>0.22</b>		<b>0.22</b>	
Tensile Strength, 25°C	<b>39,885</b>	psi	<b>275</b>	MPa
Dielectric Strength	<b>429</b>	volts/mil	<b>16.9</b>	ac-kv/mm
Dielectric Constant, 1 MHz	<b>9.8</b>		<b>9.8</b>	
Dissipation Factor, 1 KHz	<b>0.0002</b>		<b>0.0002</b>	
Max. Temperature	<b>3,182</b>	°F	<b>1,750</b>	°C