

## Grade: MD-SIALON

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**Manufacturer:** McDanel Advanced Ceramic Technologies LLC

**Description:** SIALON is an alloy of silicon nitride and aluminum oxide. This superior refractory material has the combined properties of silicon nitride (high strength, hardness, fracture toughness and low thermal expansion) and aluminum oxide (corrosion resistance, refractoriness and oxidation resistance).

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PROPERTY	US VALUE		METRIC VALUE	
Density	<b>0.117</b>	lb/in <sup>3</sup>	<b>3.24</b>	gr/cm <sup>3</sup>
Porosity	<b>0</b>	% VOL	<b>0</b>	% VOL
Flexural Strength @ 20 C	<b>110200</b>	psi	<b>760</b>	mpa
Flexural Strength @ 1000 C	<b>81200</b>	psi	<b>560</b>	mpa
Compressive Strength @ 20 C	<b>507500</b>	psi	<b>3500</b>	mpa
Thermal Conductivity @ 20 C	<b>12.10</b>	BTU/(h.ft <sup>2</sup> °F/ft)	<b>21</b>	W/(m <sup>2</sup> . K/m)
CTE, @ 20-1000 C	<b>1.8 x 10<sup>-6</sup></b>	°F	<b>3.2 x 10<sup>-6</sup></b>	°C
Maximum Temperature	<b>2192</b>	°F	<b>1200</b>	°C