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## ZIRCONIA

### Composition

Zirconia	ZrO <sub>2</sub> /HfO <sub>2</sub>	89.0%
Yttria	Y <sub>2</sub> O <sub>3</sub>	10.5%
Silica	SiO <sub>2</sub>	0.15%
Alumina	Al <sub>2</sub> O <sub>3</sub>	0.20%
Titania	TiO <sub>2</sub>	0.05%
Calcia	CaO	0.05%
Iron Oxide	Fe <sub>2</sub> O <sub>3</sub>	0.04%
Magnesia	MgO	0.001%
Sodium Oxide	Na <sub>2</sub> O	0.01%
Potassium Oxide	K <sub>2</sub> O	0.001%

### Physical Properties

Bulk Density	Open Porosity	Flexural Strength 20°C	Compressive Strength 20°C
5.92 g/cm <sup>3</sup>	0%	276 Mpa	1772 Mpa
370 lbs/ft <sup>3</sup>	0%	40 ksi	250 ksi

### Thermal Properties

Conductivity		Expansion Coefficient	Max Use Temperature
20°C	800°C	20-1000°C	(no load)
2 W/m <sup>°K</sup>	2 W/m <sup>°K</sup>	11.3 x 10 <sup>-6</sup> /C°	2200°C
14 BTU.in/ft <sup>2</sup> .hr°F	14 BTU.in/ft <sup>2</sup> .hr°F	6.3 x 10 <sup>-6</sup> /F°	4000°F

These values represent typical properties of standard materials.

Values should be used only for comparison and should not be used as a warranty.