



## YTZP SPECIFICATIONS

	Property	ASTM Method	Units	YTZP 2000 (Yttria Stabilized)	YTZP 4000 (Yttria Stabilized)
<b>General</b>	Crystal Size (Average)	Thin Section	Microns	1	1
	Color	--	--	Ivory	Ivory
	Gas Permeability	--	atms-cc/sec	gas tight <10 <sup>-10</sup>	gas tight <10 <sup>-10</sup>
	Water Absorption	C 20-97	%	0	0
<b>Mechanical</b>	Density	C 20-97	g/cc	6.02	6.07
	Hardness	Vickers 500 gm	GPa (kg/mm <sup>2</sup> )	12.5 (1250)	12.5 (1250)
	Hardness	--	R45N	80	80
	Fracture Toughness	Notched Beam	MPam <sup>1/2</sup>	10	10
	Flexural Strength (MOR) (3 point) @ RT	F417-87	MPa (psi x 10 <sup>3</sup> )	951 (138)	1380 (200)
	Tensile Strength @ RT	--	MPa (psi x 10 <sup>3</sup> )	550 (80)	690 (100)
	Compressive Strength @ RT	--	MPa (psi x 10 <sup>3</sup> )	2485 (360)	2485 (360)
	Elastic Modulus	C848	GPa (psi x 10 <sup>6</sup> )	210 (30)	210 (30)
Poisson's Ratio	C848	--	0.30	0.30	
<b>Thermal</b>	C.T.E. 25 - 100° C	C 372-96	x 10 <sup>-6</sup> /C	6.9	6.9
	C.T.E. 25 - 300° C	C 372-96	x 10 <sup>-6</sup> /C	8.1	8.1
	C.T.E. 25 - 600° C	C 372-96	x 10 <sup>-6</sup> /C	10.5	10.5
	Thermal Conductivity @ RT	C 408	W/m K	2.2	2.2
	Max Use Temp	--	Fahrenheit (°F)	932	932
--		Celcius (°C)	500	500	
<b>Electrical</b>	Dielectric Strength (.125" Thick)	D 149-97A	V/mil	240	240
	Dielectric Constant @ 1 MHz	D 150-98	--	30.0	30.0
	Dielectric Loss @ 1 MHz	D 150-98	--	0.0010	0.0010
	Volume Resistivity, 25°C	D 257	ohms-cm	> 1 x 10 <sup>13</sup>	> 1 x 10 <sup>13</sup>
	Volume Resistivity, 300° C	D 1829	ohms-cm	1 x 10 <sup>10</sup>	1 x 10 <sup>10</sup>
	Volume Resistivity, 500° C	D 1829	ohms-cm	1 x 10 <sup>6</sup>	1 x 10 <sup>6</sup>
	Volume Resistivity, 700° C	D 1829	ohms-cm	5 x 10 <sup>3</sup>	5 x 10 <sup>3</sup>

## CONTACT US

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