



STEATITE SPECIFICATIONS

	Property	ASTM Method	Units	L-4	L-5
General	Crystal Size (Average)	Thin Section	Microns	7	7
	Color	--	--	Tan	Gray-Green
	Gas Permeability	--	atms-cc/sec	--	--
	Water Absorption	C 20-97	%	0	0
Mechanical	Density	C 20-97	g/cc	2.65	2.75
	Hardness	Vickers 500 gm	GPa (kg/mm <sup>2</sup> )	4.9 (500)	4.9 (500)
	Hardness	--	R45N	57	57
	Fracture Toughness	Notched Beam	MPam <sup>1/2</sup>	--	--
	Flexural Strength (MOR) (3 point) @ RT°	F417-87	MPa (psi x 10 <sup>3</sup> )	117 (17)	138 (20)
	Tensile Strength @ RT°	--	MPa (psi x 10 <sup>3</sup> )	103 (15)	103 (15)
	Compressive Strength @ RT°	--	MPa (psi x 10 <sup>3</sup> )	551 (80)	586 (85)
	Elastic Modulus	C848	GPa (psi x 10 <sup>6</sup> )	103 (15)	103 (15)
Poisson's Ratio	C848	--	0.24	0.24	
Thermal	C.T.E. 25 - 100° C	C 372-96	x 10 <sup>-6</sup> /C	7.3	8.5
	C.T.E. 25 - 300° C	C 372-96	x 10 <sup>-6</sup> /C	7.4	8.6
	C.T.E. 25 - 600° C	C 372-96	x 10 <sup>-6</sup> /C	7.5	8.6
	Thermal Conductivity @ RT°	C 408	W/m K	3	3
	Max Use Temp (non-loading) (at high strength)	--	Fahrenheit (°F)	2350	2350
		--	Celcius (°C)	1290	1290
Electrical	Dielectric Strength (.125" Thick)	D 149-97A	V/mil	260	270
	Dielectric Constant @ 1 MHz	D 150-98	--	5.6	5.7
	Dielectric Constant @ Gigahertz	D 2520-95	--	5.6	5.8
				9.2	12.5
	Dielectric Loss @ 1 MHz	D 150-98	--	0.003	0.0014
	Dielectric Loss @ Gigahertz	D 2520-95	--	0.005	0.0017
				9.2	12.5
	Volume Resistivity, 25°C	D 257	ohms-cm	> 1 x 10 <sup>14</sup>	> 1 x 10 <sup>14</sup>
	Volume Resistivity, 300° C	D 1829	ohms-cm	2 x 10 <sup>10</sup>	1 x 10 <sup>11</sup>
	Volume Resistivity, 500° C	D 1829	ohms-cm	1 x 10 <sup>9</sup>	4 x 10 <sup>10</sup>
Volume Resistivity, 700° C	D 1829	ohms-cm	2 x 10 <sup>8</sup>	1 x 10 <sup>9</sup>	
Volume Resistivity, 1000° C	D 1829	ohms-cm	--	--	

Form Revised: 9/26/2014

CONTACT US

Superior Technical Ceramics | 600 Industrial Park Rd. | St. Albans, VT 05478 | www.ceramics.net  
 Telephone: (802) 527-7726 | Fax: (802) 527-1181 | Email: sales@ceramics.net