



CORDIERITE SPECIFICATIONS

	Property	ASTM Method	Units	Cordierite
General	Crystal Size (Average)	Thin Section	Microns	--
	Color	--	--	Orange-Tan
	Gas Permeability	--	atms-cc/sec	Porous
	Water Absorption	C 20-97	%	10
Mechanical	Density	C 20-97	g/cc	2.00
	Hardness	Vickers 500 gm	GPa (kg/mm ²)	5.8 (590)
	Hardness	--	R45N	50
	Fracture Toughness	Notched Beam	MPam ^{1/2}	--
	Flexural Strength (MOR) (3 point) @ RT°	F417-87	MPa (psi x 10 ³)	66 (9.5)
	Tensile Strength @ RT°	--	MPa (psi x 10 ³)	19 (2.7)
	Compressive Strength @ RT°	--	MPa (psi x 10 ³)	165 (24)
	Elastic Modulus	C848	GPa (psi x 10 ⁶)	103 (15)
Poisson's Ratio	C848	--	0.31	
Thermal	C.T.E. 25 - 100° C	C 372-96	x 10 ⁻⁶ /C	2.1
	C.T.E. 25 - 300° C	C 372-96	x 10 ⁻⁶ /C	2.5
	C.T.E. 25 - 600° C	C 372-96	x 10 ⁻⁶ /C	3.0
	Thermal Conductivity @ RT°	C 408	W/m K	3
	Max Use Temp (non-loading) (at high strength)	--	Fahrenheit (°F)	2350
--		Celcius (°C)	1290	
Electrical	Dielectric Strength (.125" Thick)	D 149-97A	V/mil	120
	Dielectric Constant @ 1 MHz	D 150-98	--	5.5
	Dielectric Constant @ Gigahertz	D 2520-95	--	--
				--
	Dielectric Loss @ 1 MHz	D 150-98	--	--
	Dielectric Loss @ Gigahertz	D 2520-95	--	--
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	Volume Resistivity, 25° C	D 257	ohms-cm	> 1 x 10 ¹⁴
	Volume Resistivity, 300° C	D 1829	ohms-cm	--
	Volume Resistivity, 500° C	D 1829	ohms-cm	--
Volume Resistivity, 700° C	D 1829	ohms-cm	--	
Volume Resistivity, 1000° C	D 1829	ohms-cm	--	

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