

Alumina Material Properties – 99.8%

Material	Al ₂ O ₃
Density (g/cc)	3.91
Elastic Modulus (GPa)	390
Compressive Strength (MPa)	2,787
Flexural Strength (MPa)	360.75
Tensile Strength (20C,MPa)	30.53
Hardness Gpa	16.56
Poisson's Ratio	0.23
CTE (x 10 ⁻⁶ cm/per Deg C)	7.58
Thermal Conductivity (W/m-K)	32.265
Specific Heat(J/KG.K)	735
Volume Resistivity(Ω-cm,20C)	2.2x10 ¹³
Dielectric Strength (volt/mil)	335.92
Dielectric Constant @ 1 MHz	10.10
Purity	99.84%
Grain Size (microns)	Min. 2um; Max. 19.3um
Average Grain Size (microns)	6.73um

Typical Impurities, Ultra Trace

Element	Concentration (ppm wt)	Element	Concentration (ppm wt)
Cu	<1	Lu	<0.1
Zn	2.50	Hf	<0.1
Ga	70	Ta	Electrode
Ge	<1	W	<5
As	<0.1	Re	<0.05
Se	<0.5	Os	<0.05
Br	<0.5	Ir	<0.05
Rb	<0.05	Pt	<0.1
Sr	<0.85	Au	Interference
Y	<0.05	Hg	<0.5
Zr	1.7	Ti	<0.1
Nb	<50	Pb	<0.1
Mo	<20	Bi	<0.1
Ru	<0.5	Th	<0.01
Rh	<0.5	U	<0.1
Pd	<0.5	--	--

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