

High-Purity Aluminum Oxide

Typical Properties

	(Units)	(99.6%)	(99.8%)
Density	(g/cc)	3.92	3.96
Color		ivory	white
Grain Size, average	(um)	1 - 3	3 - 5
Thermal Conductivity	(W/m-K)	30 – 35	35 - 40
Thermal Expansion	(10exp-6/C)	8.0	8.0
Heat Capacity	(J/g-K)	880	880
Volume Resistivity (RT)	(Ohm-cm)	>10 exp14	>10 exp14
Dielectric Loss	(RT, 1Mhz)	.003	.002
Dielectric Constant	(RT, 1Mhz)	9.7	9.8
Bending Strength	(MPa)	380	550
Young's Modulus	(GPa)	370	390
Hardness	(GPa)	14	15
Fracture Toughness	(MPa-m ^{1/2})	3 – 4	3 – 4
As-Fired Surface Finish	(micro-meters)	0.6 – 0.8	0.5 – 0.4
Maximum use temperature	(C)	1700	1800