

99.99% Alumina Ceramic Material Properties-SU0358

Properties	Unit	Value
Crystal Structure	-	Hexagonal Crystal System
Main Composition	%	Al ₂ O ₃ ≥99.3%
Main Impurities	%	Si, K, Na, Fe
Density	g/cm ³	3.98±0.02
Dislocation Density	pit/cm ²	<10,000
Vickers-hardness	GPa	≥1450
Young Modulus	GPa	375±10%
Fracture Toughness	MPa/m	4.5±0.5
Compressive Strength	kfg	≥30
Tensile Strength	MPa/m	275-400
Poisson' s Ratio	-	0.28±0.02
Melting Point	°C	2,050.00
Specific Heat (at 300K)	J/(g.K)	0.7788
Thermal Conductivity	W/(m.k)	30.3±1
Thermal Expansion Coefficient	10 ⁻⁶ /K	5±0.2
Dielectric Constant	-	9.35±10%
Volume Resistance at 293K	Ω.cm	>10 ¹⁸
Index of Refraction no at 0.5893μm (at 590nm)	-	1.76±0.01
Visible Wavelength Average (400-780nm)	%	>80%
Infrared Band Average (780-5000nm)	%	>80%
Ultraviolet Band Average (200-400nm)	%	>45%
Crystal Orientation	-	C Orientation
Sizes	mm	φ4.06*0.51

Remark: The value is just for review, different using conditions will have a little difference.

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