

Aluminum nitride	AIN120	AIN140	AIN160	AIN180
Color	Dark Gray	Dark Gray	Translucent Medium gray	Translucent Medium gray
Medium grain size D50 (μm)	4–6	4–6	4–5	4–5
Surface roughness, Ra (μm)	0.6max	0.6max	0.5max	0.5max
Density (g/cm^3)	3.25	3.26	3.33	3.33
Flexural strength (MPa)	>320	>300	>300	>300
Compressive strength (GPa)	2.1	2.1	2.0	2.0
Fracture toughness ($\text{MPa m}^{1/2}$)	3.30 \pm 0.05	3.30 \pm 0.05	3.35 \pm 0.05	3.35 \pm 0.05
Young's modulus (GPa)	300	300	310	310
Thermal conductivity (W/mK)	120 \pm 10%	140 \pm 10%	160 \pm 10	180 \pm 10
Coeff. of thermal expansion (10^{-6}K^{-1})				
RT- 100 $^{\circ}\text{C}$	3.6	3.6	3.6	3.6
RT- 300 $^{\circ}\text{C}$	4.7	4.7	4.6	4.6
RT- 500 $^{\circ}\text{C}$	5.2	5.2	5.2	5.2
RT- 1000 $^{\circ}\text{C}$	5.6	5.6	5.6	5.6
Volume resistivity (Ωcm)	>10 ¹²	>10 ¹²	>10 ¹³	>10 ¹³
Dielectric strength (KV/mm)	\geq 18	\geq 18	\geq 20	\geq 20
Dielectric constant (@1MHz)	9.0 \pm 10%	9.0 \pm 10%	9.0 \pm 10%	9.0 \pm 10%
Loss tangent (@1MHz)	0.5 \times 10 ⁻³	0.5 \times 10 ⁻³	0.5 \times 10 ⁻³	0.5 \times 10 ⁻³
Resistance to shock	Excellent	Excellent	Excellent	Excellent