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Aluminum Nitride (AlN) Material Information

Electrical Properties	
Dielectric Constant	8.6 (@ 1 MHz)
Dielectric Loss	0.0005 (@ 1 MHz)
Dielectric Breakdown Strength	14 kV/mm
Electric Resistivity	$> 10^{14}$ ohm-cm

Mechanical Properties	
Thermal Conductivity	170 +30, -0 W/mK
Thermal Expansion Coefficient	$4.5 \times 10^{-6}/^{\circ}\text{C}$
Density	3.3 gm/cm^3
Fracture Toughness (Single Edge Notched Beam)	$3.5 \pm 0.2 \text{ MN/m}^{1.5}$
Young's Modulus (Ultrasonic Method)	$3.23 \times 10^{11} \text{ N/m}^2$
Poisson Ratio (Ultrasonic Method)	0.24
Hardness (Knoop)	1200

Chemical Analysis	
AL	63.30 WT%
N	32.07 WT%
(AlN)	(95.37 WT%)
Y	2.20 WT%
O	1.40 WT%
(Y ₂ O ₃)	(3.60 WT%)