

ACCURATUS

CERAMIC CORPORATION

35 Howard Street Phillipsburg, New Jersey 08865
 Tel: 908-213-7070 Fax: 908-213-7069

www accuratus.com

Boron Nitride B0 Grade Material Properties

Mechanical	Units of Measure	Orientation to Pressing Direction			
	SI/Metric (Imperial)	Parallel		Perpendicular	
Density	gm/cc (lb/ft ³)	1.9	(120)	1.9	(120)
Porosity	% (%)	2.8	2.8	2.8	2.8
Color	—	white	white	white	white
Flexural Strength	MPa (lb/in ² x10 ³)	75.8	(11.0)	113	(16.4)
Elastic Modulus	GPa (lb/in ² x10 ⁶)	46.9	(6.8)	73.8	(10.7)
Shear Modulus	GPa (lb/in ² x10 ⁶)	—	—	—	—
Bulk Modulus	GPa (lb/in ² x10 ⁶)	—	—	—	—
Poisson's Ratio	—	—	—	—	—
Compressive Strength	MPa (lb/in ² x10 ³)	143	(20.8)	186	(27.0)
Hardness	Kg/mm ²	15-24	—	15-24	—
Fracture Toughness K _{IC}	MPa•m ^{3/2}	—	—	—	—
Maximum Use Temperature (inert atm)	°C (°F)	1800	(3250)	—	—
Thermal					
Thermal Conductivity	W/m•°K (BTU•in/ft ² •hr•°F)	30	(205)	33	(225)
Coefficient of Thermal Expansion	10 ⁻⁶ /°C (10 ⁻⁶ /°F)	11.9	(6.6)	3.1	(1.7)
Specific Heat	J/Kg•°K (Btu/lb•°F)	1610	(.38)	—	—
Electrical					
Dielectric Strength	ac-kv/mm (volts/mil)	95	(2400)	79	(2000)
Dielectric Constant	@ 8.8 GHz	4.6	—	4.2	—
Dissipation Factor	@ 8.8 GHz	0.0017	—	0.0005	—
Loss Tangent	—	—	—	—	—
Volume Resistivity	ohm•cm	>10 ¹⁴	—	>10 ¹⁵	—

*All properties are room temperature values except as noted.

The data presented is typical of commercially available material and is offered for comparative purposes only. The information is not to be interpreted as absolute material properties nor does it constitute a representation or warranty for which we assume legal liability. User shall determine suitability of the material for the intended use and assumes all risk and liability whatsoever in connection therewith.

ACCURATUS: *Latin* – careful, precise, accurate