Accumet
ENGINEERING CORPORATION

MATERIAL SPECIFICATIONS

Specifications are offered as assistance to Engineers and Purchasing professionals in the design and procurement of thin and thick film circuit substrates. Accumet makes no certification as to the suitability of materials for any application. (Basis for specifications available upon request.)

Properties	Units	Beryllium Oxide	Aluminum Nitride
Chemical Composition		BeO	AlN
Purity	%	99.5	98
Color		White	Tan
Nominal Density	g/cm^3	2.85	3.28
Surface Finish (Polished)	µ-inches	<4.0	<2.0
Surface Finish (Lapped)	µ-inches	20-60	25 nominal
Surface Finish (As-Fired)	µ-inches	15 max	8-24
Length & Width Tolerance	Options include: diamond sawcut, laser scribed/cut, &/or diamond ground edges to: +/- 1%, .010", or +/- .001"		
Edge Chips		.025" long x	.025" long x
	inches	.010" into face (max)	.010" into face (max)
Defects	inches	<6@.0025" dia. max / FoV	Call for criteria
Camber	inch/inch	.0003"-.0005"*	.0003"-.0005"*
Thickness	inches	Call for available sizes	Call for available sizes
Sizes (L&W)	inches	Call for available sizes	Call for available sizes
Coefficient of Thermal Expansion (CTE)	10^{-6}	25-1000°C 9.0	25-300°C 4.6
Thermal Conductivity	Watts/mK	270	170
Dielectric Constant	@1 MHz	6.5	8.6
Dissipation Factor (Loss Tangent)	@1 MHz	0.0004	0.001
Hardness		45 Rockwell	N/A
Flexural Strength	$K(10^3)$ lbs/in^2	35 (3 pt. bend)	59 (4 pt. bend)
Young's Modulus	$M(10^6)$ lbs/in^2	50	47
Grain Size	µm (microns)	9-16	5-7

*Tighter tolerances are available. Please inquire.

(FoV) – Field of View @ 50X

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