

## MATERIAL SPECIFICATIONS

Coefficient of Thermal Expansion: (-75 °C to 200 °C)	4 – 6.1 ppm/°C
Equibiaxial Flexure Strength*: (Tested in Ring-On-Ring Configuration)	56.0 ksi [66,000 psi, 386 MPa]
Modulus of Elasticity: (Tested per ASTM C1259)	61E+06 psi [420 GPa]
Knoop Hardness: (Tested per ASTM C730)	1500 – 1650

\*Average strength value for testing is in accordance with ASTM C1499. Value is representative of samples prepared via II-VI Optical Systems fabrication process.

## SIZES AVAILABLE

A-plane:  
SIZES AVAILABLE UPON REQUEST

## Sapphire Panels

II-VI Optical Systems world-class material experts and growth operation produces A-plane sapphire panels utilizing a process that provides extraordinary mechanical strength, high optical transmission and low Transmitted Wavefront Distortion (TWF). These attributes make sapphire panels a preferred material choice for many defense and aerospace applications that require large non-segmented or segmented window assemblies.

II-VI Optical Systems utilizes a vertically integrated sapphire product line, and has control of growth, window processing, coating and assembly.

II-VI Optical Systems has demonstrated sapphire characteristics consistent with known industry values, and has material experts on staff to answer any technical questions you may have.

TYPICAL MEASURED VALUES	Transmission: (0.22" thickness)	$\lambda$	0.70 $\mu\text{m}$	86.3%	Index of Refraction:	$\lambda$	0.70 $\mu\text{m}$	1.7609
			1.06 $\mu\text{m}$	86.5%			1.06 $\mu\text{m}$	1.7532
			1.57 $\mu\text{m}$	86.7%			1.57 $\mu\text{m}$	1.7443
			3.00 $\mu\text{m}$	87.8%			3.00 $\mu\text{m}$	1.7111
			4.00 $\mu\text{m}$	87.1%			4.00 $\mu\text{m}$	1.6746
			5.00 $\mu\text{m}$	58.3%			5.00 $\mu\text{m}$	1.6238

