

# SUPERSPINEL™ Optical Ceramic

## TECHNICAL DATA

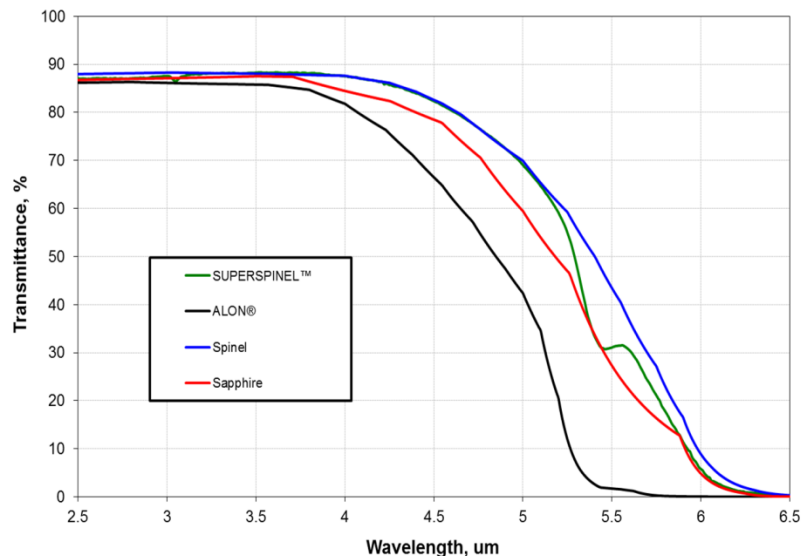
- SUPERSPINEL™ is a polycrystalline transparent ceramic material providing higher MWIR transmission than Sapphire.
- SUPERSPINEL™ is made via solid state sinter/HIP approach. Unlike LiF-hot pressed spinel, which has been shown to have severe grain-boundary weakness, SUPERSPINEL has high strength and excellent optical quality with no inclusions.
- Applications: Infrared Optics (domes, lenses, sensor and reconnaissance windows), transparent armor, protective windows, etc.



## TYPICAL PROPERTIES

Composition	Proprietary
Form	Polycrystalline
Density	3.60 – 3.61 g/cc
Melting Point	>2000°C
Avg. Grain Size	100 – 300 microns
Crystal Structure	Cubic, Spinel
Hardness	1600 +/-100 kg/mm <sup>2</sup> (Knoop Indent, 200g load)
Flexure Strength	200 - 350MPa (depends on processing Parameters and surface finish)
Transmission range	0.25 to 6.5 microns
Refractive index	1.718– 1.72 @ 633nm 1.706– 1.710 @ 1064nm

IR transmittance @5mm thickness



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