SURMET

Engineering Better Material Solutions

SuperSapphire™ Optical Ceramic

TECHNICAL DATA

• SuperSapphire™ is a polycrystalline transparent ceramic material with sapphire-like spectral transmission

• Unlike sapphire, which is grown as single crystal boules and then cut into shapes, SuperSapphire™ is made from powder.

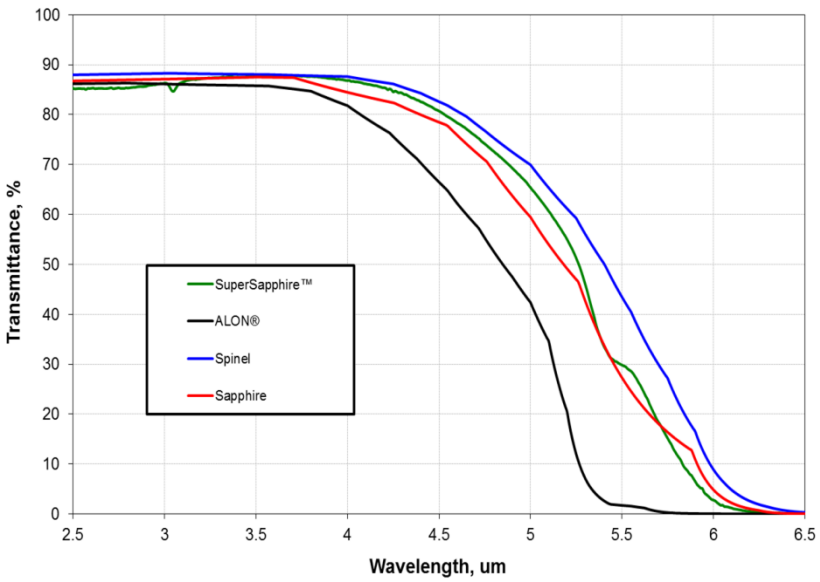
• Polycrystalline means that it can be made into any shape and size (such as domes, lenses, curved windows and complex geometries) using conventional ceramic processing

• Applications: Infrared Optics (domes, lenses, sensor and reconnaissance windows), transparent armor, protective windows, etc.

TYPICAL PROPERTIES

Composition	Proprietary
Form	Polycrystalline
Density	3.60 – 3.62 g/cc
Melting Point	>2000°C
Avg. Grain Size	100 – 300 microns
Crystal Structure	Cubic, Spinel
Hardness	1600 +/-100 kg/mm^2 *(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	1.72– 1.75 @ 633nm 1.71– 1.73 @ 1064nm

IR transmittance @5mm thickness



Surmet Corporation
31 B Street, Burlington MA 01803

For information contact:
Kristen Mitchell, Customer Liaison
Tel: 781-345-5739
Email: sales@surmet.com