SINTRON™ - SILICON NITRIDE

SINTRON™ - Silicon Nitride offers exceptional wear, oxidation, thermal shock, and corrosion resistance, both impingement and frictional modes. This material provides high strength over a wide temperature range and can be formed into a variety of complex shapes with good tolerance control. SINTRON's high fracture toughness/ hardness and good chemical resistance works well in non-ferrous metals contact applications.

Key Material Properties

Mechanical	SI/Metric	Imperial
Density	3.29 gm/cc	205.4 lb/ft^2
Porosity	0%	0%
Color	Black	-
Flexural Strength	830 MPa	120.4 lb/in^2x10^3
Elastic Modulus	310 MPa	45 lb/in^2x10^6
Poisson's Ratio	0.27	0.27
Hardness	1580 Kg/mm^2	-
Fracture Toughness K_{IC}	6.1 $MPa•m^{1/2}$	-
Maximum Use Temperature (no load)	1000 °C	1830°F
Thermal Conductivity	30 W/m•°K	208 BTU•in/ft^2•hr•°F
Coefficient of Thermal Expansion	$3.3x10^{-6}$/°C	$1.8x10^{-6}$/°C