SILICON NITRIDE

TECHNICAL DATA

SP1300

General Properties

SP1300 is a silicon nitride based material that exhibits excellent high-temperature strength, wear resistance, and thermal shock resistance. SP1300 is light weight compared to other wear materials and is resistant to corrosion and molten metal.

Applications

- Abrasive flow control
- High-temperature wear parts
- Bearings
- Pins
- Spacers
- Spray nozzles

Physical Properties

Property		Units	SP1300
Bulk Density		g/cm^3	3.28
Flexural Strength	(20 °C)	MPa	800
Vickers Hardness	(18,5 kg load)	GPa	18.2
Hot Hardness	(1000 °C)	GPa	—
Rockwell A		—	94.4
Young's Modulus		GPa	326
Bulk Modulus		GPa	—
Shear Modulus		GPa	—
Poisson's Ratio		—	.25
Fracture Toughness		$MPa \bullet m^{1/2}$	7.0
Erosion Resistance (ASTM G76*) 90° *w/SiC abrasive		$x\ 10^{-6}\ cm^3/g$	178
Thermal Expansion, RT-400 °C		$x\ 10^{-6}\ °C^{-1}$	3.0
Thermal Conductivity at RT		W/m°K	15
Thermal Shock Resistance		ΔT °C	415
Maximum Use Temperature oxidizing environment		°C	—

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