



DATA SHEET

Sintered Silicon Carbide (SISIC)

Description:

Sintered Silicon Carbide (SISIC) has good high temperature strength, harness, thermal shock and wear resistance. Its fine grains of alpha phase silicon carbide help in applications demanding high hardness and wear resistance at elevated temperatures.

Salient Features:

- Excellent Harness and Wear Resistance
- Excellent Corrosion Resistance
- Non-Wetting in Molten Metal
- Very Good Thermal Shock Resistance
- Low Coefficient of Thermal Expansion

Typical Applications:

- Bearing balls and rollers
- Automobile components and seal faces
- Mechanical Seals
- Heat Exchanger Tubes
- Blast and Atomization Nozzles
- Centrifuge Tiles and Wear Parts

Physical Properties

PROPERTY	TEST	UNITS	SISIC
Colour			Greyish Black
Density	ASTM-C20	g/cc	3.1
Water Absorption	ASTM-373	%	0
Gas Permeability			0
Flexural Strength (20°C)	ASTM-F417	MPa	450
Elastic Modulus (20°C)	ASTM-C848	GPa	400
Poission's Ratio (20°C)	ASTM-C848		0.16
Compressive Strength (20°C)	ASTM-C773	MPa	3000
Hardness	KNOOP	Kg/mm ²	2250
Fracture Toughness K _{IC}	NOTCHED BEAM	MPa m ^{1/2}	3
Thermal Conductivity (20°C)	ASTM-C408	W/mK	125
Coefficient of Thermal Expansion (25-1000°C)	ASTM-C372	1X10 ⁻⁶ /°C	4.5
Specific 100°C	ASTM-E1269	J/Kg K	640
Maximum No Load Temperature (Air)		°C	1650
Thermal Shock Resistance T _C		°C	350

Production Capabilities

- Isostatic, uniaxial pressing & Injection Molding
- Lapping & polishing to 2 microinch Ra
- Manual, CNC and high precision machining

Please note that all values quoted are based on test pieces and may vary according to component design. These values are not guaranteed in anyway whatsoever and should only be treated as indicative and for guidance only.