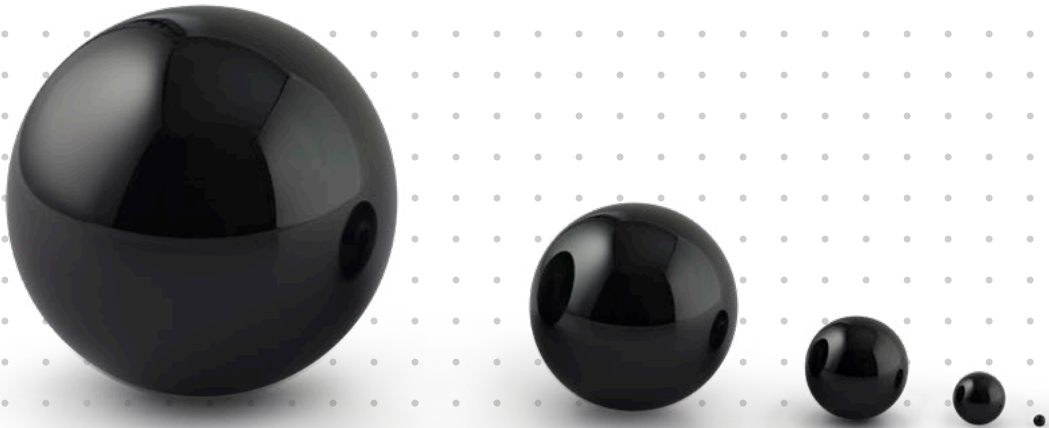




SN103 Silicon Nitride
for Ceramic Balls



SN103 Silicon Nitride for Ceramic Balls

	Properties		Units	Performance
MECHANICAL	Density		g/cm ³	3.23
	Crystal Size	Average	μm	< 1
	Water Absorption		%	0
	Gas Permeability			0
	Color			GRAY
	Flexural Strength (MOR)	20 °C	MPa	1000
	Elastic Modulus	20 °C	GPa	290
	Poisson's Ratio	20 °C		0.27
	Compressive Strength	20 °C	MPa	3400
	Hardness	Vickers 10 kg	GPa	14.6
THERMAL	Tensile Strength	25 °C	MPa	-
	Fracture Toughness	ASTM F2094 IFR	MPa-m ^{1/2}	6
	Thermal Conductivity	20 °C	W/m-K	14
	Coefficient of Thermal Expansion	25-1000 °C	1 X 10 ⁻⁶ /°C	3.6
	Specific Heat	100 °C	J/kg-K	650
	Thermal Shock Resistance	Δ T	°C	675
ELECTRICAL	Maximum Use Temperature		°C	1000
	Dielectric Strength	6.35 mm	ac-kV/mm	12
	Dielectric Constant	1 MHz, 25 °C		8.02
	Dielectric Loss (tan δ)	1 MHz, 25 °C		< 0.0004
	Volume Resistivity	25 °C	Ω-cm	> 10 ¹⁴
		500 °C	Ω-cm	-
1000 °C		Ω-cm	-	

The chart is intended to illustrate typical properties. Property values vary with method of manufacture, size, and shape of part. Data contained herein is not to be construed as absolute and does not constitute a representation or warranty for which CoorsTek assumes legal responsibility. CoorsTek is a registered trademark of CoorsTek, Inc.



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