

MATERIAL SAFETY AND TECHNICAL DATA SHEET

TRADE NAME : BN-2

I. Material Description
 Chemical Name & Formula: Silicon nitride - Si3N4

II. Components		III. Physical Data	
Si3N4:	91,0%	Physical form	: Polycrystalline Structure
Y2O3:	8,0%	Boiling Temperature	: NA
MgO:	1,0%	Melt Temperature °C	: NA
		Vapore Pressure	: NA
		Evaporation Rate	: NA
		Specific Gravity	: NA
		Density g/cm ³	: 3,20
		Water Solubility	: Insoluble
		Color	: Dark Gray
		Odor	: None

IV. Mechanical Properties at Room Temperature

Water Absorption	%	:	0
Vickers Hardness (HV 0.5)	Gpa	:	16
Flexural Strength	Mpa	:	750
Compressive Strength	Mpa	:	3000
Young's Modulus	Gpa	:	280
Fracture Toughness	Mpa *m ^{1/2}	:	7
Maximum service temperature	°C	:	120 0
Thermal Conductivity at 20°C	W/M*k	:	33
Thermal Expansion Coeff.	x10 ⁻⁶ /°C	20 ÷ 400°C	: 2,4
		20 ÷ 800°C	: 3,5
Thermal Shock Resistance	ΔT°C	:	470

V. Physical and Chemical Properties

Good thermal shock resistance and excellent wear and corrosion resistance

VI. Fire and Explosion Data

Flashpoint : NA
 Auto - Ignition Temperature : NA
 Flammability Limits in Air : Upper: Lower : NA

Product is non - flammable
 Not an explosion hazard

Please, note that all the values quoted are based on test pieces and may vary according to component design. These values are not guaranteed in any way and should only be treated as indicative values. They should be used for guidance only and for no other purpose.