

MATERIAL SAFETY AND TECHNICAL DATA SHEET**TRADE NAME : BN-HP****I. Material Description**Chemical Name & Formula: Silicon nitride - Si₃N₄**II. Components**

Si₃N₄: 90,0%
Y₂O₃: 5,0%
Al₂O₃: 5,0%

III. Physical Data

Physical form : Polycrystalline Structure
Boiling Temperature : NA
Melt Temperature °C : NA
Vapour Pressure : NA
Evaporation Rate : NA
Specific Gravity : NA
Density g/cm³: 3,25
Water Solubility : Insoluble
Color : Dark Gray
Odor : None

IV. Mechanical Properties at Room Temperature

Water Absorption	%	:	0
Vickers Hardness	(HV 0.5) Gpa	:	18
Flexural Strength	Mpa	:	850
Compressive Strength	Mpa	:	3500
Young's Modulus	Gpa	:	300
Fracture Toughness	MPa *m ^{1/2}	:	7,5
Maximum service temperature	°C	:	1200
Thermal Conductivity at 20°C	W/M*k	:	33
Thermal Expansion Coeff.	x10 ⁻⁶ /°C	20 ÷ 400°C :	2,4
		20 ÷ 800°C :	3,6
Thermal Shock Resistance	ΔT°C	:	570

V. Physical and Chemical Properties

Optimum thermal shock resistance and unusual wear 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.