

MATERIAL TECHNICAL DATA SHEET

TRADE NAME: BS-1

I. Material Description
Chemical Name & Formula: Silicon / Titanium Nitride

II. Components Si ₃ N ₄ / TiN > 90 %	III. Physical Data <table style="width: 100%; border-collapse: collapse;"> <tr><td>Physical form</td><td style="text-align: right;">NA</td></tr> <tr><td>Boiling Temperature</td><td style="text-align: right;">NA</td></tr> <tr><td>Melt Temperature</td><td style="text-align: right;">NA</td></tr> <tr><td>Density</td><td style="text-align: right;">3,96 g/cm³</td></tr> <tr><td>Water Solubility</td><td style="text-align: right;">Insoluble</td></tr> <tr><td>Color</td><td style="text-align: right;">Bronze</td></tr> <tr><td>Odor</td><td style="text-align: right;">None</td></tr> </table>	Physical form	NA	Boiling Temperature	NA	Melt Temperature	NA	Density	3,96 g/cm ³	Water Solubility	Insoluble	Color	Bronze	Odor	None
Physical form	NA														
Boiling Temperature	NA														
Melt Temperature	NA														
Density	3,96 g/cm ³														
Water Solubility	Insoluble														
Color	Bronze														
Odor	None														

IV. Mechanical Properties at Room Temperature	
Water Absorption	% : 0
Vickers Hardness (HV 0.5)	Gpa : 30
Flexural Strength	Mpa : 540
Compressive Strength	Mpa : 2618
Young's Modulus	Gpa : 261
Thermal Conductivity at 20 °C	W/m*k : 32,24
Thermal Conductivity at 500 °C	W/m*k : 23,66
Thermal Conductivity at 1000 °C	W/m*k : 21,46
Thermal Expansion Coeff.	x10 ⁻⁶ / °C 20 ±400 °C : 4,64
	20 ± 700 °C : 4,85
	20 ± 1000 °C : 5,1

V. Physical and Chemical Properties Good thermal shock and wear resistance. Non magnetic material. The material is electroconductive: it can be processed by electroerosion.
--

VI. Fire and Explosion Data	
Flashpoint	: NA
Auto - Ignition Temperature	: NA
Flammability Limits in Air	: NA
Product is non - flammable Not an explosion hazard	

Please, note that all the above-mentioned values 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.