BS-1 – Silicon / Titanium Nitride

MATERIAL TECHNICAL DATA SHEET

TRADE NAME: BS-1

MATERIAL DESCRIPTION

Chemical Name & Formula: Silicon / Titanium Nitride – Si_3N_4 + TiN

MAIN COMPONENTS

Si3N4 / TiN:	>90% min

PHYSICAL DATA

Physical Form:	Polycrystalline structure
Boiling Temperature:	N.A.
Vapour Pressure:	N.A.
Evaporation Rate:	N.A.
Specific gravity:	N.A.
Density:	≥3,96g/cm^3
Water solubility:	Insoluble
Colour:	Bronze
Odour:	None

MECHANICAL PROPERTIES AT ROOM TEMPERATURE

Water Absorption	%	0
Vickers Hardness	(HV 0,5)	2000
Flexural Strength	MPa	540
Compressive Strength	MPa	2600
Young's Modulus	GPa	260
Thermal Conductivity @20°C	W/(m·K)	32
Thermal Conductivity @1000°C	W/(m·K)	22
Thermal Expansion Coefficient (RT-1000°C)	10^{-6}/°C	5,1

PHYSICAL AND CHEMICAL PROPERTIES

Good thermal shock and wear resistance.

Not magnetic material.

The material is electroconductive: it can be processed by electroerosion.

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