# SN241O

2023.04.03

## SPECIFICATIONS

- Chemical formula: $Si_3N_4$
- Chemical name: Silicon nitride
- Appearance: Dense sintered silicon nitride
- Main characteristics: High temperature strength, wear resistant ,excellent thermal shock resistance, light weight, high thermal conductivity
- Main applications: Anti wear liner, powder equipment, molten metal parts, metal forming tool
- Colour: Black

## MECHANICAL & PHYSICAL CHARACTERISTICS (TYP.)

| | | | | |
|---|---|---|---|---|
| **Density** | | [g/cm³] | JIS R 1634 | 3.2 |
| **Water absorption** | | [%] | JIS C 2141 | 0 |
| **Vickers hardness HV9.807N** | | [GPa] | JIS R 1610 | 13.8 |
| **Flexural strength 3 P.B.** | | [MPa] | JIS R 1601 | 790 |
| **Compressive strength** | | [MPa] | JIS R 1608 | - |
| **Young's modulus of elasticity** | | [GPa] | JIS R 1602 | 290 |
| **Poisson's ratio** | | [-] | JIS R 1602 | 0.28 |
| **Fracture toughness (SEPB)** | | [MPa*m$^{0.5}$] | JIS R 1607 | 6 ~ 7 |
| **Coefficient of linear thermal expansion** | **40 - 400 °C**<br>**40 - 800 °C** | [*10$^{-6}$/K] | JIS R 1618 | 2.9<br>3.5 |
| **Thermal conductivity** | | [W/(m*K)] | JIS R 1611 | 54 |
| **Specific heat capacity** | | [J/(g*K)] | JIS R 1611 | 0.66 |
| **Thermal shock temperature difference** | | [°C] | JIS R 1648 | 900 |
| **Dielectric strength** | | [kV/mm] | JIS C 2141 | 12 |
| **Volume resistivity** | **20 °C**<br>**300 °C**<br>**500 °C** | [Ω*cm] | JIS C 2141 | >10$^{14}$<br>10$^{12}$<br>10$^{10}$ |
| **Dielectric constant** | | - | JIS C 2141 | 9.6 |
| **Dielectric loss angle** | | [*10$^{-4}$] | JIS C 2141 | 18 |
| **Loss factor** | | [*10$^{-4}$] | JIS C 2141 | - |

The values are typical material properties and may vary according to products configuration and manufacturing process.
For more details, please feel free to contact us.

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