


| Properties | Units | Test | Value |
|---|---|---|---|
| **Physical** | | | |
| Chemical Formula | - | - | Si3N4 |



| | | | |
|---|---|---|---|
| | | | (alpha&beta) |
| Water Absorption | % @R.T. | ASTM C373 | 0.0 |
| Hardness | Mohs | - | 9 |
| Hardness | knoop (kg/mm2) | Knoop 100g | 2200 |
| **Mechanical** | | | |
| Compressive Strength | MPa @ R.T. | ASTM C773 | 689-2760 |
| Tensile Strength | MPa @ R.T. | ACMA Test #4 | 360-434 |
| Modulus of Elasticity (Young's Mod.) | GPa | ASTM C848 | 317 |
| Flexural Strength (MOR) | MPa @ R.T. | ASTM F417 | 679-896 |
| Poisson's Ratio, u | | ASTM C818 | 0.23 |



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| | | | |
|---|---|---|---|
| Fracture Toughness, KIc | MPa x m1/2 | Notched Beam Test | 5.0-8.0 |
| **Thermal** | | | |
| Max. Use Temperature (* denotes inert atm.) | °C | No load cond. | 1500 |
| Thermal Shock Resistance | DT (°C) | Quenching | 750 |
| Thermal Conductivity | W/m-K @ R.T. | ASTM C408 | 27 |
| Coefficient of Linear Thermal Expansion, al | mm/m-°C (~25°C through ±1000°C) | ASTM C372 | 3.4 |
| Specific Heat, cp | cal/g-°C @ R.T. | ASTM C351 | 0.17 |
| **Electrical** | | | |
| Dielectric Constant | 1MHz @ R.T. | ASTM D150 | 7.0 |
| Dielectric Strength | kV/mm | ASTM D116 | 17.7 |
| Electrical Resistivity | Wcm @ R.T. | ASTM D1829 | 1013 |

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