

Properties		Units	SILICON NITRIDE		SILICON CARBIDE	Macor	Shapal - M
			Technide S10	Technide S14	Techcide C18		
Density		g/cm ³	3.23	3.21	3.12	2.52	2.9
Flexural Strength	20 °C	MPa	940	755	410	94	300
	800 °C	MPa	475	450	410	-	-
Compressive Strength		MPa	3000	3000	2000	345	1200
Modulus of Elasticity		GPa	290	290	450	66.9	190
Poisson's Ratio			0.25	0.25	0.17	0.29	0.31
Hardness		Hv _{0.3}	1550	1550	2800	230	390
Fracture Toughness	K _{Ic}	MPa-m ^{1/2}	8.0	8.0	4.0	1.53	-
Maximum Use Temperature		°C	1150	1150	1400	800	1000
Thermal Expansion Coeff.		1 X 10 ⁻⁶ /°C	3.1	3.1	3	9.3	4.4
Thermal Conductivity		W/m-K	25	25	100	1.46	90
Thermal Shock Resistance		°C	600	600	380	-	400
Specific Heat Capacity		J/kg-K	800	800	1000	790	480
Resistivity	25 °C	Ω-cm	10 ¹⁰	10 ¹⁰	100	10 ¹⁴	10 ¹²

The chart is intended to illustrate typical properties. Property values vary with method of manufacture, size, and configuration of part. Data contained herein is not to be construed as absolute and does not constitute a representation or warranty for which CoorsTek assumes legal responsibility. All properties are measured according to international standards (ASTM, DIN, JIS, etc.) applicable to country of origin. Contact CoorsTek for more information.