



Sycarb 10

Silicon carbide probably has the best resistance to corrosion in acids and alkalis of all advanced ceramic materials. It also has extreme hardness and high thermal conductivity and outstanding mechanical properties up to 1400°C.

Sycarb 10 is a high strength sintered silicon carbide (SSiC). It is fully dense with excellent wear and corrosion resistance.



The table below lists typical mechanical, thermal and electrical property data for **Sycarb 10**.

Property	Value	Units
Density	3.15	g/cc
Porosity	0	%
3 point Modulus of Rupture 20°C (Specimen 3 x 3 x 50, span 19.05mm)	450	MPa
3 point Modulus of Rupture 1000°C	450	MPa
Weibull Modulus	12	–
Compressive Strength	3500	MPa
Young's Modulus of Elasticity	410	GPa
Poisson's Ratio	0.21	–
RT Hardness (Vickers Hv ₅₀)	25.50 (2600)	GPa (Kg/mm ²)
Fracture Toughness K ¹ C	4.0	MPam ^{1/2}
Thermal Expansion Coefficient (0-1200°C)	4.4x10 ⁻⁶	K ⁻¹
RT Thermal Conductivity	150	W/(mK)
Thermal Shock Resistance	350	ΔT°C quenched in water
Maximum Use Temperature	1400	°C
Electrical Resistivity	10 ⁴	Ohm cm

Typical physical property data obtained under test conditions. All properties have been measured by independent testing authorities. The values given only apply to the test bodies on which they were determined, and therefore can only be recommended values.

Technical Support

The successful integration of ceramics into industrial and engineering systems requires close collaboration between you, the end-user, and us, the material suppliers. Our Technical Specialists are available to discuss your requirements in detail and assist in exploiting the significant advantages which **Sycarb 10** has to offer.

