

MORSIL NITRIDE BONDED SILICON CARBIDE REFRACTORY SHAPES

Typical Physical and Chemical Properties

Property	Morsil™ Nitride Bonded
Bond Type	Silicon Nitride
Max Hot Face Temp (°C)	1760
Modulus of Rupture (MPa @ 20°C) ASTM C 133 (MPa@ 1350°C)	43 44
Bulk Density ASTM C 134 (Gm/cm ²)	2.68
Apparent Porosity (%)	17
Hot Load Contractions (% of length)	0.0
Thermal Expansion Coefficient (Cm/cm/°C x 10)	4.7
Thermal Conductivity ASTM C 202 (W/M deg K 1477 deg K)	16.3
Relative Thermal Shock Resistance	Excellent
Specific Heat : 0 – 1400 deg C (Mean cal/gm/°C)	0.28
Relative Abrasion Resistance (1400°C)	Excellent
Spall Resistance (%)	100
Compressive Strength kg/cm ² (Mpa)	37
Permeability (Cc of air/min/in/m ² /in WG press)	3.0
Electrical Characteristics	Semi-conductor
Chemical Analysis (%)	
SiC	75
Si ₃ N ₄	23.4
SiO ₂	0.5
Al ₂ O ₃	0.3
Fe ₂ O ₂	0.3
CaO	0.2
Trace Elements	0.3