

SHINAGAWA

SHINDURAWEAR™ RBSiC
Reaction Bonded Silicon Carbide

SHINDURAWEAR™ RBSiC Reaction bonded silicon carbide is formulated for use in extreme conditions, including sliding abrasion, corrosive environments, and high service temperatures up to 1380°C. This material is characterized by high-temperature strength, a typically low porosity, good thermal shock resistance due to a low thermal expansion coefficient coupled with high thermal conductivity, and a greater resistance to sliding abrasion especially when used with heavy solid-containing slurries. Reaction bonded silicon carbide is serviceable to temperatures approaching the melting point of silicon and is also capable of conducting electricity.

Physical Properties:

Property	Unit	Value
Density	g/cc lb/in3	2.90—3.10 0.105—0.112
Apparent porosity	%	<0.1
Abrasion loss (volumetric) C704 ASTM	cc	0.84—1.01
Modulus of Rupture – 3 Point Loading	psi MPa	37,700—42,060 260—290
Modulus of Elasticity	psi GPa	4.36 x 10^7—4.77 x 10^7 301-329
Coefficient of Thermal Expansion (1200ºC)	x 10^(-6)/ ºC x 10^(-6)/ ºF	4.5—5.99 2.50—3.33
Maximum safe operating temperature (Dependent upon atmosphere)	ºC ºF	1360—1380 2480—2516
Thermal Conductivity	W/m-K BTU in/hr ft^2 ºF	45 312

All of the above statements, recommendations, suggestions and data concerning the subject material are based on laboratory and field results, and although we believe the same to be reliable, we expressly do not represent, warrant or guarantee the accuracy, completeness or reliability of same, of the material, or the result to be obtained from the use thereof. Nor do we warrant that any such use, either alone or in combination with other materials, shall be free of the rightful claim of any third party by way of **INFRINGEMENT** or the like, and **SHINAGAWA SPECIALTY CERAMICS AMERICAS, LLC DISCLAIMS ALL WARRANTIES, EXPRESSED OR IMPLIED OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

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