



### SiC Ceramic Product Description:

CIMSiC™ is a silicon carbide ceramic with excellent corrosion resistance, erosion resistance and thermal shock resistance. CIM has three types of ceramic products, Nitride Bonded SiC (NBSC), Resin Bonded SiC, and Reaction Bonded SiC (RBSC). CIMSiC™ is extensively used on slurry pump suction liner, impeller, volute and hydrocyclones in mining, coal-fired power generation and smelting industries.

INNOVATIVE MATERIALS

### Key Benefits

- 30% density of carbon steel.
- Corrosion, erosion and thermal shock resistance
- Excellent impact resistance (Resin Bonded SiC)



### Typical Applications

Slurry pump suction liner, hub liner, impeller, pump casing, spray nozzle, wear-resistant sleeve, hydrocyclone, etc.



## Chemical Analysis

	SiC	Si
Reaction Bonded SiC	80-90%	10-16%



## Wear Properties

	NRC ID <sup>1</sup>	Density g/CM <sup>3</sup>	ASTM G65 Procedure A Testing <sup>2</sup> (g)		Steel Wheel Abrasion Testing <sup>3</sup> (mm <sup>3</sup> )		Slurry Jet Erosion Testing <sup>4</sup>			Coriolis erosion <sup>5</sup>
			AWL (g)	AVL (mm <sup>3</sup> )	SWAT_AWL (g)	SWAT_AVL (mm <sup>3</sup> )	20° (mm <sup>3</sup> )	45° (mm <sup>3</sup> )	90° (mm <sup>3</sup> )	RER
CIMSIC™ Reaction Bonded SiC	RYH	3.02	0.0147	4.9	0.0985	32.6	0.7	1.2	2.7	244.1



### Note:

1. NRC (National Research Council of Canada)
2. ASTM G65 testing is a standard low-stress dry abrasion testing using AFS 50-70 (212-300µm) silica sand and rubber wheel. Testing results are reported as metal mass loss (g).
3. Steel Wheel Abrasion Testing is a low stress dry abrasion testing similar to G65 except for substituting the rubber wheel with a steel wheel. Testing results are reported as adjusted volume loss (mm<sup>3</sup>)
4. Slurry Jet Erosion Testing is a low-stress abrasion test used for determining the impingement resistance of materials by accelerating sand slurry (AFS 50-70 silica sand in the water) at selected impingement angles. Testing results are reported as adjusted volume loss (mm<sup>3</sup>).
5. Coriolis erosion testing is designed to measure the material's wear resistance of the particles in rotation. The wear resistance of the tested materials is expressed as Relative Erosion Resistance (RER) against 1018 steel. The higher the RER, the higher the wear resistance.

