



Henan Silk Road Abrasives & Tools



TECHNICAL DATA SHEET *Green Silicon Carbide*

Typical Chemistry

	Macrogrits	Microgrits
Silicon Carbide (SiC)	99.10%	99.15%
Free Carbon (C)	0.10%	0.10%
Silicon Dioxide (SiO ₂)	0.50 %	0.35 %
Free Silicon (Si)	0.15 %	0.15%
Iron (Fe ₂ O ₃)	0.10%	0.10%

Test Methods

Chemistry	ANSI B74.15
Bulk Density	ANSI B74.4
Macrogrit Sizing	FEPA F Standard 42-1:2006 FEPA P Standard 43-1:2006 ANSI B74.12-2003
Macrogrit Sizing	FEPA F Standard 42-2:2006 FEPA P Standard 43-2:2006 JIS R 6001-1987

Description:

Silk Road Abrasives' Green Silicon Carbide is created from high-purity quartz sand and coke in an electric resistance furnace. It's processed through ultra-fine grinding and classification to form micro-powders. With a greenish transparent color and a hexagonal α -type crystal structure, it boasts remarkable hardness, just below diamond. Its strong cutting ability and stable chemical properties make it ideal for grinding hard, brittle, and non-metallic materials like hard alloys, optical glass, ceramics, semiconductors, and more. Our Green Silicon Carbide particles and powders undergo diverse techniques to optimize their shape, surface, and density.

Physical Characteristics

Crystal Form	Hexagonal (Alpha SiC)
True Density	3.21 g/cm ³
Melting Point	Dissociates at Approx. 2500°C
Color	Green
Hardness	Knoop (100): 2500 Mohs: 9.0+

Applications:

Wheel Processing: Used as material for precision grinding wheels (such as magnetic heads) and high-level polishing wheels.
Ceramic Cutting and Precision Grinding Material: Cutting and precision grinding materials for ceramics, hard alloys, new materials, and more.
Corrosion-Resistant Materials: Suitable for wear-resistant, refractory, and corrosion-resistant materials, also applicable in manufacturing rocket nozzles, gas turbine blades, and more.

Semiconductor Processing: This includes cutting, polishing, etching, chemical mechanical polishing, and packaging. Its exceptional hardness, cutting performance, and thermal conductivity make it a vital tool for achieving high-precision, high-performance semiconductor devices.

Ceramic Cutting and Precision Grinding Material: Cutting and precision grinding materials for ceramics, hard alloys, new materials, and more.

Agate and High-end Jewelry Crafting: Employed in cutting, carving, polishing, and finishing agate and other non-metal gemstones, enhancing their beauty and value.

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