

# Hexoloy® SG Silicon Carbide

## Saint-Gobain Advanced Ceramics Structural Ceramics

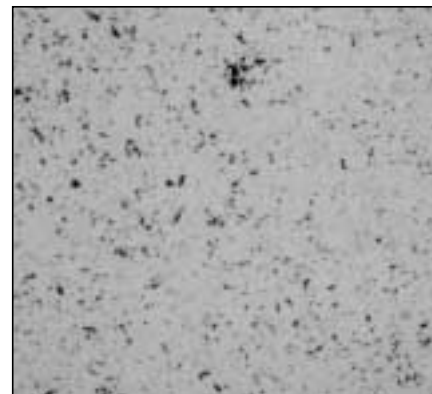
Hexoloy® SG Silicon Carbide is a unique electrically conductive analog of sintered silicon carbide.

### Technical Specifications

Property	Units	Measurement Technique	Value
Phases	–	X-ray Diffraction	SiC (6H, 4H, 15R), C
Density	gm/cm <sup>3</sup>	–	3.0
Hardness	kg/mm <sup>2</sup>	Knoop, 100 gm load	2800
Flexural Strength Room Temperature	MPa	ASTM C-1161, 4-point	311
Weibull Modulus	–	ASTM C-1161, 4-point	18
Young's Modulus	GPa	Pulse Echo	376
Shear Modulus	GPa	Pulse Echo	161
Poisson's Ratio	–	Pulse Echo	0.17
Fracture Toughness (Room Temperature)	MPa.m <sup>1/2</sup>	Indentation, 10 kg load	3.9
Coefficient of Thermal Expansion (RT-700°C)	10 <sup>-6</sup> mm/mm K	Dilatometry	4.6
Mean Specific Heat @ RT	J/g K	Laser Flash ASTM E 1461-92	0.65
Thermal Conductivity @ RT	W/m K	Laser Flash ASTM E 1461-92	118
Thermal Conductivity @ 200°C	W/m K	Laser Flash ASTM E 1461-92	92
Thermal Conductivity @ 400°C	W/m K	Laser Flash ASTM E 1461-92	70
Electrical Resistivity	Ohm-cm	–	1.0
Free Carbon	%	Combustion	5.35
Total Carbon	%	Combustion	34.6

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### Hexoloy® SG SiC – 200X



Hexoloy® SG SiC offers a wide variety of desirable properties in one package including:

- Excellent hardness
- Corrosion resistance
- High temperature stability

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