

SILICON CARBIDE

Chemical compound of silicon and carbon | 0.20–0.30 mm

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SHORT DESCRIPTION

Silicon carbide (SiC) is a synthetically produced crystalline compound of silicon and carbon. Silicon carbide is a semiconductor and its grains can be bonded together by sintering to form very hard ceramics. The key characteristics of SiC are low density, high strength and hardness, low thermal expansion as well as high thermal conductivity.

MAIN PROPERTIES

Grain Size (Distribution):	0.20–0.30 mm
Purity:	N/A
Material Density:	3100 kgm ⁻³ [1]
Hardness:	2800 kgmm ⁻² [1]
Compressive Strength:	3900 MPa [1]
Volatility/Condensability:	solid
Thermal Conductivity:	120 Wm ⁻¹ K ⁻¹ [2]
Refractive Index:	N/A
Electric Permittivity:	N/A

REFERENCES

- [1] Accuratus. *Silicon Carbide, SiC Ceramic Properties*. 2013. URL: <https://accuratus.com/silicar.html> (visited on 10/28/2019).
- [2] Engineering ToolBox. *Thermal Conductivity of common Materials and Gases*. 2003. URL: https://www.engineeringtoolbox.com/thermal-conductivity-d_429.html (visited on 10/23/2019).

MATERIAL IMAGE



Figure 1: Silicon Carbide (0.20–0.30 mm)

PRODUCTION INFO

	Producer	N/A
	Production rate	N/A
	Purchase	N/A

PROS & CONS

Cost	● ● ● ● ● ●
Availability	● ● ● ● ● ●
Production time	● ● ● ● ● ●

HAZARDS



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