



Silicon Carbide

(α -SiC)

Chemical formula		SiC
Relative molar mass	g/mol	40.097
Chemical composition		
- Si	%	70.05
- C	%	29.95
Density	g/cm³	3.21
Hardness - Mohs		9.5 - 9.75
- Knoop HK 0,1		2500-2900
Melting point (decomposition)	°C	> 2300
Heat capacity		
- 20 °C	J/g · K	0.67
- 1000 °C	J/g · K	1.27
Thermal conductivity		
- 20 °C	kJ/m · h · K	150
- 1400 °C	kJ/m · h · K	54
Linear thermal expansion (20 - 1400) °C	K⁻¹	4.7 · 10⁻⁶
Standard heat of formation ΔH°_{298K}	kJ/mol	- 71.6 ± 6.3
Entropy S°_{298K}	J/mol · K	16.50 ± 0.13
Specific electrical resistivity	$\Omega \cdot \text{cm}$	0.1 - 1 · 10¹²
Modifications α -SiC; several hexagonal and rhombohedral polytypes		6 H, 15 R, 4 H and other
Colour		green, dark, black
Index of refraction n_o		2.647 - 2.649
n_E (Na 589 nm, 20 °C)		2.688 - 2.693
Chemical properties		Resistant to acids and alkalis, resists heating to around 1500 °C in air. Decomposition in contact with melting alkalis such as $\text{Na}_2\text{O}_2 + \text{Na}_2\text{CO}_3$ or $\text{KNO}_3 + \text{Na}_2\text{CO}_3$ soluble in liquid iron.

The data quoted in this leaflet are typical for the material. They are intended as a guide and should not be used in preparing specifications. The product data may deviate from the figures given and represent our latest findings. We reserve the right to alter product data with the scope of technical progress of new developments.

Recommendations given do not absolve the user from the obligation of investigating the possibility of infringement of third parties' rights and, if necessary, clarifying the situation.



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