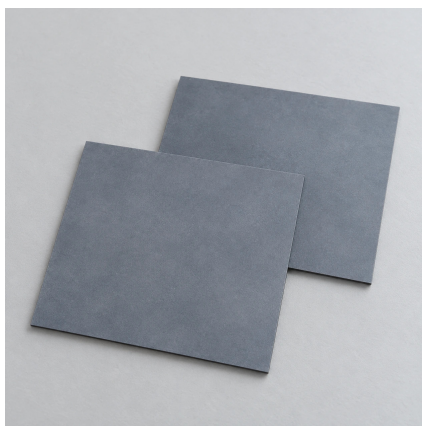




Silicon Carbide Ceramic Plates

Product reference: silicon-carbide-ceramic-plates

Material: Silicon Carbide

Product type: Silicon Carbide Plate

Silicon carbide plates support products during firing and heat treatment or protect equipment against abrasive wear, with material routes selected for the thermal or contact duty.

Plain plate forms: specify material route, thickness and intended duty independently of appearance.
Illustrative product view.

Dense SiC Typical Properties

Property	SSiC - sintered	SiSiC / RBSiC - reaction bonded	Condition
Density (g/cm ³)	≥3.12	≥3.03	-
Apparent porosity (%)	<0.2	<0.2	-
Vickers hardness (HV0.5)	2100	2000	0.5 kgf test force
Young's modulus (GPa)	400	350	-
Fracture toughness (MPa·m ^{1/2})	4-5	2.5-3.5	-
Flexural strength (MPa)	≥400	≥350	25°C
Compressive strength (MPa)	≥2200	≥2000	25°C
Thermal conductivity (W/(m·K))	≥110	≥90	25°C
Mean linear thermal expansion coefficient (10 ⁻⁶ /K)	4.0	4.0	25-1000°C
Typical maximum material temperature (°C)	1650	1300	-

Porous SiC Kiln-Furniture Properties

Property	RSiC - recrystallized	Fine NBSiC	Condition
SiC content (%)	>99	75	-

Property	RSiC - recrystallized	Fine NBSiC	Condition
Si ₃ N ₄ content (%)	-	25	-
Bulk density (g/cm ³)	2.7	2.8	-
Open porosity (%)	15	13	-
Modulus of rupture (MPa)	90	160	Room temperature
Thermal conductivity (W/(m·K))	25	15	-
Mean linear thermal expansion coefficient (10 ⁻⁶ /K)	4.8	4.7	20-1000°C
Typical maximum material temperature (°C)	1650	1450	-

Product Geometry & Configuration

Product parameter	Configuration	Function
Plate duty	Kiln batt/setter, thermal support or wear plate	The duty determines the suitable material route
Main dimensions	Length, width, thickness and drawing-defined outline	Defines contact area, fit and bending section
Supports and loading	Supported span, load distribution and stacking arrangement	Controls bending and hot-service stability
Functional surfaces	Flat or profiled faces, holes, grooves and edge details	Matches ware support, mounting or wear protection
Attachment	Freestanding support, mechanically retained liner or specified bonding	Allows for expansion, joints and local stresses