

BLACK SILICON CARBIDE SiC

Silicon Carbide is produced by heating silica sand and a carbon source, typically petroleum coke, to high temperatures in a large, open "Acheson" furnace. The result of this high temperature process is the crystalline formation of Silicon Carbide grains, of both Green and Black coloring. The color difference is due to the purity of the silicon carbide. Green SiC is of higher purity.

Panadyne offers both Macro and Micro grit sizing. Our Silicon Carbide is offered in standard FEPA sizes, custom particle sizes, custom densities, and custom chemistries.



TYPICAL APPLICATIONS

Abrasives	Body Armor	Grinding
Sintered Parts	Vehicle Armor	Milling
Hot-pressed Parts	Heat Transfer	Lapping
Reaction Bonded Parts	High Temp Sensors	
Metal Matrix Composites	Ceramic Wear Parts	
Wire-saw	Refractory	

TYPICAL PROPERTIES

High Hardness
Chemical Inertness
High Thermal Conductivity
Abrasion Resistance
Low Coefficient of Thermal Expansion
Thermal Shock Resistance
Strength at High Temperature Ranges



TYPICAL ANALYSIS

GRIT NO.	CHEMICAL ANALYSIS					BULK DENSITY: LPD=LOOSE PACK DENSITY	
	MIN. % SiC	MAX. % C	MAX. % SiO ²	MAX. % Si	MAX. % MI	MIN.	MAX.
F 8	99,30	0,40	0,40	0,20	0,0200	1,34	1,44
F 10	99,30	0,40	0,40	0,20	0,0200	1,36	1,46
F 12	99,30	0,40	0,40	0,20	0,0200	1,38	1,48
F 14	99,30	0,40	0,40	0,20	0,0200	1,41	1,51
F 16	99,30	0,40	0,40	0,20	0,0200	1,43	1,53
F 20	99,30	0,40	0,40	0,20	0,0200	1,44	1,54
F 22	99,30	0,40	0,40	0,20	0,0200	1,45	1,54
F 24	99,30	0,40	0,40	0,20	0,0200	1,46	1,55
F 30	99,30	0,40	0,40	0,20	0,0200	1,47	1,56
F 36	99,30	0,40	0,40	0,20	0,0200	1,47	1,57
F 40	99,30	0,40	0,40	0,20	0,0200	1,49	1,57
F 46	99,30	0,40	0,40	0,20	0,0200	1,49	1,59
F 54	99,30	0,40	0,40	0,20	0,0200	1,48	1,58
F 60	99,30	0,40	0,40	0,20	0,0200	1,47	1,57
F 70	99,30	0,40	0,40	0,20	0,0200	1,45	1,55
F 80	99,30	0,40	0,40	0,20	0,0200	1,43	1,53
F 90	99,30	0,40	0,40	0,20	0,0200	1,41	1,51
F 100	99,20	0,20	0,50	0,20	0,0200	1,48	1,58
F 120	99,20	0,20	0,50	0,20	0,0200	1,42	1,52
F 150	99,20	0,20	0,50	0,20	0,0200	1,37	1,47
F 180	99,20	0,20	0,50	0,20	0,0200	1,34	1,44
F 220	99,20	0,20	0,50	0,20	0,0200	1,29	1,39

Analytical Procedure	Sample preparation FEPA Standard 45 GB 1986 R 1993 Crystal Surface ANSI B74.15 1992. Magnetic Iron (MI) ANSI B74.19 1990 (R1995)	FEPA Standard 44 GB 1986 R 1993
Packaging	25 kg multiply paper bags or Big Bags or 300 lb fiber drums	
Marking	Product designation and Batch No. on each bag.	
Reporting	Quality Certificate for each batch.	



TYPICAL ANALYSIS

GRIT NO.	CHEMICAL ANALYSIS					BULK DENSITY: LPD=LOOSE PACK DENSITY
	MIN. % SiC	MAX. % C	MAX. % SiO ₂	MAX. % Si	MAX. % Fe ₂ O ₃	
F 230	98,50	0,40	0,70	0,50	0,100	1,44 ± 0,05
F 240	98,50	0,40	0,70	0,50	0,100	1,42 ± 0,05
F 280	98,50	0,40	0,70	0,50	0,100	1,36 ± 0,08
F 320	98,50	0,40	0,70	0,50	0,100	1,31 ± 0,08
F 360	98,50	0,40	0,70	0,50	0,100	1,20 ± 0,08
F 400	99,20	0,20	0,30	0,30	0,100	1,28 ± 0,08
F 500	99,20	0,20	0,30	0,30	0,100	1,15 ± 0,10
F 600	99,20	0,20	0,30	0,30	0,100	1,00 ± 0,10
F 800	99,20	0,20	0,30	0,30	0,100	0,95 ± 0,10

Analytical Procedure	Crystal Surface Chemical Analysis according to ANSI B74.15 1992 LPD: Loose Pack Density according to FEPA Standard 44 GB 1986 R 1993 Attachment 1
Packaging	25 kg multiply paper bags for F230- F800 and 20 kg multiply paper bags for F1000 and finer 300 lb
Marking	Fiber Drums
Reporting	Product designation and Batch No. on each bag.