

BLACK SILICON CARBIDE (C)

Black Silicon Carbide is the product of silicon quartz sand and petroleum coke electrofused at high temperature in an electrical resistance furnace. The grains of Black Silicon Carbide are hexagonal crystals that are extremely hard, sharp, and friable, and have outstanding electrical and thermal conductivity and low thermal expansion.

Suitable for bonded abrasives and coated abrasives, grinding and polishing of stones, processing the low tensile strength metal and non-metal materials, like grey cast iron, brass, aluminum, stones, leather, rubber, etc.

Chemical composition:

	SIC $\geq$ %	F.C $\leq$ %	Fe2O3 $\leq$ %
12#-90#	98.50	0.2	0.2
100#-80#	98.00	0.3	0.3
220#	97.50	0.3-0.6	0.3-0.6

Physical Properties:

Mohs hardness: 9.2 – 9.6

Vickers hardness: 3000 – 3300

Grits available:

Bonded Abrasives: F12 to F220

Coated Abrasives: P16 to P220

In accordance with the current GB/FEPA/JIS/ANSI sieve standards

BLACK SILICON CARBIDE MICROPOWDER:

(Grits available #240 to #2000 in accordance with the current FEPA/JIS sieve standards)

grains	Chemical Index			Physical Index		
	SiC $\geq$ %	F.C. $\leq$ %	Fe ₂ O ₃ $\leq$ %	PH value	Bulk Density	Magnetic material
#240	98.50	0.18	0.19	6-7.5	1.26	0.010
#280	98.50	0.18	0.19	6-7.5	1.26	0.010
#320	98.50	0.18	0.19	6-7.5	1.23	0.010
#400	98.00	0.18	0.19	6-7.5	1.23	0.015
#500	98.00	0.20	0.20	6-7.5	1.20	0.015
#600	98.50	0.20	0.20	6-7.5	1.20	0.015
#800	98.50	0.20	0.20	6-7.5	1.18	0.008
#1000	98.50	0.20	0.20	6-7.5	1.15	0.008
#1200	98.50	0.20	0.20	6-7.5	1.13	0.005
#1500	98.50	0.20	0.20	6-7.5	1.12	0.005
#2000	97.50	0.20	0.20	6-7.5	1.00	0.005

grains	Granularity Distribution (μ m)			
	D0<	D3<	D50	D94>
#240	120.0	100.0	57.0 $\pm$ 3.0	40.0
#280	110.0	80.0	48.0 $\pm$ 3.0	33.0
#320	95.0	70.0	40.0 $\pm$ 2.5	27.0
#400	70.0	55.0	30.0 $\pm$ 2.0	20.0
#500	60.0	48.0	25.0 $\pm$ 2.0	16.0
#600	50.0	38.0	20.0 $\pm$ 1.5	13.0
#800	30.0	20.0	14.0 $\pm$ 1.0	9.0
#1000	25.0	19.0	11.5 $\pm$ 1.0	7.0
#1200	20.0	18.0	9.5 $\pm$ 1.0	5.5
#1500	19.0	17.0	8.0 $\pm$ 0.6	4.5
#2000	17.0	15.0	6.7 $\pm$ 0.6	4.0

GREEN SILICON CARBIDE (GC)

Green Silicon carbide grains are green crystals with high hardness and strong cutting capacity, stable chemical properties and good heat conduction.

Suitable for Cutting and grinding of solar silicon chips, semiconductor silicon chips and quartz chips; polishing of crystal and ferrite; precision polishing of ceramics and special steel; cutting and free grinding and polishing for bonded abrasives and coated abrasives; grinding of glass, agate, superb jewels, jade- ware and other non metal materials.

Chemical composition:

	SIC $\geq$ %	F.C $\leq$ %	Fe ₂ O ₃ $\leq$ %
12#-90#	99.0	0.2	0.2
100#-80	98.50	0.3	0.3
220#	98.00	0.3-0.6	0.3-0.6

Physical properties:

It has a micro shape of hexagonal crystal.

Mohs hardness: 9.2-9.6

Vickers hardness: 3000-3300

Grits available:

Bonded Abrasives: F12 to F220

Micropowder: #240 to 6000

In accordance with the current GB/FEPA/JIS sieves standards.

GREEN SILICON CARBIDE MICROPOWDER:

(Grits available #240 to #6000 in accordance with the current FEPA/JIS sieve standard)

grains	Chemical Index			Physical Index		
	SiC $\geq$ %	F.C. $\leq$ %	Fe ₂ O ₃ $\leq$ %	PH value	Bulk Density	Magnetic material
#240	99.00	0.13	0.13	6-7.5	1.25	0.01
#280	99.00	0.13	0.13	6-7.5	1.23	0.01
#320	99.00	0.12	0.12	6-7.5	1.23	0.01
#360	99.00	0.12	0.12	6-7.5	1.20	0.009
#400	99.00	0.13	0.13	6-7.5	1.20	0.009
#600	99.00	0.13	0.13	6-7.5	1.18	0.008
#800	99.00	0.12	0.12	6-7.5	1.18	0.008
#1000	99.00	0.12	0.12	6-7.5	1.15	0.005
#1200	99.00	0.15	0.13	6-7.5	1.13	0.005
#1500	99.00	0.15	0.13	6-7.5	1.12	0.005
#2000	99.00	0.14	0.15	6-7.5	1.00	0.005
#2500	98.00	0.30	0.30	6-7.5	1.00	0.007
#3000	97.00	0.35	0.30	6-7.5	0.92	0.007
#4000	97.00	0.35	0.30	6-7.5	0.92	0.007
#6000	97.00	0.25	0.30	6-7.5	0.90	0.007

grains	Granularity Distribution (μ m)			
	D0<	D3<	D50	D94>
#240	120.0	100.0	57.0 $\pm$ 3.0	40.0
#280	110.0	80.0	48.0 $\pm$ 3.0	33.0
#320	95.0	70.0	40.0 $\pm$ 2.5	27.0
#400	70.0	55.0	30.0 $\pm$ 2.0	20.0
#500	60.0	48.0	25.0 $\pm$ 2.0	16.0
#600	50.0	38.0	20.0 $\pm$ 1.5	13.0
#800	30.0	20.0	14.0 $\pm$ 1.0	9.0
#1000	25.0	19.0	11.5 $\pm$ 1.0	7.0
#1200	20.0	18.0	9.5 $\pm$ 1.0	5.5
#1500	19.0	17.0	8.0 $\pm$ 0.6	4.5
#2000	17.0	15.0	6.7 $\pm$ 0.6	4.0
#2500	15	13.0	5.5 $\pm$ 0.5	3.0
#3000	13	11.0	4.0 $\pm$ 0.5	2.0
#4000	11	8.0	3.0 $\pm$ 0.4	1.3
#6000	8	5.0	2.0 $\pm$ 0.4	0.8