

黑碳化硅

Black Silicon Carbide(C)

黑碳化硅是以石英砂，石油焦为主要原料，通过电阻炉高温冶炼而成，其硬度介于刚玉和金刚石之间，机械强度高于刚玉，性脆而锋利。其有一定的导电性和导热性。用其制作磨具，适用于加工抗张强度低的金属和非金属材料，如灰铸铁、有色金属、石材、皮革、橡胶等。还广泛用于耐火材料、冶金添加剂。

Black silicon carbide is produced at high temperature in an electric resistance type furnace with quartz sand and petroleum coke as its main raw materials. Its hardness is between fused alumina and synthetic diamond. The mechanical intensity of it is higher than fused alumina. It is brittle and sharp and has electrical and heat conductivity in some degree. The abrasives made of it are suitable for working on cast iron, non-ferrous metal, rock, leather, rubber, etc. It is also broadly used as refractory material and metallurgical additive.

黑碳化硅化学成份，物理性能的典型值

牌号	粒度号 t	化学成份 (%)			磁性物含量 (%)	堆积密度 (g/cm ³)
		SiC	F.C	Fe ₂ O ₃		
C	F46	99.23	0.10	0.12	0.0107	1.51
	F120	99.28	0.13	0.08	0.0090	1.41
	F180	98.87	0.12	0.19	0.0089	1.34
	F360	98.45	0.15	0.19	0.0098	1.29
C-B	F46 P40	98.86	0.16	0.16	0.0150	1.45
C-P	F120 P120	98.93	0.17	0.16	0.0119	1.40
	F180 P180	98.31	0.19	0.23	0.0094	1.30
	F360 P600	98.21	0.15	0.18	0.0108	1.27

Type value of black silicon carbide physical chemical performance index

Type	Grit	Chemical composition (%)			Magnetic contents (%)	Range of build density (g/cm ³)
		SiC	F.C	Fe ₂ O ₃		
C	F46	99.23	0.10	0.12	0.0107	1.51
	F120	99.28	0.13	0.08	0.0090	1.41
	F180	98.87	0.12	0.19	0.0089	1.34
	F360	98.45	0.15	0.19	0.0098	1.29
C-B	F46 P40	98.86	0.16	0.16	0.0150	1.45
C-P	F120 P120	98.93	0.17	0.16	0.0119	1.40
	F180 P180	98.31	0.19	0.23	0.0094	1.30
	F360 P600	98.21	0.15	0.18	0.0108	1.27

陶瓷结合剂磨具，砂带用黑碳化硅磨料代号为 C
 有机结合剂磨具用黑碳化硅磨料代号为 C-B
 手工用张页式涂附磨具用黑碳化硅磨料代号为 C-P

For vitrified wheels and belts: C

For organic wheels: C-B

For sheets: C-P

黑碳化硅化学成份及磁性物含量国标 GB/T2480-1996

GB/T 2480-1996		化学成份 (重量百分比%)			磁性物含量	
牌号	粒度范围	SiC \geq	F.C \leq	Fe ₂ O ₃ \leq	粒度范围	磁性物含量 (%) \leq
C	F12~F90 P12~P100	98.50	0.20	0.60	F16-F30 P12-P30	0.030
	F100~F150 P120~P150	98.00	0.30	0.80	F36-F60 P36-P60	0.025
	F180~F220 P180~P220	97.00	0.30	1.20	F70-F120 P80-P150	0.020
					F150-F220 P180-P220	0.015
C-B C-P	F12~F90 P12~P100	98.00	0.25	0.70	F16-F30 P12-P30	0.075
	F100~F150 P120~P150	97.50	0.35	0.90	F36-F60 P36-P60	0.065
	F180~F220 P180~P220	96.00	0.35	1.35	F70-F120 P80-P150	0.055
					F150-F220 P180-P220	0.035

非磨削用碳化硅 (TN) 参考化学成分:

型 号	参考化学成份 (%)			粒度(mm)
	SiC	F.C.	Fe ₂ O ₃	
TN98	≥ 98.00	< 1.00	< 0.50	50~0

TN97	≥97.00	<1.50	<0.80	13~0
TN95	≥95.00	<2.50	<1.00	10~0
TN90	≥90.00	<3.00	<2.50	5~0
TN88	≥88.00	<3.50	<3.00	0.5~0
TN85	≥85.00	<5.00	<3.50	100F
TN60	≥60.00	<12.00	<3.50	200F
TN50	≥50.00	<15.00	<3.50	325F

注：其他各种规格粒度均可提供

Black Silicon Carbide Chemical Composition & Magnetic Contents of China
GB/T2480-1996

GB/T 2480-1996		Chemical Composition(% by weight)			Magnetic contents	
Type	Grit size	SiC ≥	F.C ≤	Fe ₂ O ₃ ≤	Grit size	Magnetic contents (%) ≤
C	F12~F90 P12~P100	98.50	0.20	0.60	F16-F30 P12-P30	0.030
	F100~F150 P120~P150	98.00	0.30	0.80	F36-F60 P36-P60	0.025
	F180~F220 P180~P220	97.00	0.30	1.20	F70-F120 P80-P150	0.020
					F150-F220 P180-P220	0.015
C-B C-P	F12~F90 P12~P100	98.00	0.25	0.70	F16-F30 P12-P30	0.075
	F100~F150 P120~P150	97.50	0.35	0.90	F36-F60 P36-P60	0.065
	F180~F220 P180~P220	96.00	0.35	1.35	F70-F120 P80-P150	0.055
					F150-F220 P180-P220	0.035

Reference chemical composition of silicon carbide (TN) of non-abrasives application:

Type	Reference chemical composition (%)			Size(mm)
	SiC	F.C.	Fe ₂ O ₃	
TN98	≥98.00	<1.00	<0.50	50~0
TN97	≥97.00	<1.50	<0.80	13~0
TN95	≥95.00	<2.50	<1.00	10~0
TN90	≥90.00	<3.00	<2.50	5~0
TN88	≥88.00	<3.50	<3.00	0.5~0
TN85	≥85.00	<5.00	<3.50	100F
TN60	≥60.00	<12.00	<3.50	200F
TN50	≥50.00	<15.00	<3.50	325F

Note: Other various sizes also can be supplied.