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三惠新材料有限公司
Sanhui New Material Co., Ltd.



Company Profile

Sanhui New Material Co.,Ltd. was founded in 2005, with two manufacturing plants locate in Jiaozuo, Henan Province, Qinyang, respectively which workshop covers more than 15000 square meters.

The company specializes in producing Black Silicon Carbide, Green Silicon Carbide, Brown Fused Alumina, White Fused Alumina, Chrome (Pink) Fused Alumina, macro grits and micro powder, finishing more than 20000 tons of abrasive granular sand annually.

The company is committed to the research, innovation, engineering applications of high-quality abrasives for customers around the world, with advanced air-jet mill, pickling, pure water fine rinsing technology, our abrasives are widely used in coated and bonded abrasive tools, carbon brushes, foam ceramics, honeycomb ceramics, ternary catalyst industrial ceramics, wear-resistant pipes, impellers, pump chambers, cyclones, mine hopper liners, silicon carbide semiconductor, sandblasting and other fields.

The company has independent intellectual property rights of core materials, aligning with the latest technology and materials, we are thriving and keep going forward together with our customers.

Company Culture

Localization: The world's leading manufacturer of abrasives. Concepts: Integrity Quality Pragmatism Innovation

Goal: Internationalization, Branding, Specialization

Mission: Achievement of customers, Achievement brand, Achievement of employees

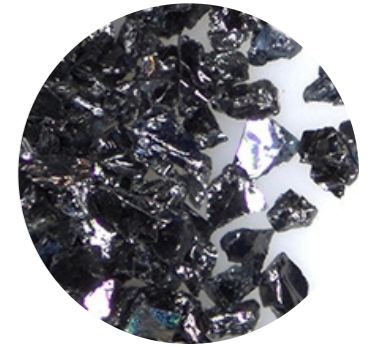
Corporate Philosophy

Corporate Philosophy

Integrity creates quality, Innovation leads to the future

Black Silicon Carbide

Black Silicon Carbide is mainly made from quartz sand, petroleum coke as the main raw materials and smelted by electric resistance furnace at high temperature. After procedure of lump crushing by ball mill, magnetic separation to remove iron, Finally we apply acid and water to wash it aim to ensure abrasive superior quality and cleaner surface.



Product Parameters

Pickling			
Grit Size	SiC	F.C.	Fe ₂ O ₃
P12-P220	≥99	≤0.15	≤0.15
P240-P500	≥99	≤0.15	≤0.15
P600-P1500	≥98.5	≤0.15	≤0.15
P2000-P5000	>98	≤0.2	≤0.2

Bulk density		
Grit Size	High	Low
P220	1.4-1.5	1.35-1.40
P180	1.4-1.5	1.35-1.40
P150	1.45-1.54	1.35-1.45
P120	1.45-1.55	1.35-1.45
P100	1.48-1.58	1.35-1.45
P80	1.46-1.56	1.35-1.47
P60	1.47-1.57	1.4-1.47
P50	1.47-1.55	1.41-1.48
P40	1.48-1.56	1.41-1.48
P36	1.48-1.56	1.41-1.48
P30	1.48-1.56	1.41-1.49
P24	1.48-1.58	1.41-1.49
P20	1.49-1.6	1.41-1.49
P16	1.49-1.6	1.41-1.49

Granular : P12-P220 Micro Powder: P240-P3000	
Quality standard	
Cleanness ≤400NTU	Electric Conductivity: ≤80us/cm
Particle Roundness: 0.85+0.05FC	Coefficient of Dispersion (Particle Concentration) ≤28
PH: 6-8	Size Standard: F/P/JIS

High Cleanness:

Put materials into the water in a glass and stir (water: with a ratio 1:4). The aqueous solution is clear and transparent, free of suspended matter, and free of floating matter.

Bulk Density:

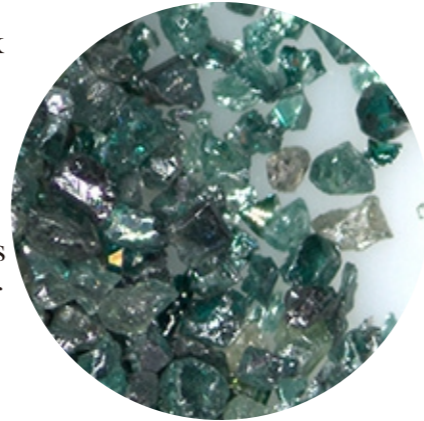
High & Low B.D. can be customized by customer requirements.

High Purity:

The higher SiC content, the better hardness-sharpness and brittleness.

Green Silicon Carbide

Green silicon carbide manufacturing method is the same as black silicon carbide, but require higher purity raw materials, green, translucent, hexagonal crystals formed at a high temperature of 2200°C in the resistance furnace, has the similarity physical properties as black silicon carbide and good toughness make it the best choice for high-grade refractory materials; It also possesses good thermal conductivity and semiconductor properties; After lump crushing by ball mill, magnetic separation to remove iron, we apply acid and water washing to clean materials aiming to ensure higher purity and good quality abrasives.



Product Parameters

Chemical composition			
Grit Size	SiC	F.C.	Fe ₂ O ₃
F12-F100	≥99.2	≤0.15	≤0.15
F120-F220	≥99	≤0.15	≤0.15
#240-#1000	≥99	≤0.15	≤0.15
#1200-#3000	≥98.5	≤0.2	≤0.2
#4000-#8000	≥98	≤0.2	≤0.2

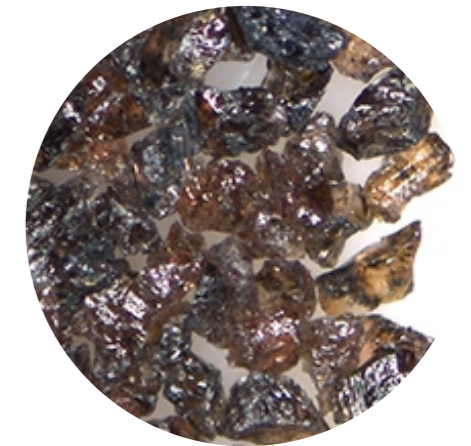
Color:	Green
Crystal Form:	Alpha SiC
Shape:	Blocky, Sharp edged
Friability:	Friable
Mohs hardness:	9.4
Knoop hardness (100 scale) :	2600
Melting Point:	Dissociates at ~2800°C
Specific Gravity:	3.21g/cm ³ Min
Bulk Density:	1.20-1.60 g / cm ³

Brown Fused Alumina

Brown Fused Alumina, commonly known as corundum, is made from alumina, carbon, iron scrap mixed raw materials in the electric arc furnace through melting and reduction, which is also named as artificial corundum because of its color of dark brown. Brown corundum main chemical composition is Al₂O₃, content is between 95.00%-97.00%, and contains a small amount of Fe, Si, Ti, etc. Brown corundum is the most basic abrasive, because of its good grinding performance, extensive application, is widely used in a variety of industrial fields.

Product Parameters

Purpose	Specifications	Main chemical components%				Magnetic substance%	
		Al ₂ O ₃	Fe ₂ O ₃	SiO ₂	TiO ₂		
Abrasive grinding tools	F	4#—80#	≥95	≤0.3	≤1.5	≤3.0	≤0.05
		90#—150#	≥94				≤0.03
		180#—240#	≥93	≤0.3	≤1.5	≤3.5	≤0.02
	P	8#—80#	≥95.0	≤0.2	≤1.2	≤3.0	≤0.05
		100#—150#	≥94.0				≤0.03
		180#—220#	≥93.0	≤0.3	≤1.5	≤3.5	≤0.02
W	1#—63#	≥92.5	≤0.5	≤1.8	≤4.0	—	



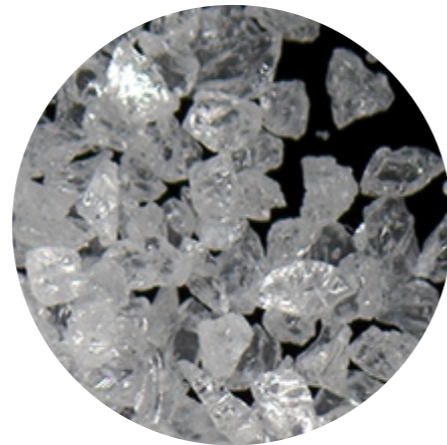
Color	Dark brown (dark blue after calcination)
Crystal form	tripartite crystal system
Mohs Hardness	≥9.0
Melting point (°C)	2250
Maximum operating temperature (°C)	1900
True density (g/cm ³)	≥3.90
Linear expansion coefficient (0—1600°C)	7—9

White Fused Alumina

White Fused Alumina abrasive is a kind of abrasive which is widely used. White corundum is produced from the purity of 99% aluminum oxide powder fused in the arc furnace by 2050°C and forms into crystal, so white corundum is also known as fused alumina or fused corundum. White corundum abrasive possesses high purity, good self-sharpness, acid and alkali corrosion resistance, high temperature resistance, hot state stability, its hardness is slightly higher than brown corundum, toughness is slightly lower, strong cutting force. White corundum is the main raw material for the production of abrasive products, ceramic filter membrane, refractory, grinding and polishing, sandblasting, rust removal, wear-resistant media, thermal conductive materials and other industries.

Product Parameters

	White fused aluminum particle size sand	white fused alumina	White fused aluminum section sand	White fused aluminum fine powder
Al ₂ O ₃	99.53%	99.27%	99.59%	99.28%
SiO ₂	0.13%	0.14%	0.01%	0.14%
Na ₂ O	0.23%	0.28%	0.24%	0.27%
Fe ₂ O ₃	0.07%	0.06%	0.02%	0.05%
CaO	0.03%	0.05%	0.02%	0.04%



Colour	White
Mohs hardness	9
Nup hardness	2000-2200Kg/mm ²
Operating temperature	1900°C
Melting point	2250°C
Proportion	3.95g/cm ³
Bulk density	3.6g/cm ³
Specific heat	0.26cal/g.°C(20-90°C)
Thermal conductivity coefficient	6.16W/ (m·K) (1000°C)
Linear expansion coefficient	8.0×10 ⁻⁶ /°C (200-1000°C)
Crystal form	Tripartite crystal system

Chrome Fused Alumina

Chrome Fused Alumina main content is Aluminium Oxide with appropriate proportion of Chromium Oxide. It is melted at high temperature and forms into pink crystal. Its color is pink, hardness is similar to white corundum, toughness is higher than white corundum. The abrasives made with it have good durability and high grinding finish. Suitable for precision grinding of measuring tools, machine spindles, instrument parts, threaded workpieces and template honing and precision grinding etc.



Product Parameters

Chemistry		F12 ~ F80	F90 ~ F150	F180 ~ F220
Low Chromium	AL ₂ O ₃	≥98.5%	≥98.5%	≥98.0%
	Cr ₂ O ₃	0.20-0.45%	0.20-0.45%	0.20-0.45%
	NA ₂ O	≤0.50%	≤0.55%	≤0.60%
Medium Chromium	AL ₂ O ₃	≥98.2%	≥98.2%	≥97.8%
	Cr ₂ O ₃	0.45-1.0%	0.45-1.0%	0.45-1.0%
	NA ₂ O	≤0.55%	≤0.60%	≤0.70%
High Chromium	AL ₂ O ₃	≥97.4%	≥97%	≥96.5%
	Cr ₂ O ₃	1.0-2.0%	1.0-2.0%	1.0-2.0%
	NA ₂ O	≤0.55%	≤0.60%	≤0.70%

Basic minerals	Crystal size	Mohs hardness	Nup hardness	Melting point	Proportion	Bulk density	Colour	Crystal form
α-Al ₂ O ₃	600-800	9	2200-2300	2050°C	3.9-4.1 g/cm ³	1.40-1.91	Pink	Polygonal shape
	μm		kg/cm ³			g/cm ³		

Surface Treated Series

Surface treated abrasive is a kind of abrasive that through coating a layer (like iron oxide red, etc) on the surface of abrasives. This is to improve the surface roughness and hydrophilicity to improve the cohesive force with the binder. This series is our the most recommended products, and consists of surface treated BFA in medium and high temperature, surface treated WFA and special surface treated WFA.



SHGB F1

SHGB F1 is a red cubic abrasive grain with great durability and excellent heat dissipation ability. Compared with SHZB F1, the toughness, hardness, hydrophilicity, cleanliness and magnetic material content of SHGB F1 are improved. It's suitable for making top-grade resin bonded abrasives that hard board and heavy duty grinding wheel.

Typical Physical Properties

Crystallography	Alpha alumina, in the hexagonal crystal system		
Color	Red	Shape	Cubic
Mons' Hardness	≥9.0	Knoop Hardness	1990-2290
Melting Point	2250° C	Hydrophilicity	238mm
Particle Density	≥3.95	Toughness	66%

Available Grits

Grits	Bulk Density	Grits	Bulk Density	Grits	Bulk Density
F12	1.93-2.03	F36	1.80-1.90	F90	1.65-1.75
F14	1.92-2.02	F40	1.78-1.88	F100	1.62-1.72
F16	1.91-2.01	F46	1.76-1.86	F120	1.60-1.70
F20	1.91-2.01	F54	1.74-1.84	F150	1.57-1.67
F22	1.89-1.99	F60	1.72-1.82	F180	1.54-1.64
F24	1.87-1.97	F70	1.70-1.80	F220	1.52-1.62
F30	1.83-1.93	F80	1.68-1.78		

Available Grits

F12-F220

Typical Chemical Analysis

SiO ₂	0.80
Al ₂ O ₃	95.30
Fe ₂ O ₃	1.01
TiO ₂	2.40

Calcined BFA Series

Available Grits

Grits	Bulk Density	Grits	Bulk Density	Grits	Bulk Density
F12	1.93-2.03	F36	1.82-1.92	F90	1.68-1.78
F14	1.92-2.02	F40	1.80-1.90	F100	1.66-1.76
F16	1.90-2.00	F46	1.78-1.88	F120	1.63-1.73
F20	1.89-1.99	F54	1.77-1.87	F150	1.60-1.70
F22	1.88-1.98	F60	1.75-1.85	F180	1.58-1.68
F24	1.87-1.97	F70	1.73-1.83	F220	1.56-1.66
F30	1.85-1.95	F80	1.71-1.81		

SHZ F1 is a cubic brown fused alumina with high bulk density. Its mechanical strength, toughness, cleanliness and hardness are greatly improved than these of normal brown fused alumina. It has more better capacities of withstand high pressure, resist fracture and resist impact. This abrasive is suitable for making mid-range bonded abrasives.

Available Grits

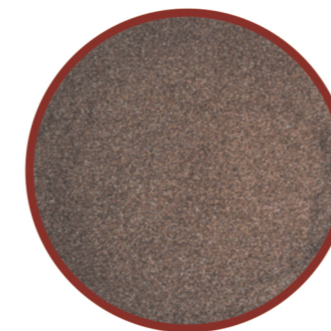
F4-F1200

Typical Physical Properties

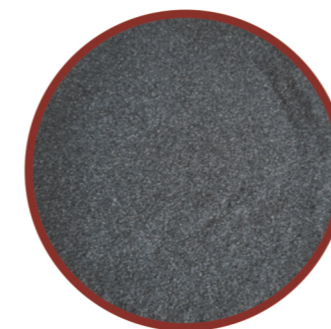
Crystallography	Alpha alumina, in the hexagonal crystal system		
Color	Brown	Shape	Cubic
Mons' Hardness	≥9.0	Knoop Hardness	1950-2250
Melting Point	2250° C	Hydrophilicity	170mm
Particle Density	≥3.95	Toughness	60%

Typical Chemical Analysis

SiO ₂	0.70
Al ₂ O ₃	95.88
Fe ₂ O ₃	0.07
TiO ₂	2.64



SHZ/Products



SH+Q/Products

F National standard for particle size sand

Grit Size	Max Coarse grain		Coarse grain		Basic grain		Mixed particles		Fine grain	
	Sieve number	% Weight	Sieve number	% Weight	Sieve number	% Weight	Sieve number	% Weight	Sieve number	% Weight
F12	7#	0	10#	20	12#	45	14#	70	16#	3
F14	8#	0	12#	20	14#	45	16#	70	18#	3
F16	10#	0	14#	20	16#	45	18#	70	20#	3
F20	12#	0	16#	20	18#	45	20#	70	25#	3
F22	14#	0	18#	20	20#	45	25#	70	30#	3
F24	16#	0	20#	25	25#	45	30#	65	35#	3
F30	18#	0	25#	25	30#	45	35#	65	40#	3
F36	20#	0	30#	25	35#	45	40#	65	45#	3
F40	25#	0	35#	30	40#	40	45#	65	50#	3
F46	30#	0	40#	30	45#	40	50#	65	60#	3
F54	35#	0	45#	30	50#	40	60#	65	70#	3
F60	40#	0	50#	30	60#	40	70#	65	80#	3
F70	45#	0	60#	25	70#	40	80#	65	100#	3
F80	50#	0	70#	25	80#	40	100#	65	120#	3
F90	60#	0	80#	20	100#	40	120#	65	140#	3
F100	70#	0	100#	20	120#	40	140#	65	200#	3
F120	80#	0	120#	20	140#	40	170#	65	230#	3
F150	100#	0	140	15	200#	40	230#	65	325#	3
F180	120#	0	170#	15	200# 230#	40	230# 270#	65	-	-
F220	140#	0	200#	15	230# 270#	40	270# 325#	60	-	-

P National standard for particle size sand

Grit Size	Large grain		Max Coarse grain		Coarse grain		Basic grain		Mixed particles		Fine grain
	Sieve number	% Weight	Sieve number	% Weight	Sieve number	% Weight	Sieve number	% Weight	Sieve number	% Weight	% Weight
P12	6#	0	8#	1	10#	14±4	12#	61±9	14#	92	8
P16	8#	0	12#	3	14#	26±6	16#	75±9	18#	96	4
P20	12#	0	16#	7	18#	42±8	20#	86±9	25#	96	4
P24	14#	0	18#	1	20#	14±4	25#	61±9	30#	92	8
P30	16#	0	20#	1	25#	14±4	30#	61±9	35#	92	8
P36	18#	0	25#	1	30#	14±4	35#	61±9	40#	92	8
P40	25#	0	35#	7	40#	42±8	45#	86±9	50#	96	4
P50	30#	0	40#	3	45#	26±6	50#	75±9	60#	96	4
P60	35#	0	45#	1	50#	14±4	60#	61±9	70#	92	8
P80	45#	0	60#	3	70#	26±6	80#	75±9	100#	96	4
P100	50#	0	70#	1	80#	14±4	100#	61±9	120#	92	8
P120	70#	0	100#	7	120#	42±8	140#	86±9	170#	96	4
P150	80#	0	120#	3	140#	26±6	170#	75±9	200#	96	4
P180	100#	0	140#	2	170#	15±5	200#	62±12	230#	90	10
P220	120#	0	170#	2	200#	15±5	230#	62±12	270#	90	10

National standard for particle size sand

Grit Size	ds3	ds50	ds94	Grit Size	perforated pipe	ds3	ds50	ds94	Grit Size	ds0	ds3	ds50	ds94
				P240	400	75	58.0±2.0	40	#240	127	103	57.0±3.0	40
F230	82	53.0±3.0	34	P280	400	70	50.2±2.0	34	#280	112	87	48.0±3.0	33
F240	70	44.5±2.0	28	P320	400	65	44.0±1.5	28	#320	98	74	40.0±2.5	27
F280	59	36.5±1.5	22	P360	400	60	38.2±1.5	24	#360	86	66	35.0±2.0	23
F320	49	29.2±1.5	16.5	P400	400	50	31.6±1.5	20	#400	75	58	30.0±2.0	20
				P500	200	45	25.0±1.5	17	#500	63	50	25.0±2.0	16
F360	40	22.8±1.5	12	P600	200	40	20.7±0.8	14	#600	53	41	20.0±1.5	13
F400	32	17.3±1.0	8	P800	200	35	16.1±0.8	10.5	#700	45	37	17.0±1.3	11
				P1000	100	30	13.5±0.5	9.5	#800	38	31	14.0±1.0	9.0
F500	25	12.8±1.0	5	P1200	100	25	11.8±0.8	8.0	#1000	32	27	11.5±1.0	7.0
F600	19	9.3±1.0	3	P1500	100	20	9.7±0.6	7.0	#1200	27	23	9.5±0.8	5.5
				P2000	100	15	7.5±0.5	5.7	#1500	23	20	8.0±0.6	4.5
F800	14	6.5±1.0	2	P2500	100	13	6.0±0.4	4.2	#2000	19	17	6.7±0.6	4.0
				P3000	100	14	5.5±0.5	3.0	#2500	16	14	5.5±0.5	3.0
F1000	10	4.5±0.8	1	P4000	50	11	4.0±0.5	2.0	#3000	13	11	4.0±0.5	2.0
F1200	7	3.0±0.5	1	P5000	50	8.0	3.0±0.4	1.3	#4000	11	8.0	3.0±0.4	1.3

AVAILABLE GRIT SIZES

For Bonded Abrasives Application:

FEPA F

Macro:F12,F24,F30,F36,F40,F46,F54,F60,F80,F100,F120,F150,F180,F220

Micro: F240,F280,F320,F360,F400,F500,F600,F800,F1000,F1200

For Coated Abrasives Application:

FEPA P

Macro:P12,P14,P16,P20,P24,P30,P36,P40,P50,P60,P80,P100,P120,PI50,P180,P220

Micro: P240,P280,P320,P360,P400,P500,P600,P800,PI000,PI200,P1500,P2000,P2500,P3000,P4000,P5000

JIS

JIS240,JIS280,JIS320,JIS360,JS400,JIS500,JIS600,JIS700,JIS800,JISI000, JISI200, JISI500,JIS2000,

JIS2500,JIS3000, JIS4000, JIS6000,JIS8000

For Refractories Application:

Macro sizes: 0-1mm, 0.5-1mm,1-2mm,1-3mm,2-3mm,3-5mm,5-8mm, 0-10mm,0-25mm

Fine powder:0-0.1 mm,0-0.2mm,0-0.35mm,0-0.5mm,0.1-0.5mm,0.2-0.5mm,-200mesh,-240mesh,-325mesh

Noted: Custom sizes and shapes are also available upon request