



Spherical Graphite

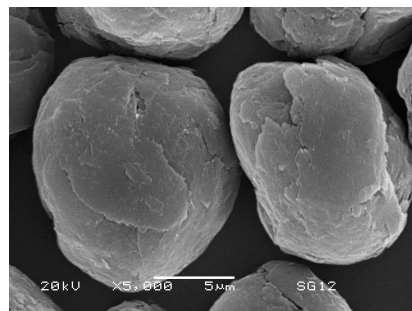
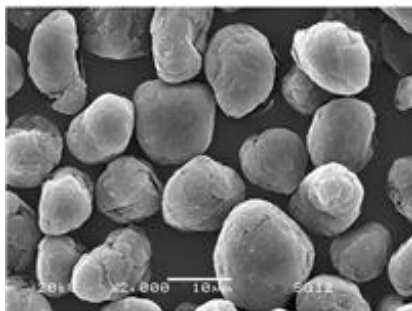
The microspheroidal graphite is made from natural flake graphite by advanced grinding and plastic technologies. The microstructure of the graphite powder is spheroidal or spherical. This grade graphite has low specific surface area (SSA) and very high tap density.

Because of its high crystalline structure and high purity, the application of our microspheroidal graphite is various:

- 1) conductive bi-polar plates of fuel cell;
- 2) electrical conductive agent in carbon brush;
- 3) pore former of porous ceramic membrane;
- 4) heat-spreading materials;
- 5) filler for carbon and resin composite materials;
- 6) coated by Nickel for conductive filler;
- 7) diamond segments, etc..

Grade	Particle size (d50)	Carbon/purity	Tap Density	SSA	Moisture
SG6	6±1 microns	99 % - 99.95%	0.6-0.7 g/cc	3.5-8 m ² /g	< 1 % Or < 0.5 %
SG10	10±1 microns		0.9-1.0 g/cc		
SG15	15±1 microns		0.9-1.1 g/cc		
SG18	18±1 microns		0.9-1.1 g/cc		
SG20	20±1 microns		0.9-1.1 g/cc	/	< 0.5%
SG25	25±1 microns		0.9-1.1 g/cc		
SG30	30±1 microns		0.9-1.1 g/cc	/	< 0.5%
SG35	35±1 microns		0.9-1.1 g/cc	/	< 0.5%

Note: when d50 is above 30 micron, the roundness degree becomes low.



SEM photos of MS12



Micronized Graphite

By advanced milling technology, natural flake graphite is grinded to ultra-fine powder. We can control the particle size distribution and carbon content very well. The fixed carbon is from 90% to 99.9%. The production capacity is up to 2000 mt per year and the price is very competitive. Also we can make the expanded graphite powder, it's a highly thermal & electrical conductive additive.

Key Properties:

Stability & strength at high temperatures (up to 3200oC);

High adsorption of gases and vapours

High conductivity of solid; Good machinability;

Good/high electrical conductivity; High resistance to erosion;

Low coefficient of thermal expansion; Low friction, self-lubricating ability;

The micro fine graphite is used as

1) additive in welding flux;

2) water base forging lubricant;

3) solid lubricant, blending with MoS₂, Pb, Sn, Be, added to sinter friction materials;

4) additive in coating;

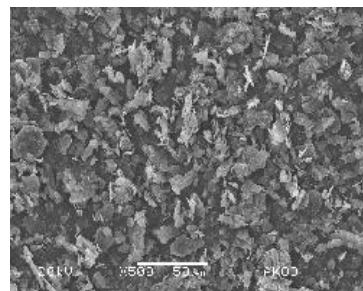
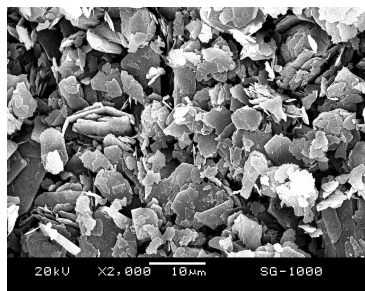
5) essential component of welding rods and high duty refractory bricks;

6) coloring agent which can produce low friction exterior surfaces;

7) heat-spreading stuffing; thermal conductor;

8) highly conductive agent in Alkaline battery.

Grade	Particle size	Carbon	Ash	Moisture
M3	D50=4-7 micron	95%	5% max.	0.5% max.
MFG5	D50=3-5 micron	99.9%	0.1% max.	0.5% max.
MFG1	D50=1-2 micron	99%	1% max.	0.5% max.
F18(expanded)	D90<80 micron	99.9%	0.1% max	0.5% max.
K15(expanded)	D90<300 micron	99%	1% max.	0.5% max.





Expandable Graphite

Expandable Graphite(EG) belongs to a group of products called intumescent. The main property of intumescent is their ability to expand when heated. Recently great progress had been achieved regarding the application of expandable graphite in flame retardant materials. Our plant has a long history to manufacture expandable graphite with excellent quality.

Advantages:

Non-toxic; No heavy metals;
Halogen free; Reduced HRR;
Improved thermal conductivity;
Not soluble in water and other solvents;
Smoke reduction and reduction of toxic gas;
Vnergism with other halogen-free flame retardants;
Onset temperature (SET) between 150 and 300 degree C

Applications:

This grade graphite is mainly used in numerous high technology industries ranging from fire protection to specialized steel production, such as foam products, intumescent coating, plastic/metal(Al) composite board, bitumen roof sheets and anti-fire ring, etc.

In specialized steel production our expandable graphite acts as an exfoliating media in hot topping compounds. These create a lightweight penetrable insulating layer, enabling the temperature of the molten steel to be closely monitored and controlled.

Grade	Particle size	SET (±10 °C)	Expansion at 1000 °C	Carbon	Moisture	pH
EG50	D50=50±5µm	180 °C	> 50ml/g	95-99%	<1.0%	5-7
EG140	Min. 80% > 140µm	190 °C	> 100ml/g	90-99%	<1.0%	3-7
EG180	Min. 80% > 180µm	190 °C	> 200ml/g	90-99%	<1.0%	5-7
EG280	Min. 80% > 280µm	190 °C	> 250ml/g	90-99.5%	<1.0%	3-7



Natural Crystalline Graphite

Crystalline flake graphite is widely used as an essential nonmetallic mineral in almost all industries. It can be used as high quality refractory material or coatings in metallurgical industry, black lead in fertilizer industry, carbon brush in electronics., electrode in battery industry and catalyst in chemical fertilizer industry, After being deep processed, crystalline flake graphite can be used to produce coatings, graphite friction reducing additives and other high-tech products.

Properties:

Stability and strength at high temperatures (up to 3200oC in non-oxidizing atmospheres);

High resistance to thermal shock;

High conductivity of solid, low conductivity of porous foam, cloth and tape;

Low coefficient of thermal expansion;

Good electrical conductivity;

Good thermal conductivity;

High radiation emissivity;

High compressive strength;

High resistance to erosion;

Good machinability; Low friction, self-lubrication;

High resistance to chemical attack and corrosion;

High adsorption of gases and vapours, and so on

Grades:

Grade	Paticle size	Carbon	Ash	Moisture
FG-399	-325 mesh	95-99%	5% max.	0.5% max.
FG-299	-200 mesh	95-99%	5% max.	0.5% max.
FG-199	-100 mesh	95-99%	5% max.	0.5% max.
FG199	+100 mesh	95-99%	5% max.	0.5% max.
FG899	+80 mesh	95-99%	5% max.	0.5% max.
FG599	+50 mesh	95-99%	5% max.	0.5% max.
FG3299	+32 mesh	95-99%	5% max.	0.5% max.



Synthetic Graphite Powder

This synthetic graphite flakes uses the high quality & low ash petroleum coke as the raw material. It comes after the high temperatures (above 2800°C) heat treatment processing and graphitization in vacuum. It has many features like high carbon, low hardness, low thermal conductivity and so on. Compares with natural graphite and calcined coke used in the traditional craft, it may obviously enhance the cohesiveness, stabilize friction coefficient, keep steady and comfortable for the application of the brake and clutch, and lighten abrasion.

Main technical specification:

F.C	Ash	V.M	Moisture	S	R.D
>98%	<1.5%	<0.4 %	<0.2%	<0.04%	2.1~2.2 g/cm3
(Size): 1 - 45 microns					

