

Sintered sand is also called high-temperature sintered color sand. It is made by high temperature calcination and surface-glazed ceramic sintering treatment using high-quality calcareous sand as basic raw material. After the two processes, the physical and chemical properties of the sand are highly improved which gets the real performance of aging resistance, acid rain resistance and no color change.

The granule of the finished product is full in texture and feels fine and smooth. When touching the end product used on the wall, the hand feels no pricking. After caloned at 300°C, the porous sand absorb more emulsion mixture forming a tight surface. So it can better absorb emulsion and gas in the decoration, no longer subjecting to toxic harm. And its beautiful color can last long time. It is also environmental friendly. The particles of each specification are uniform, and no parti-color can be seen.



未经授权

Hebei Xinfu Mineral Co., Ltd

Tel: 86-311-80835986 86-311-80835987 86-311-80835989
Fax: 86-311-82570518

Mob: +86 15130168686 +86 15233626669 +86 15227851588

Post Code: 050500 Email: xinfu@diukuang.com

Web: www.188988.cc www.diukuang.com

Add: No.1 Xinfu Rd, Lujiawa Industrial Park, Lingshou County, Hebei Province, China



**SINTERED SAND
MICA VERMICULITE**
HEBEI XINFU MINERAL CO., LTD



Company Profile

Hebei Xinfu Mineral Co., Ltd, established in April, 2002, is located in Lujiawa Industrial Park, Lingshou County, Hebei, China. We are a professional manufacturer of super-fine mica powder, color flakes, composite flakes, vermiculite etc. with an annual production capacity of more than 10,000 tons. Our company covers an area of about 30,000m², with the construction area taking up over 10,000m² and office building 1,200m². In 2003, our company was rated as the "Enterprise of Observing Contract & Keeping Promise" by Hebei Provincial Bureau of Industry and Commerce; In 2005, it was awarded as "Reliable Unit for Quality Measurement" by Lingshou County Technical Supervision Bureau. In 2009, it passed the ISO9001: 2000 quality management system certification.

We now have 3 workshops, 3 forklifts and 1 freight car. The total production capacity for all kinds of products has reached 18,000 tons per year with a 100% passing rate on product inspection. The quality inspection department is equipped with advanced laser particle size distribution measuring instrument, whiteness meter, high-precision electronic balance, vibrating screen, muffle furnace, drying box, agitator, PH measuring instrument, negative pressure sieve, American loose density measuring instrument, portable electronic balance, a mini-pulverizer and more than 200 standard sieves and other complete testing equipments.

Since the establishment, we have been committed to the R&D of the application of our products and have provided ideal pilot products for over 100 research institutions while we accumulated a large amount of applied theoretical knowledge in return which has helped us greatly in supplying customers with first-rate products and services, vitalizing our core enterprise spirit "To Survive by Integrity and to Develop by Innovation". Our technical department is a team of professionals and our workshops are managed by technical persons and quality inspection staff. Our mica powder products, branded "鑫", now have been quite popular in more than 20 provinces inside China and many nations and regions outside China, including countries from European Union, South America and South East Asia.



VERMICULITE APPLICATIONS



MICA APPLICATIONS

Mica Powder

Main Mica Powder Specifications of our company: 20 mesh, 40 mesh, 60 mesh, 80 mesh, 100 mesh, 200 mesh, 325 mesh, 400 mesh, 500 mesh, 600 mesh, 800 mesh, 1000 mesh, 1250 mesh and 2500 mesh. It can also be customized. Mica powder is a kind of non-metallic minerals, containing varieties of ingredients with around 49% SiO₂ and 30% Al₂O₃. Mica has great elasticity and toughness properties. It is a kind of premium additive for properties of insulation, high temperature resistance, acid and alkali resistance, corrosion resistance and strong adhesion, etc. It is widely applied into electrical appliances, welding rod, rubber, plastics, paper, plastics, coating, paints, ceramics, cosmetics and new building materials and other industries. With the development of technology, more new applications will be explored.

The chemical formula of Muscovite is KA12 (AlSi3O10) (OH)₂, including SiO₂ 45.2%, Al₂O₃ 38.5%, K₂O 11.8% and H₂O 4.5%. In addition, it contains a small amount of Na, Ca, Mg, Ti, Cr, Mn, Fe and F.



Mica Chemical Composition

SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	CaO	MgO	K ₂ O	Na ₂ O
44.30%	31.2%	5.74%	0.79%	0.62%	10.58%	1.17%

Physical properties

Sand content	Iron content	Oil Absorption	Loss on ignition	Density	Moisture	Whiteness	Melting point
<1%	100-400ppm	28-50%	4.97%	0.28-0.40 g/ml	<1%	40-75%	1280°C

Primary mica powder particle size standard

Specs	20Mesh		40Mesh		60Mesh		100Mesh	
Content	Mesh	%	Mesh	%	Mesh	%	Mesh	%
Particle size distribution	+20	<5	+40	<2	+60	<2	+100	<2
	-20+40	60±5	-40+60	60±5	-60+100	55±5	-100+200	50±5
	-40+60	25±5	-60+100	35±5	-100+200	45±5	-200+325	35±5
	-60+100	<10	-100+200	<10	-200+325	<5	-325	<15
	100	<5	-200	<3				

Ultrafine mica powder particle size standard

Specs	325Mesh (45μm)		600Mesh (30μm)		1000Mesh (20μm)		1250Mesh (12μm)		2500Mesh (6μm)	
Content	μm	%	μm	%	μm	%	μm	%	μm	%
Particle size distribution	+45	<4	+30	<5	+20	<7.2	+12	<10	+6	<10
	40-30	26.2	30-20	30.4	20-15	13.7	12-5	39.5	6-2	56.4
	30-20	24.5	20-10	38.9	15-5	42.9	5-1	43.7	2-0.5	31.4
	-20	45.3	-10	25.7	-5	36.2	<1	6.8	<0.5	2.2

Main Application

Muscovite is the most widely used, followed by phlogopite. Mica is widely applied in industrial lines, such as in building materials, fire fighting, fire extinguishing agent, electric welding rod, plastics, electric insulation, paper making, asphalt paper, rubber, pearlescent pigments and other chemical industrials. Used as functional fillers in plastics, paints, coatings, and rubber, Super-fine mica powder can improve the mechanical strength as well as enhance the toughness, adhesion, anti-aging and corrosion resistance, etc. In addition to high electric insulation, anti-acid and alkali corrosion, flexibility, toughness, sliding, heat-proof, sound-proof, and small thermal expansivity, super-fine mica powder in possessing properties of smooth surface, high diameter-thickness ratio, regular shape, strong adhesion, etc.

Wet Ground Mica

The diameter-thickness ratio of particles of wet ground mica powder can reach 80-120 times, with its thickness being only about 10 nm to 100 nm. Its unique sheet structure enables it to function as a physical shield while used in flake coatings to prevent the paint film from destruction by sunlight UV, to thicken corrosion proofing layer, to restrain the permeation of corrosive medium and to reduce the relict stress in the lining.

The diameter-thickness ratio of particles of wet ground mica powder can reach 80-120 times, with its thickness being only about 10 nm to 100 nm. Its unique sheet structure enables it to function as a physical shield while used in flake coatings to prevent the paint film from destruction by sunlight UV, to thicken corrosion proofing layer, to restrain the permeation of corrosive medium and to reduce the relict stress in the lining.

Applied in paint of outer wall in architecture, it can not only improve the coatings' mechanical properties, but also enhance the coatings in terms of anti-aging, anti-UV, anti-cracking, and anti-dusting, while preventing the coatings from fading in color, with the pigment particle easy access to flaky mineral lattice layer.

As is known to all, UV in the sunlight is the essential cause for the aging and weak functions of coatings. Super-fine flaky minerals, with its optical interference effect by interacting with interlayer crystallized water and its crystal polarizing effect, can strongly absorb and reflect UV and infrared rays, thus protecting the coatings and paints of the outer wall.

After research and study, it is found that by adding 5~8% super-fine mica powder, the anti-aging property of outer wall paints can be increased to 750 hours or more. This kind of product, having a high rate of cover up and UV absorption, can effectively make the proliferation, permeation and migration of corrosive substances become extremely circuitous and tortuous (shielding and labyrinth effect) by extending the film-penetration time by 3 times, and thus greatly improve the performance of anti-corrosion coatings.

Standard of Wet Ground Mica Powder

Tech properties indicators	screen over-size %	sand %	loss on ignition %	bulk density g/cm ³	moisture %	whiteness °
Specs						
25μm (600 mesh)	45μm≤0.05 25μm≤10.0	0.8		0.32		
38μm (400 mesh)	75μm≤0.1 38μm≤10.0	0.5		0.28		65
45μm (325 mesh)	112μm≤0.1 45μm≤10.0		5.0		1.0	
75μm (200 mesh)	150μm≤0.1 75μm≤10.0	0.6		0.30		
90μm (160 mesh)	180μm≤0.1 90μm≤10.0					60
125μm (120 mesh)	250μm≤0.1 125μm≤10.0	1.0		0.32		

Application in Paint and Coating Industries

1) Barrier Effect: In paint film, flaky filler will form a basically parallel arrangement, thus strongly preventing the penetration of water and other corrosive substances, and if using high-quality mica powder (diameter-thickness ratio being at least 50 times, preferably 70 times), this kind of penetration time will normally be extended by 3 times.

2) Improving Physical and Mechanical Properties of the Film: Using wet ground mica powder can improve a series of physical and mechanical properties of paint film.

3) Improve the Anti-Wear Property of the Film: The hardness of resin itself is limited, and the intensity of many types of filler is not high (e.g., talcum powder). On the contrary, mica, one of the components of granite, is great in terms of its hardness and mechanical strength. Therefore, adding mica as filler, the anti-wear performance of coatings can be significantly improved. That's why mica powder is preferably used into car paint, road paint, mechanical anti-corrosion coatings and wall coatings.

4) Insulation: Mica, with a very high rate of electric resistance (1012-1015 Ω·cm), is in itself the best insulation material.

5) Anti-Flaming: Mica powder is a kind of very valuable fire-retardant filler and it can be used to make flame-retardant and fire resistant paint if applied with an organic halogen flame retardant.

6) Anti-UV and Infrared Rays: Mica is very excellent in shielding ultraviolet and infrared rays, etc.

7) Reducing Sedimentation: When using mica powder as filler instead of that will easily subside, the stability of coating storage will increase significantly.

8) Heat Radiation and High-Temperature Coatings: Mica has a great capability of radiating infrared rays. For instance, when working with iron oxide, etc., it can create excellent thermal radiation effects.

9) Gloss Effect: Mica has good pearlescent gloss, hence, when using large-size and thin-sheet mica products, materials, such as paints and coatings, can be shiny, glossy or reflective. On the contrary, super-fine mica powder can make repeated and mutual reflection within the materials, thus creating delustering effect.

10) Sound and Vibration Damping Effects: Mica can significantly change a series of physical modulus of the material as well as form or alter its viscoelasticity. Such materials can effectively absorb vibration energy as well as weaken shock and sound waves. In addition, shock waves and sound waves will form repeated reflections between mica chips, which also results in weakening the energy. Therefore, wet ground mica is also used to prepare sound and vibration damping materials.

Application in Plastics Industry

The crystal form of mica is flake, which is easy to form a thin layer with flexibility as well as electrical insulation and heat resistance. As the fillers for plastics, mica has the properties of enhancing mechanical strength, preventing warpage tendency and it also has excellent dimensional stability and sound & vibration damping effect. What's more, mica can keep much higher diameter-thickness ratio in filling the plastics. With excellent dimensional stability and low modeling shrinkage, mica will improve the rigidity and heat resistance of the plastic products. Because of the remarkable enhancement effect as plastic fillers, mica powder is called the reinforced materials.

1) Improve Air-Tightness of Plastics: Wet ground mica powder has excellent flaky crystal form, with the thickness in nanometers and diameter-thickness ratio up to 80~120 times, thus having a very large effective barrier area. The air-tightness

of plastics will be dramatically increased after adding high-quality and high-purity wet mica powder. According to relevant patent documents, such plastics can be used to make cola bottles, beer bottles, pharmaceutical packaging bottles, moisture-proof packaging materials, and many similar special plastic packaging materials.

2) Improve Physical and Mechanical Properties of Plastics: Flaky and fibrous fillers can decentralize the stress of materials, which is similar to the reinforcing steels in the cement concrete and the anisotropic materials in many enhancing materials (plastic, rubber, resin, etc.). The most typical application is carbon fiber, but carbon fiber is quite expensive and limited in luster, therefore, it is difficult to put it into application. Asbestos is strictly limited in application for it can cause cancer.

Ultra-fine glass fiber (e.g., diameter of 1 micron or in nanometer level) faces many difficulties in manufacturing and its price is also rather high. Granular fillers, including micron quartz powder and kaolin powder that are abundant in dry ground mica are just like sand and stones in the cement concrete which do not possess this function. Only when adding filler like wet ground mica powder that is high in diameter-thickness ratio, will the tensile strength, impact strength, elastic modulus, other mechanical properties, shape stability (such as anti-heat distortion and anti-torsion fatigue creep variability), and anti-wear performance of plastics and resin be improved significantly. Quite a lot of study about this has been carried out in Materials Science. One of the key points is the sizes of fillers. Plastics (e.g., resin) are limited in terms of hardness themselves. Many types of filler (e.g., talc powder) are quite low in their mechanical strength. On the contrary, being one of the components of granite, mica is excellent in hardness and mechanical strength. Therefore, by adding mica powder as filler in plastics, the enhancement effect will be quite enormous. High ratio of diameter-thickness is the key for the enhancement effect of high-purity mica powder.

The coupling treatment of mica powder has a great role in the above application for it can dramatically improve the chemical integrity of materials, thus greatly enhancing the performance of materials. The correct coupling treatment is also a key for the enhancement property of mica powder, so is changing the crystallization process of resin. Using high-quality mica powder can make the products more lighter and thinner. This kind of technology is widely applied in plastics industry, such as in the manufacturing of high-strength products, including plastic parts of machinery and vehicles, earthwork materials, outer skin of household appliances, packing materials, articles of daily use, etc.

3) Improve the Insulating Property of Plastic Products: Mica has a very high rate of electric resistance, so it's a high-performance insulating materials itself. Using mica to improve the insulation property of materials is a well-known technology. If manufacturing high insulation plastic products, functional filler wet ground mica can be added in. Mica high in iron content shall be avoided for its low insulation function. Dry ground mica without ore washing is high in iron content, so it is not suitable for using.

4) Changing the Optical Properties of Plastics: Mica flakes can reflect and radiate infrared rays as well as absorb and shield UV, etc. Therefore, if adding high-quality wet ground mica into agricultural films, it will be difficult for light to go out after penetrating in, thus preserving heat to greenhouse and field plastic film, etc. In this application, the purity and flaky structure of mica powder are very important. On one hand, impurities will reduce mica's enhancement effect, influence its transparency, increase the fog level as well as decrease light's entering of the greenhouse. On the other hand, if the mica is not good in flaky structure, then its effect of obstructing infrared radiation is also poor.

Products such as pharmaceuticals, cosmetics, and food need to be shielded from light radiation, especially ultraviolet radiation to improve their storage performance. Their plastic packaging materials can be added wet ground mica powder with perfect flake structure to shield light radiation, especially ultraviolet radiation. Large-size mica filler can improve the luster of materials (pearlescent effect), and fine mica powder can remove the luster.

The application of wet ground mica in plastics is far more than that. Making full use of the unique properties of wet ground mica powder, many new valuable plastic products and application technologies can be developed out. For example, by adding mica powder into plastics, printing performance and composite bonding properties can be improved; by substiting SnO₂ on the surface or by being plated with metal, mica powder will be conductive and can be used to make anti-static products and conductive plastics; by being coated with TiO₂, mica will be pearlescent pigment and can be used in many applications; by being colored, mica will be excellent pigments; mica can also improve the lubrication performance of products.

Application in Rubber Industry

1) **Improve Air-Tightness of Rubber:** Air-tightness is the most important property for many rubber products, such as inner tubes, ball bladders as well as many life-saving supplies, etc. To increase the air-tightness of rubber, in addition to improve processing and coating technology, it mainly depends on the nature of the rubber itself and the filler. The better the air-tightness of the rubber is, the better the anti-permeability of the product is. Of course, this kind of rubber is quite expensive. Therefore, using wet ground mica powder as functional filler, the cost will be much lower and the effect will be good. That's why when oil becomes the major factor impeding the development of global economy, for example since the oil crisis of 1970s, Goodyear, Sumitomo Rubber, Bridgestone, Sipo Ting and other well-known companies have been actively engaged in researching the application of mica powder.

The barrier effect of wet ground mica makes harmful substances have a difficult access into the materials and also makes them difficult to spread, migrate or penetrate even after they entered. The principle is similar to that of coatings, that is, the parallel-oriented mica chips prevent air from penetrating (penetration time will be extended by three times), which is important for inner tubes of tires, bladders of balls and many life-saving equipments. It doesn't have to be fine or white mica, but the flaky structure must be perfect. In short, adding wet ground mica into rubber, its air-tightness will increase dramatically.

2) **Insulation Performance:** It is widely known that mica can be used to improve the insulation performance of materials as it has a very high rate of electric resistance. As one of rubber's applications is to be used as insulation materials for wire and cables, wet ground mica is very important. It should be mentioned that the cables used in mines, tunnels and similar occasions need to be insulated in case of fire. Some countries have developed a special class of insulating material composed by silicone rubber (including epoxy-boron resin) and mica powder and so on. Such insulating materials will convert to a kind of ceramic-like material at high temperatures, retaining good insulating property and mechanical strength; thus enabling electric cables to keep fire insulation. What should also be mentioned is that iron will reduce the insulation performance of mica, so dry ground mica powder shall not be used for insulation materials.

3) **Sound and Vibration Damping Effects:** Lots of sound and vibration damping materials use rubber to change their visco-elasticity and other physical properties to reach the ideal effects. Wet ground mica powder with high diameter-thickness ratio can change a series of physical modulus of materials. What's more, the energy reflection between chips (such as shock waves and sound waves) will also absorb and weaken these energies. Accordingly, "damping-chip" in vehicles and household appliances often adds mica powder. Similarly, many other sound and vibration damping materials also use wet ground or dry ground mica powder.

4) **Release Agent in Rubber Vulcanization:** In many cases, the mold vulcanization of rubber does not use metal molds or similar molds, because at this moment, the performance of the release agent will directly affect production. For example, the vulcanization of tire using air bags, if at this time high-performance mold release agent is not used, then adhesion of molds and products will be bound to happen, which will not only damage the mold, but also cause a large number of defective products and then bring enormous harm on production.

Such mould release agent commonly uses lubricating grease, organic silicon, organic fluorine and other materials. As solid lubricants plays an essential role, the modern type of this mould release agent will generally add in mica. Wet ground mica powder with perfect flaky and thin chip has a great ability of covering and shielding the surface of the mold. Besides, the surface of wet ground mica chip is smooth, which can effectively prevent adhesion of materials. Wet ground mica has a high rate of purity, which makes the content of harmful impurities binding rubber and mold becomes quite low, therefore, it is quite applicable. Impurities, such as quartz, feldspar and other minerals powder, are rough in surface and are not flaky in structure, which is one of the important reasons for the difficulty of molding release. Another reason for the difficulty in demolding of dry mica powder is that the surface of the mica particles itself is very rough causing adhesion. After adding wet ground mica, a kind of air exhaust passage will be formed between the mold and the rubber, thus preventing the gas retention within the gap and then improving the physical appearance of products.

Mica Application in Damping Material

Adding mica powder to polymeric viscoelastic material can not only improve the process but also reduce the cost. More importantly, the mechanical damping performance of the material can be enhanced.

According to the experiment, adding good flaky mica makes the dynamic viscoelastic property of cured resin 2 times higher than that of cured resin filled with aschistite mica. When adding 50% flaky mica and 50% aschistite mica to resin, the dynamic viscoelastic property of resin is twice higher than that of resin filled with 100% aschistite mica.

The above shows that flaky mica is in parallel structure in the polymer, when the material bears the external force and cause the microscopic deformation of particle size, the microcosmic shear deformation occurs between the sheet mica in the inner part of the material. The shearing motion in the microcosmic structure increases the friction movement between polymer molecules and mica flakes, the loss factor of viscoelastic materials and stores more external energy, which largely dissipates in the form of heat to enhance the mechanical damping performance significantly.



Mica can make sizing material keep high damping effect under the wide range of temperature and frequency. When the amount used of mica and white carbon black is 1:4, these two materials have the better synergistic reaction, the energy consumption of the materials is the highest and the damping value reaches to peak, which may be the joint outcome of volume effect and frictional effect of the materials. PS can be added appropriately in the materials to further improve the high temperature damping property, reduce the difficulty in process of the product as well as decreases some problems like adherence to the shaft and failure in producing the sheets, etc.

The damping property of damping material has a superior performance when it's filled with mica other than calcium carbonate. The damping peak value decreases with increasing of the particle size of mica powder. The glass transition temperature range of damping material becomes wider while the temperature sensitivity of material reduces. In addition, the larger mica powder particle size is, the better the heat isolation effect of flake mica is, therefore the glass transition temperature range of the material at high temperature segment grows wider with the increase of the mica powder particle size.

Physical and Chemical Properties of Vermiculite

Because of different degrees of hydration and oxidation, chemical compositions of vermiculite are not the same. The chemical formula of vermiculite is: $Mg \times (H_2O)(Mg_{3-x}Al_2Si_2O_{10})(OH)_2$

Chemical composition	SiO ₂	MgO	Al ₂ O ₃	Fe ₂ O ₃	FeO	K ₂ O	H ₂ O	CaO	PH
Content (%)	37-42	11-23	9-17	3.5-18	1-3	5-8	7-18	1-2	8-11

Vermiculite

Vermiculite is a kind of layered mineral that contains Mg and degenerates secondarily from hydrated aluminum silicates. It is usually formed by weathering or hydrothermal alteration of biotite or phlogopite. Categorized by stages, vermiculite can be divided into unexpanded vermiculite and expanded vermiculite. Categorized by color, it can be divided into golden and silver (ivory). Vermiculite has excellent properties such as heat insulation, cold resistance, anti-bacteria, fire prevention, water absorption and sound absorption, etc. When baked for 0.5 ~ 1.0 minutes under 800 ~ 1000 °C, its volume can be increased rapidly by 8 to 15 times, up to 30 times, with the color changed into gold or silver, producing a loose-textured expanded vermiculite which is not anti-acid and poor in electric performance. Vermiculite after the expansion process will take on layered flaky shape, with the proportion generally being 100-200kg/m³. Due to the huge volume of expanded vermiculite, the transportation cost would be quite huge, so the exported vermiculite is usually types of unexpanded.

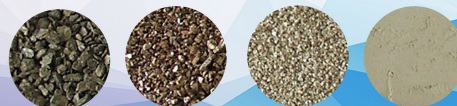


Crude vermiculite specifications: 0.15-0.5mm, 0.5-1mm, 1-3mm, 2-4mm, 3-6mm, 4-8mm, 8-16mm.

Application of Vermiculite

In agriculture, vermiculite can be used as soil conditioner, due to its cation exchange and absorption, improve soil structure, water storage and soil moisture, develop the soil permeability and water content, make acidic soil change into neutral soil. Vermiculite can also play a buffer role, hindering the rapid changes of PH value, make the fertilizer release slowly in crop growth medium, and allow to slightly excessive use in fertilizer for plant but is non-harmful. Vermiculite can also be provided to the crop itself contains K, Mg, Ca, Fe, and trace amounts elements of Cu, Zn. As absorption, cation exchange and chemical composition characteristics of vermiculite, so it plays a fertilizer maintenance, water retention, water storage, permeability and mineral fertilizers, and other multiple roles. The tests showed: put 0.5-1% expanded vermiculite mixed into fertilizer, enable crop yields by 15-20%.

In gardening, vermiculite can be used for flowers, vegetables, fruit cultivation, breeding and other aspects, addition for potted soil and regulators, but also for soilless culture. As to be the nutrition grass-roots for planting potted trees and commercial seedbed, it is advantage of transplanting and transporting of plants. Vermiculite can effectively promote the plant roots development and seeds' growth, can provide water and nutrition of the plants growing for a long time, and keep the roots temperature stable. Vermiculite can make the plant get enough water and mineral on the initial stage, promote the plants grow faster, and increase the production.



Expanded vermiculite, paved on the roof, will play a very good heat insulating effect, making the building warm in winter and cool in summer. Using vermiculite bricks into the partition wall of high rise or using vermiculite blocks as partition materials into hotels or entertainment centers, effects of sound absorption, fire proof, heat preservation and so on will be fully displayed and the building will also be reduced of its load.

Tiny air compartments forms after vermiculite's expansion, enabling the expanded vermiculite become a porous sound insulation material. When the frequency is 2000C / S, the sound-absorbing rate of 5mm thick vermiculite is 63%, 6mm 84% and 8mm 90%.

Vermiculite is great in resisting frost as its capacity and strength keeps the same even after it goes through 40 times of freeze-thaw cycle experiments under -20°C. It is porous and has absorption property. It can keep heat and prevent condensation. Besides, it can absorb radiation rays, therefore vermiculite boards can be placed inside laboratory as substitute expensive lead boards to absorb up to 90% of scattered rays. 65mm thick vermiculite is equivalent to 1mm thick lead board. Expanded vermiculite powder was made by vermiculite ore, calcined at high temperature, screening, grinding. Main specifications are: 3-8mm, 1-3mm, 10-20mesh, 20-40mesh, 40-60mesh, 60mesh, 200mesh, 325mesh, 1250mesh.

Vermiculite can be added as a filler to the friction material, which act as a reinforcing agent and stabilizer. It can effectively absorb the noise and heat generated by the friction of the brake pad during work, and greatly improve the wear resistance, thermal resistance, abrasion resistance, shear resistance, anti-bending and other properties of the product. Vermiculite plays a supporting role as an aggregate in fireproof materials, reducing the volume shrinkage of fireproof materials at high temperatures. At the same time, the nano-sheet layer of vermiculite has a shielding effect on high-temperature heat radiation, which effectively improves the thermal insulation performance of the building interior fireproof board containing vermiculite in a high-temperature environment. The high-temperature hydrated calcium silicate and the vermiculite are combined together through an in-situ composite reaction, which significantly improves the strength of the building interior fireproof board containing vermiculite without needing any additives to upgrade the physical properties of the material. The building interior fireproof board containing vermiculite has undergone a high-temperature hydrothermal process to ensure the stability of the material's performance without distortion. The decomposition products at high temperatures are water vapor and a small amount of CO₂, and no toxic gas is emitted.



Mica Flake Applications



Product Packaging



Qualification

