



格物致知
锐意进取
CONTINUOUS
INNOVATION

GREEA

高性能材料事业部 (HPD)

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安徽格锐新材料科技有限公司
Anhui Grea New Material Technology Co., Ltd.

安徽格锐新材料科技有限公司
ANHUI GREA NEW MATERIAL TECHNOLOGY CO., LTD.

COMPANY INTRODUCTION

Anhui Grea New
Material Technology
Co., Ltd.

公司介绍

GRE A

格锐新材

Anhui Grea New Material Technology Co., Ltd.

安徽格锐新材料科技有限公司成立于2000年，并于2015年9月整体搬迁至南谯区腰铺镇光辉路工业集中区新厂址。

企业自成立以来，潜心致力于云母、硅微粉、长石等功能新材料的研发、生产与销售。格锐始终坚持科技为本的发展理念，与国内多所知名高校、科研院所组建产、学、研战略联盟，是国家高新技术企业，建有省级企业技术中心、安徽省云母新材料工程技术研究中心和安徽省博士后科研工作站，先后承担“国家火炬计划”、“国家重点新产品计划”、“重大产业技术攻关计划”和“高新技术产业化计划”等十余项国家级和省部级科研项目，并自主完成几十项研发成果，其中多项达到国际先进水平，获得专利授权30余件；主导制定五项国家行业标准。企业获得“安徽省专精特新冠军企业”、“安徽省工业和信息化领域标准化示范企业”、“安徽省A级纳税信用单位”、“滁州市纳税五十强”、“南谯区纳税十强”等多项荣誉与称号。

Anhui Grea New Material Technology Co., Ltd. was founded in 2000, and in September 2015, it was relocated to the new factory site in Guanghui Road Industrial Zone, Yaopu Town, Nanqiao District.

Since its establishment, the company has devoted itself to the research & development, production and sales of new functional mica, silica and feldspar powder materials. As a national high-tech enterprise, we always adhere to the Technology-based Development philosophy, and have established a strategic alliance of production, learning and research with many well-known domestic universities and scientific research institutes. We also have established a Provincial-level Technology Center and Anhui New Mica Material Engineering Technology Research Center and Anhui Post-doctoral Research Station, having successively undertaken over 10 national and provincial projects including the "National Torch Plan", "National Key New Product Plan", "Major Industrial Technology Research Plan" and "High-tech Industrialization Plan". We have independently completed dozens of research & development results, many of which have reached international advanced level, obtaining over 30 patents authorization and leading the formulation of 5 national industry standards. Grea has won the title of "Anhui Provincial Specialized and Special New Champion Enterprise", "Anhui Provincial Standardization Model Enterprise in the Field of Industry and Information Technology", "A-Class Tax Credit Unit in Anhui Province", and "Top 50 Taxpayers in Chuzhou City", "Nanqiao District Top Ten Taxpayers" and many other honors and titles.

01

Milestones

企业大事记

- 2000.03** | 滁州格锐矿业有限责任公司注册成立。
Chuzhou Grea Minerals Co., Ltd. was established.
- 2000.07** | “湿法超细绢云母”系列产品正式投产下线。自此，将每年的7月19日定为厂庆纪念日。
"Wet-Processed Ultra-fined Sericite" series were officially put into production and launched. Since then, The day of July 19 has been designated as the anniversary of GREA.
- 2003.05** | 格锐获评“安徽省高新技术企业”。
GREA was awarded "High-tech Enterprise in Anhui Province".
- 2011.06** | 格锐荣评“国家高新技术企业”。
GREA was appraised as "National High-tech Enterprise".
- 2012.08** | 格锐企业技术中心被认定为“安徽省企业技术中心”。
GREA's Enterprise Technology Center was identified as "Anhui Enterprise Technology Center".
- 2015.09** | 公司搬迁至滁州市腰铺镇光辉路18号。
the company was offically relocated to No. 18 Guanghui Road, Yaopu Town, Chuzhou City.
- 2017.04** | 公司主导制定的《湿磨云母粉》、《干磨云母粉》等四项行业标准由国家工信部发布实施。
Four Industry Standards including "Wet Grinding Mica Powder" and "Dry Grinding Mica Powder" led by us were issued and implemented by the Ministry of Industry and Information Technology.
- 2017.12** | 通过了省级专精特新企业认定。
we passed the certification of "Specialized New enterprise" in Anhui Province.
- 2020.12** | 格锐以第一起草单位主导制定的《绢云母粉》行业标准由国家工信部发布实施。
the industry standard "Sericite Powder" formulated by GREA as the first drafting unit was issued and implemented by the Ministry of Industry and Information Technology of the People's Republic of China.
- 2021.09** | 格锐被认定为安徽省专精特新冠军企业。
GREA was recognized as the Anhui Provincial Specialized New Champion Enterprise.
- 2022.01** | 滁州格锐矿业有限责任公司正式更名为：安徽格锐新材料科技有限公司。
Chuzhou Grea Minerals Co., Ltd. officially changed its name to: Anhui Grea New Material Technology Co., Ltd.

Company culture

02

企业文化

- 使命责任：让云母功能材料造福社会**
Our Mission: Make mica functional materials benefit the society
- 目标愿景：致力于成为全球优秀的云母粉材料供应商**
Our Vision: Committed to becoming an excellent supplier of mica materials in the world
- 企业理念：格物致知 锐意进取**
Our Philosophy: Forging ahead with continuous innovation
- 企业精神：追求卓越 永葆激情**
Our Spirit: Pursuing excellence and always keeping passion
- 行为准则：诚信效率 规范透明**
Our Code of Conduct: Integrity, Efficiency, Standardization and Transparency
- 服务宗旨：为客户创造价值 与客户共同成长进步**
Our Service: Create value for customers, grow and progress together with customers
- 企业价值观：结果负责 重视贡献 为社会创造价值**
Our Value: Being Responsible, valuing contribution and creating value for society



Figures GREA **03**
数说格锐



8%

每年投入营业收入的 8% 以上用于研发

Over 8% Annual Gross Revenue for R&D investment



4

连续四次通过 国家高新技术企业认定

National high-tech enterprise for 4 consecutive times



5

主导制定 5 项云母行业 标准

Drafting 5 standards for China's Mica Industry



6

连续 6 年荣获“南谯区纳 税十强”称号

Top 10 taxpayers in Nanqiao District, Chuzhou City for 6 consecutive times



31

授权专利 31 项

31 Authorized Patents



53

与全球前 100 强涂料企业中半 数以上建立合作关系

Establishing firm cooperation with 53 coatings customers among the Top 100 worldwide



PRODUCT SERIES

产品种类

- 1** 天然云母系列
NATURAL MICA SERIES
- 2** 人工合成云母系列
SYNTHETIC MICA SERIES
- 3** 球形硅粉系列
SPHERICAL SILICA SERIES

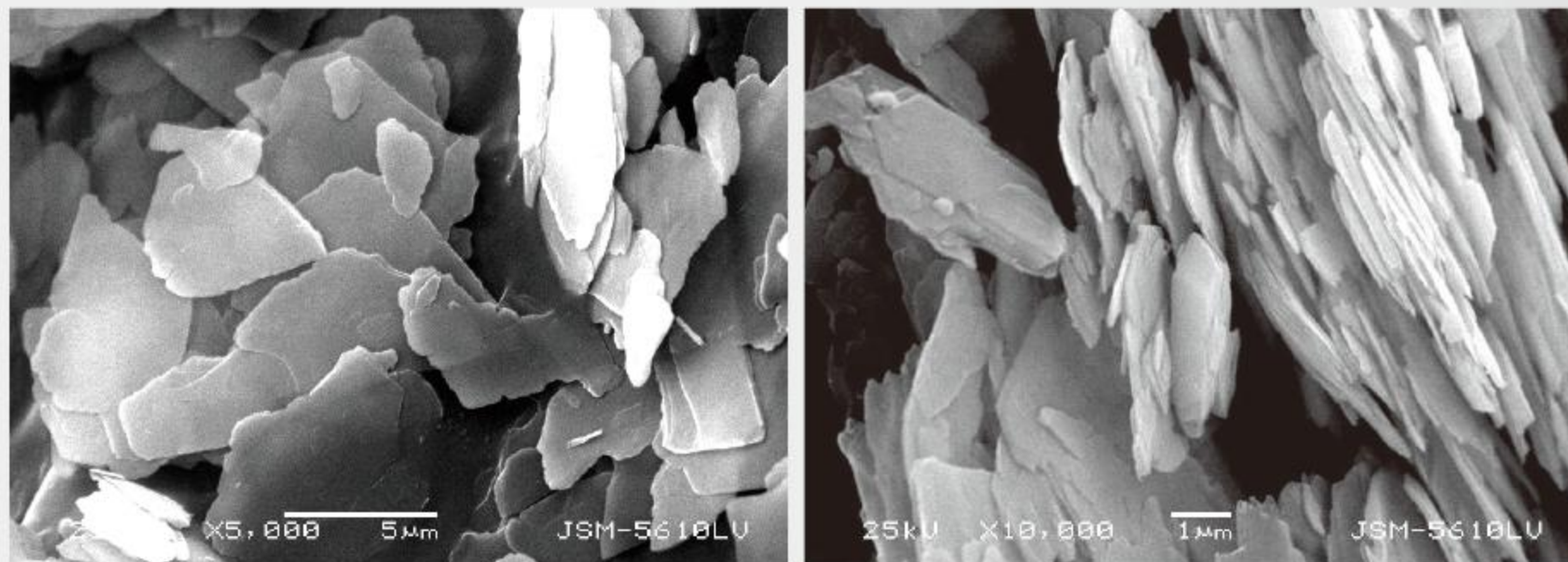


01

NATURAL MICA SERIES

天然云母系列

云母粉 SEM MICA POWDER SEM PHOTOS



产品介绍 PRODUCT INTRODUCTION

云母是含钾、铝等元素的层状硅酸盐矿物的总称，是地壳上的主要造岩矿物之一，由两层硅氧四面体夹着一层铝氧八面体构成的 2:1 型结构。云母可剥分成极薄的片状、径厚比大、有弹性、可弯曲，具有独特的云母光泽。同时，具有理化性质稳定，耐酸碱、耐高温、电绝缘、耐磨性好等显著特点。

云母一般分为白云母亚族（白云母、绢云母）、黑云母亚族（黑云母、金云母）和锂云母亚族（锂云母），其中最具有工业价值的为绢云母、白云母和金云母。云母矿物因 Fe、Mg 等元素含量的不同而引起云母矿物的颜色、硬度等性能发生变化。例如，从颜色上，以黑云母色最深，金云母次之，白云母色最浅。

Mica is a general term for layered silicate minerals containing potassium, aluminum and other elements, which is one of the main rock-forming minerals on the earth's crust. It is a 2:1 type composed of two layers of silicon-oxygen tetrahedra and a layer of aluminum-oxygen octahedra structure. Mica can be stripped into extremely thin flakes with a large diameter-to-thickness ratio, elastic, bendable, and has a unique mica luster. At the same time, it has outstanding characteristics such as stable physical and chemical properties, acid and alkali resistance, high temperature resistance, electrical insulation and good wear resistance.

Mica is generally divided into muscovite subfamily (muscovite, sericite), biotite subfamily (biotite, phlogopite) and lepidolite

subfamily (lepidolite), among which the most industrially valuable are sericite, muscovite and Phlogopite. The color, hardness and other properties of mica minerals change due to the different content of elements such as Fe and Mg. For example, in terms of color, biotite is the darkest, followed by phlogopite and muscovite is the lightest.

产品特点 FEATURES



典型数据 TYPICAL DATA

绢云母系列 SERICITE SERIES

风选绢云母粉 Dry-ground Sericite Powder

	GB-2	GB-3	GB-4
外观 Appearance	白色粉末 White Powder	白色粉末 White Powder	白色粉末 White Powder
白度 Whiteness	70±2	70±2	73±1
平均粒径, μm D50*	19±1.5	18±1.5	15±1.5
105°C挥发物, % Volatile At 105°C	≤ 1.0		
吸油量, g/100g Oil Absorption	25-50		
PH 值 PH Value	8-10		
325 目筛余率, % 325 Mesh Sieve residue	≤ 1.0	≤ 0.5	≤ 0.2
松散密度, g/cm ³ Loose Density	0.37	0.35	0.27
比重, g/cm ³ Specific Gravity	2.65		
耐温度, °C Temperature Resistance	550		
莫式硬度 Mohs hardness	2.5		
相对介电常数 Relative permittivity	6-8		

* Malvern mastersizer 3000

注: 以上为典型数据, 具体产品参数依据企业检验报告。

Note: The above are typical data, and the specific product parameters are based on the company's inspection reports.

湿法绢云母粉 Wet-ground Sericite Powder

	GA-1	GA-2	GA-4	GA-5	GA-6
外观 Appearance	白色粉末 White Powder	白色粉末 White Powder	白色粉末 White Powder	白色粉末 White Powder	白色粉末 White Powder
白度 Whiteness	76±1	77±1	78±1	78±1	78±1
平均粒径, μm D50*	19±1.5	18±1.5	17±1.5	16±1.5	15±1.5
105°C挥发物, % Volatile At 105°C	≤ 1.0	≤ 1.0	≤ 1.0	≤ 1.0	≤ 0.8
吸油量, g/100g Oil Absorption	25-50				
PH 值 PH Value	4-7				
325 目筛余率, % 325 Mesh Sieve residue	≤ 2.0	≤ 1.0	≤ 0.4	≤ 0.4	≤ 0.2
松散密度, g/cm ³ Loose Density	0.34	0.29	0.25	0.24	0.19
比重, g/cm ³ Specific Gravity	2.65				
耐温度, °C Temperature Resistance	550				
莫式硬度 Mohs hardness	2.5				
相对介电常数 Relative permittivity	6-8				

* Malvern mastersizer 3000

注: 以上为典型数据, 具体产品参数依据企业检验报告。

Note: The above are typical data, and the specific product parameters are based on the company's inspection reports.

绢云母粉典型化学成分 REGULAR CHEMICAL COMPOSITION OF SERICITE POWDER



注: 以上仅为典型值, 非规定值。

Note: The above are only regular values, not specified ones.

白云母粉系列 MUSCOVITE POWDER SERIES

白云母粉典型数据 Typical data of muscovite powder

	GM-2	GM-201	GM-5	GM-6	GM-603
外观 Appearance	白色粉末 White Powder	白色粉末 White Powder	白色粉末 White Powder	白色粉末 White Powder	白色粉末 White Powder
平均粒径, μm D50 μm *	≤ 24	≤ 26	≤ 48	17 ± 2	7 ± 1.5
105°C挥发物, % Volatile At 105°C	≤ 0.8				
PH 值 PH Value	8-10				
筛余率, % Sieve residue	≤ 3.0 (325 目)	≤ 2.0 (200 目)	≤ 3.0 (150 目)	≤ 3.0 (325 目)	≤ 0.1 (325 目)
松散密度, g/cm^3 Loose Density	≤ 0.16	≤ 0.20	≤ 0.24	≤ 0.15	≤ 0.15
比重, g/cm^3 Specific Gravity	2.65				
耐温度, °C Temperature Resistance	550				
莫氏硬度 Mohs hardness	2.5				
相对介电常数 Relative permittivity	6-8				

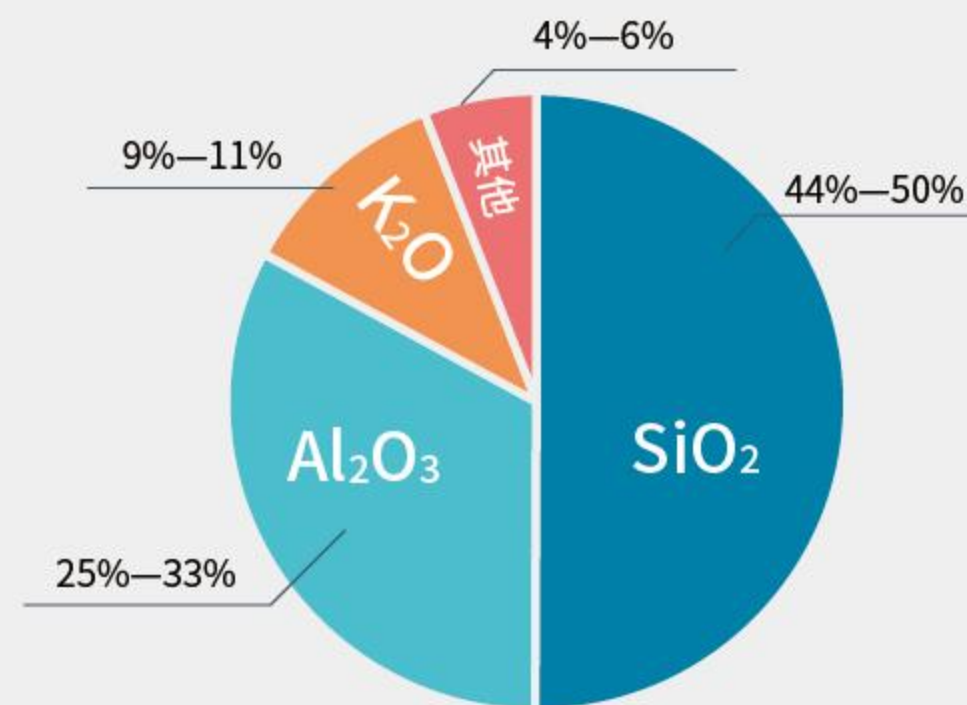
* Malvern mastersizer 3000

注: 以上为典型数据, 具体产品参数依据企业检验报告。

Note: The above are typical data, and the specific product parameters are based on the company's inspection reports.

白云母粉典型化学成分 Typical chemical composition of muscovite powder

成分 Composition	含量 % Percentage
SiO ₂	44-50
Al ₂ O ₃	25-33
K ₂ O	9-11
其他 Others	4-6



注: 以上仅为典型值, 非规定值。

Note: The above are only regular values, not specified ones.

金云母粉系列 PHLOGOPITE POWDER SERIES

金云母粉典型数据 Typical data of phlogopite

	GP-1	GP-2
外观 Appearance	棕灰色粉末 Brown-gray Powder	棕灰色粉末 Brown-gray Powder
平均粒径, μm D50 μm *	≤ 40	≤ 62
105°C挥发物, % Volatile At 105°C	≤ 1.0	
吸油量, $\text{g}/100\text{g}$ Oil Absorption	25-50	
PH 值 PH Value	8-10	
筛余率, % Sieve residue	≤ 1.5 (150 目)	≤ 1.0 (100 目)
松散密度, g/cm^3 Loose Density	0.21	0.28
比重, g/cm^3 Specific Gravity	2.75	
耐温度, °C Temperature Resistance	900	
莫氏硬度 Mohs hardness	3	
相对介电常数 Relative permittivity	7.5	

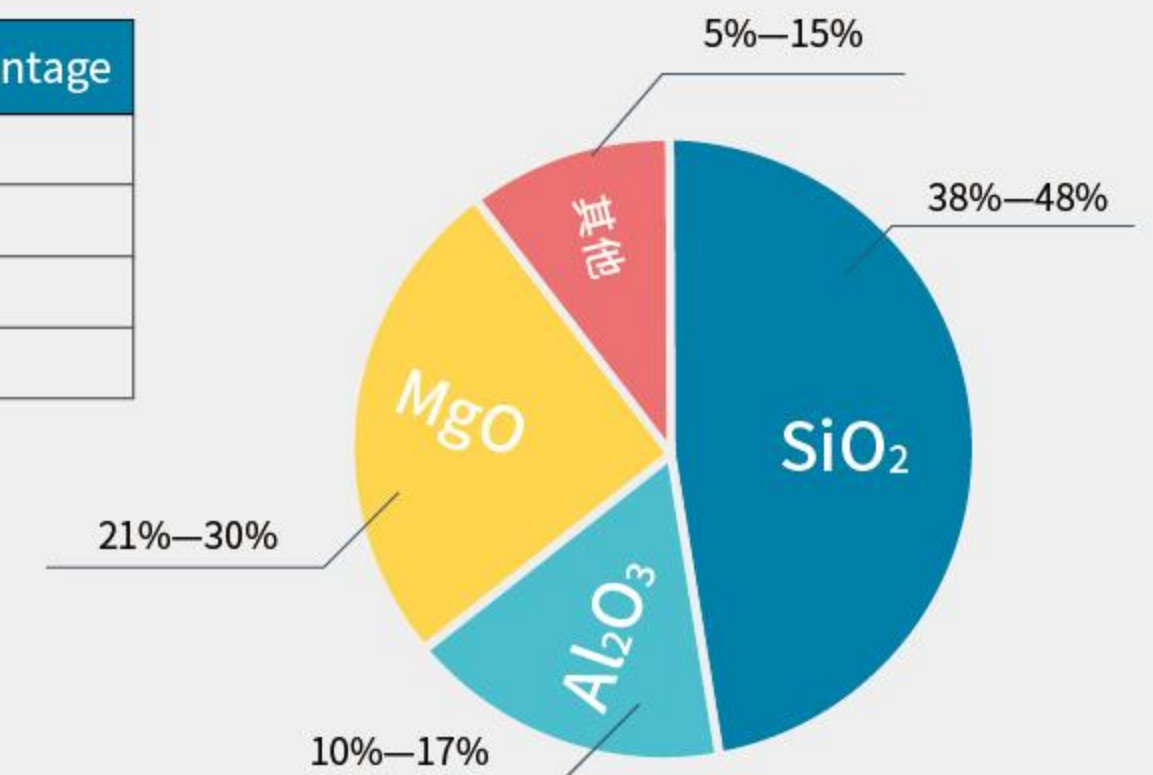
* Malvern mastersizer 3000

注: 以上为典型数据, 具体产品参数依据企业检验报告。

Note: The above are typical data, and the specific product parameters are based on the company's inspection reports.

金云母粉典型化学成分 Phlogopite powder chemical composition

成分 Composition	含量 % Percentage
SiO ₂	38-48
MgO	21-30
Al ₂ O ₃	10-17
其他 Others	5-15



注: 以上仅为典型值, 非规定值。

Note: The above are only regular values, not specified ones.

典型应用效果 TYPICAL APPLICATION EFFECT



应用场景区介绍 APPLICATION



- 船舶涂料
- Marine coatings



- 桥梁涂料
- Bridge coatings



- 管道涂料
- Pipeline coatings



- 储罐涂料
- Storage tank coatings



- 风电涂料
- Wind power coatings

应用场景区介绍 APPLICATION



- 水性钢结构涂料
- Water-based steel structure coatings



- 工程机械涂料
- Construction machinery coatings



- 集装箱涂料
- Container coatings



- 轨道交通涂料
- Rail transit coatings

助力建筑墙面漆性能提升
HELPING IMPROVE THE PERFORMANCE OF ARCHITECTURAL WALL PAINT

- 1 湿磨云母粉，优异的片层结构，对配方遮盖有增强作用，提高内墙乳胶漆的涂布率
Wet-milled mica powder, excellent lamella structure, enhancing the coverage of the formula, and improving the coating rate of interior wall latex paint
- 2 具有抗透水性，能够有效阻止污渍渗入漆膜中，抗裂
It has anti-permeability, can effectively prevent stains from penetrating into the paint film, and resist cracking
- 3 提升漆膜的强度和表面平整度，从而提高漆膜的耐擦洗性能
It can improve the strength and surface flatness of the paint film, thereby improving the scrubbing resistance of the paint film;

助力改性塑料性能提升
HELPING IMPROVE THE PERFORMANCE OF PLASTIC COMPOUND

- 1 轻量化首选改性材料之一——矿粉堆积密度 0.10-0.30g/cm³
One of the preferred modified materials for lightweight—Bulk density: 0.10-0.30g/cm³
- 2 改善热塑性树脂尺寸稳定性——降低收缩率，抑制翘曲，提高热变形温度
Improve the dimensional stability of thermoplastic resin—Reduce shrinkage, improve warpage, enhance the heat distortion temperature.
- 3 增加弯曲模量——高径厚比片状结构，双维度增强，保证树脂异向同性
Increase flexural modulus—Lamellar structure, two-dimensional enhancement, ensure resin isotropy
- 4 高端绝缘材料——低磁性物，高绝缘，满足高端智能及电子装配应用技术需求
Excellent insulating material—Low magnetic impurities, meet the requirements of high-end intelligent and electronic assembly application technology

应用场介绍 APPLICATION

- 外墙涂料
• Exterior wall paint
- 内墙涂料
• Interior wall paint
- 无机涂料
• Inorganic coatings
- 防火涂料
• Fireproof coatings
- 防水涂料
• Thermal insulation reflective coatings
- 隔热反射涂料
• Thermal insulation reflective coatings

应用场介绍 APPLICATION

- 车用改性塑料
• PP/PA/ABS/PET 及合金材料
- 5G 及特种改性塑料
• LCP/PPS/PTFE
- 家用及办公用具改性塑料
• PA/PC

02

SYNTHETIC MICA SERIES

人工合成云母系列

产品简介 PRODUCT INTRODUCTION

合成云母又称氟金云母，是依据天然云母的成分和结构，取多种矿物质（如高纯度石英、高纯度镁砂、碳酸钾等为原料）按特定比例混合，加热电解高温熔融，再经冷却析晶而成。

相对于天然云母，合成云母具有晶型结构完整、质地洁白、高纯度、几乎不含重金属、耐高温、抗强酸强碱、绝缘性能卓越等特点，是一种具有战略意义的人工合成薄片状非金属晶体新材料。

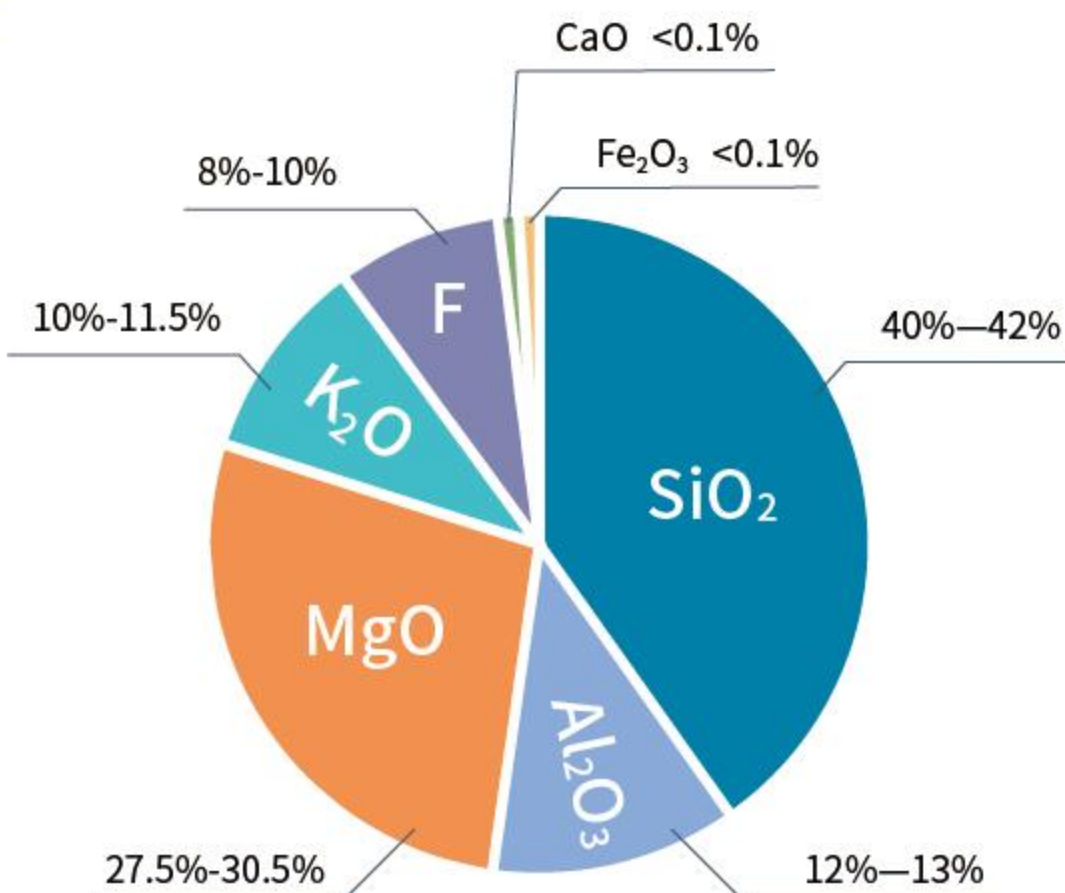
Synthetic mica, also known as fluorophlogopite, is based on the composition and structure of natural mica. It is prepared by mixing various minerals (such as high-purity quartz, high-purity magnesia, potassium carbonate, etc.) in a specific proportion, then heating, electrolyzing, high-temperature melting, finally cooling to crystallization.

As a kind of new synthetic sheet-like nonmetal crystal material with strategic significance, Synthetic mica has outstanding characteristics of complete crystal structure, white texture, high purity, almost no heavy metals, high temperature resistance, strong acid and alkali resistance, excellent insulation performance etc..

化学组成 CHEMICAL COMPOSITION

成分 Composition	含量 % Percentage
SiO ₂	40-42
Al ₂ O ₃	12-13
MgO	27.5-30.5
K ₂ O	10-11.5
F	8-10
Fe ₂ O ₃	<0.1
CaO	<0.1

分子式: $KMg_3(AlSi_3O_{10})F_2$
Molecular formula: $KMg_3(AlSi_3O_{10})F_2$



产品介绍 PRODUCT INTRODUCTION

珠光级合成云母 PEARLESCENT SYNTHETIC MICA

格锐珠光级合成云母产品系列丰富，具有粒度分布集中、径厚比大、表面平整光滑、纯净无杂质、耐高温和强酸碱、光泽亮丽的特性。以此为基材制得的珠光颜料色浓度高、色相纯正、光泽度优异，格锐珠光级合成云母是珠光颜料制备首选的基片材料之一。

Grea pearlescent grade synthetic mica series feature concentrated particle size distribution, large diameter thickness ratio, smooth surface, pure and no impurities, high temperature resistance, strong acid and alkali, and bright luster. The pearlescent pigment based on this material has high color concentration, pure color and excellent gloss. Grea pearlescent synthetic mica is one of the preferred substrate materials for pearlescent pigment preparation.

类型 Type	型号 Specs
大粒径段, μm Large size series	200-1000
	100-700
	100-500
粗粉系列, μm Coarse powder series	50-250
	40-200
	40-160
	30-120
	30-100
微粉系列, μm Micro powder series	10-60
	10-40
	5-25
	< 15

填料级合成云母粉 FILLER GRADE SYNTHETIC MICA POWDER

格锐填料级合成云母粉，具有粒度分布集中，径厚比大，杂质含量少，耐腐蚀性优良等诸多特点，主要用于树脂改性、高端绝缘材料、涂料、造纸、陶瓷化硅橡胶等诸多行业。

Grea filler grade synthetic mica powder has many characteristics, such as concentrated particle size distribution, large diameter thickness ratio, low impurity and excellent corrosion resistance. It is mainly used in resin modification, high-end insulation material, coating, paper-making, ceramic silicone rubber and many other industries.

	GHM-3	GHM-4	GHM-5	GHM-6	GHM-10
粒径, μm (D50) Particle size	4 \pm 1.0	7 \pm 1.5	12 \pm 1.5	24 \pm 1.5	45 \pm 3.0
白度 Whiteness	≥ 92				
105°C挥发物, % Volatile At 105°C	≤ 0.8				
325 目筛余率, % Sieve residue rate of 325 mesh	≤ 0.01	≤ 0.05	≤ 0.5	≤ 3.0	/
耐温性, °C Temperature resistance	1100				

化妆品级合成云母粉 COSMETIC GRADE SYNTHETIC MICA POWDER

格锐化妆品级合成云母粉。具有重金属低，白度高、径厚比大等特点。广泛应用于粉饼、散粉、眼影、底妆等产品。

Grea cosmetic grade synthetic mica powder, widely used in powder, loose powder, eye shadow, makeup and other products, has the characteristics of low heavy metal, high whiteness and large diameter thickness ratio.

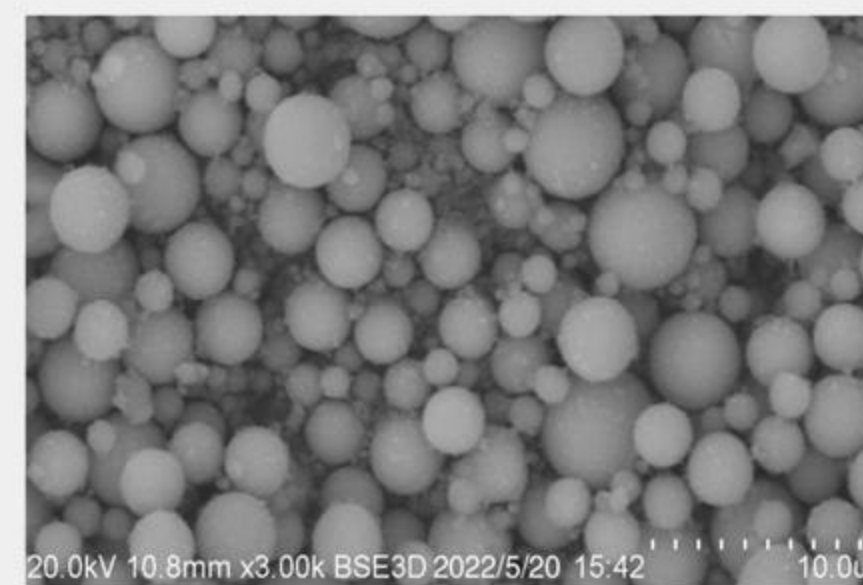
	SM-504	SM-515	SM-525	SM-560	SM-3010
粒径区间, μm Particle size	< 10	< 15	5-25	10-60	30-100
白度 Whiteness	≥ 92				
重金属及菌落总数含量 The content of heavy metals and the total number of colonies.	<p>重金属及菌落总数含量符合中华人民共和国《化妆品安全技术规范》（2015年版）和日本《医药部外品原料规格》（2006年版）中相关标准。</p> <p>The contents of heavy metals and total bacterial count comply with the relevant standards in the Safety and Technical Standards for Cosmetics (2015 Edition) of the People's Republic of China and the Specification of Raw Materials for Foreign products of Ministry of Medicine (2006 Edition) of Japan.</p>				

球形硅粉系列

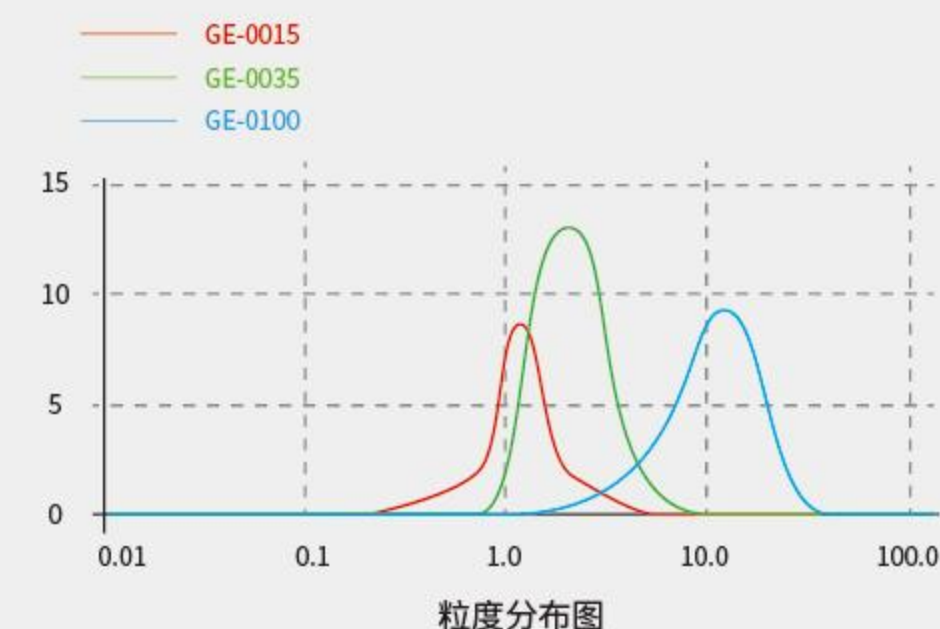
产品简介 PRODUCT INTRODUCTION

安徽格锐 GE 系列球形硅微粉以精选优质角形状熔融硅微粉为原料，通过火焰熔融冷却、精密分级、除杂、混合等多道工序精制而成。GE 系列球形硅微粉具有高球化率、高流动性、低 CTE、低介电常数和低介电损耗等优异性能，作为一种性能优异的先进无机非金属功能性填料，被广泛用于覆铜板、集成电路封装及基板、高端胶粘剂、特种陶瓷等领域。

Anhui GREA GE series spherical silica powder made of selected high-quality angular-shaped molten silicon powder as raw material, and is refined through flame melting and cooling, precise classification, impurity removal, mixing and other processes. GE series spherical silica powder has excellent properties such as high spheroidization rate, high fluidity, low CTE, low Dk and low Df. As an advanced inorganic non-metallic functional filler with excellent performance, it is widely used in copper clad laminates, integrated circuit packaging and substrates, high-end adhesives, special ceramics and other fields.



SEM 图片



粒度分布图

产品特点 FEATURES

1 ONE

球化率高，粒度分布集中，流动性好、热应力小
High spheroidization rate, concentrated particle size distribution, good fluidity and low thermal stress

优越的电性能，低介电常数和低介电损耗
Excellent electrical performance, low Dk and low Df

2 TWO

优异的耐化学性、耐候性、热稳定性
Excellent chemical resistance, weather resistance and thermal stability

4 FOUR

低膨胀系数，低摩擦系数
Low coefficient of expansion, low coefficient of friction

GRE A
产品特点
硅微粉系列

3 THREE

典型数据 TYPICAL DATA

		GE-0015	GE-0035	GE-0100
粒度分布, μm PSD	D50	1.5 \pm 0.5	3.5 \pm 0.5	10.0 \pm 1.0
	D100	\leq 10	\leq 12	\leq 45
磁性物含量, mg/kg Magnetic material		\leq 5.0	\leq 5.0	\leq 5.0
黑点数量, 个/300g Black spot impurity		\leq 10	\leq 10	\leq 10
电导率, $\mu\text{s}/\text{cm}$ Conductivity		\leq 10	\leq 10	\leq 10
PH 值 PH Value		5~7	5~7	5~7
SiO ₂ , %		\geq 99.8	\geq 99.8	\geq 99.8

注：1、可提供其他粒径的定制产品；2、可根据客户树脂体系定制表面改性处理产品。

典型应用 TYPICAL APPLICATIONS



- 电子环氧塑封料、浇注料
- Epoxy molding compound and castable



- 高频、高速覆铜板，HDI 基板、IC 载板
- High frequency & high-speed copper clad laminate, HDI substrate, IC carrier



- 特种陶瓷烧结助剂
- Special ceramic sintering additives



- 高性能涂料、高端胶粘剂、塑料等性能调节剂
- High performance coatings, high-end adhesives, plastics and other performance regulators