



SCIENCE & TECHNOLOGY

**HUITONG**

滙通科技

濮阳市汇通科技有限公司

PuYang HuiTong Science and Technology Co.,Ltd

ADD: Puwang industrial park,fanxian county,puyang city,HeNan,China.

Website: [www.htfiberglass.com](http://www.htfiberglass.com)

Email: [info@pyhuitong.com](mailto:info@pyhuitong.com)

TEL: 0086-0393-8753368



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## Focus on micro fiberglass production

**AGM Separator | Filter | Thermal Insulation**



Puyang Huitong Science and Technology Co.,Ltd

[www.htfiberglass.com](http://www.htfiberglass.com)



## Why Choose HuiTong ?

### 1. Raw Material Advantage

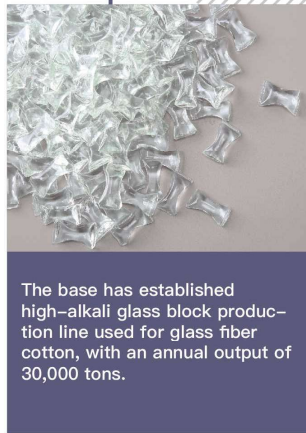
HuiTong has established its own production bases for the raw materials, including ultra-fine fiberglass cotton and high-alkali glass blocks, in order to ensure stable quality and a secure supply capacity.

### 2. Rich Experience

HuiTong team has more than 30 years of experience in the research and development and production of glass fiber materials. Over 60% of VRLA battery manufacturers in China use HuiTong's AGM separator.

### 3. Environmental Protection, Energy Saving & Sustainable

The company assembles intelligent and efficient production equipment, which is energy-saving and environmentally friendly. It possesses "full product chain recyclable technology" to achieve true environmental friendliness and enable recycling and regeneration.

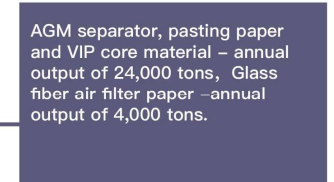


The base has established high-alkali glass block production line used for glass fiber cotton, with an annual output of 30,000 tons.

## Plant Layout



The base has established several glass fiber cotton production lines with an annual output of 26,000 tons.



AGM separator, pasting paper and VIP core material – annual output of 24,000 tons, Glass fiber air filter paper – annual output of 4,000 tons.





# Production workshop

The Company has an occupied area of 33 acre and its standardized production workshop covers 31,050m<sup>2</sup>. With its advanced clean and environmentally-friendly technology, superior production equipment and sound quality management system, the Company is able to steadily supply reliable high-quality products.

At present, our company has 13 production lines, including 11 production lines for AGM separators, pasting paper and VIP core material with a total annual production capacity of 24,000 tons, and 2 production lines for glass fiber air filter paper with an annual production capacity of 4,000 tons. Furthermore, it is planned to invest RMB312 million for the construction of two additional production lines for glass fiber filter paper, with an annual output of 5,000 tons.

**26000**

Glass fiber cotton -  
annual output of  
26,000 tons

**30000**

Glass block -  
annual output  
of 30,000 tons

**24000**

AGM separator, pasting  
paper and VIP core  
material - annual  
output of 24,000 tons

**4000**

Glass fiber air filter  
paper - annual  
output of 4,000 tons





# Plant Environment



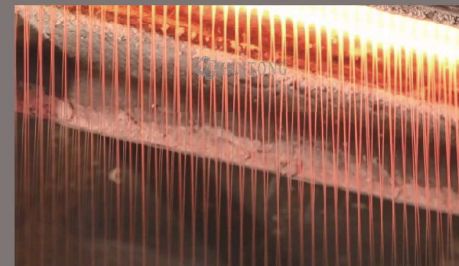
All production lines are equipped with energy-saving motors and high-efficiency energy-saving boilers. The frequency conversion devices are applied to the equipment, especially the high-power motors, saving electricity and fuel and also reducing pollution. On the aspect of reducing the energy consumption of products, our Company has already reached the advanced level in the same industry.



# Raw Material



High alkali glass block



Micro glass fiber cotton

Our company adopts the flame-blowing process to produce glass fiber cotton. The average diameter of the glass fiber produced by this process can be controlled between 0.10 $\mu$ m and 3.5 $\mu$ m. This kind of glass fiber cotton with small fiber diameter is commonly used as the materials for heat insulation, sound insulation, filtration, insulating separator and the other. The finished products which contain our glass fiber cotton have the characteristics of suppleness, lower thermal conductivity, good sound insulation effect, excellent acid absorption, good insulation, etc. The Company has set up several of glass fiber cotton production lines in Shanxi and Inner Mongolia, with an annual output of more than 20,000 tons. In order to ensure the stability and consistency of chemical properties of glass fiber cotton, we set up the high-alkali glass block production line used for glass fiber cotton, with an annual output of 30,000 tons, and placed the production line in the front of the industry chain. According to different fields, we can customize various types of micro glass fiber cotton to meet the needs for production of the end products.



# Products Center



# 1

## AGM Separator&Pasting paper

AGM Separator & Pasting paper for :

- Lead-acid battery
- Automatic start-stop battery
- UPS battery power supply
- Telecommunication
- Emergency lighting power supply

# 2

## Air filter paper

- HEPA Air Filter
- ULPA Air Filter
- FFU system
- AIR Shower
- Clean room

# 3

## Vacuum Insulation Panel Core Material(VIPs)

- Building thermal insulation
- Medical cold chain equipment
- Precision instrument transportation packaging
- High-end electrical appliances

# 4

## Composite Filter Paper

Ultra-fine glass fiber composite filter paper is mainly used for the filtration of high-grade aviation oil, hydraulic oil, heavy oil, water in nuclear power plants, compressor oil, and other liquids.



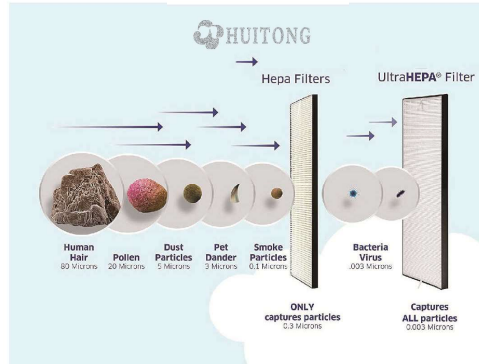
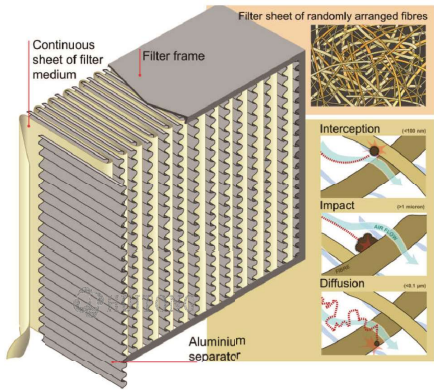
# 2 Air Filter Paper

Micro glass fiber air filter paper is produced by applying the wet process. The product is a combination of glass fiber and resin which can provide specific filtration performance and physical characteristics. The micro glass fiber filter paper can provide very high surface area "matrix" for capturing pollutants and other particles, while allowing high air permeability. The fiber size can be varied to meet the filtration need of specific applications.



## Product Advantages

High uniformity and filtration performance, high dust absorption, good antibacterial performance, high flux and air permeability, and capable coping with all sorts of pleating.



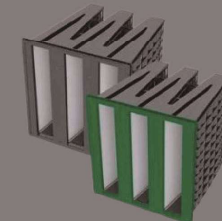
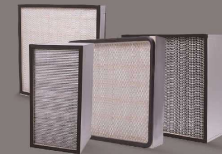
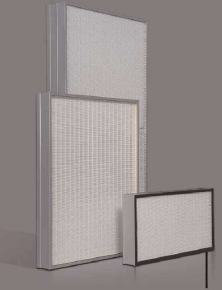
Filtration Effect	Technical Data	Thickness (mm/100KPa)	Basis Weight (g/m <sup>2</sup> )	MD Tensile Strength (KN/m)	CD Tensile Strength (KN/m)	MD Stiffness (mg)	Efficiency (%) 0.3µm	Resistance (Pa) 5.3cm/s	Water Repellency (mmH <sub>2</sub> O)
Medium	F6 (M6)	0.33±0.02	76±4	≥1.0	≥0.5	≥850	≥ 30	≤ 20	≥ 300
	F7 (M7)						≥ 40	≤ 30	
	F8 (M8)						≥ 55	≤ 45	
	F9 (M9)						≥ 80	≤ 70	

## HEPA

Filtration Effect	Technical Data	Thickness (mm/100KPa)	Basis Weight (g/m <sup>2</sup> )	MD Tensile Strength (KN/m)	CD Tensile Strength (KN/m)	MD Stiffness (mg)	Efficiency (%) 0.3µm	Resistance (Pa) 5.3cm/s	Water Repellency (mmH <sub>2</sub> O)
Sub-HEPA	H10(E10)	0.33±0.02	76±4	≥ 1.0	≥ 0.5	≥ 1100	≥ 94	≤ 110	≥ 500
	H11(E11)						≥ 98	≤ 160	≥ 500
HEPA	H12(E12)						≥ 99.8	≤ 230	≥ 550
	H13						≥ 99.95	≤ 290	≥ 550
	H14	≥ 99.995	≤ 360	≥ 550					

## ULPA

Filtration Effect	Technical Data	Thickness (mm/100KPa)	Basis Weight (g/m <sup>2</sup> )	MD Tensile Strength (KN/m)	CD Tensile Strength (KN/m)	MD Stiffness (mg)	Efficiency (%) 0.16µm	Resistance (Pa) 5.33cm/s	Water Repellency (mmH <sub>2</sub> O)
ULPA	U15	0.35±0.02	76±4	≥ 1.0	≥ 0.5	≥ 1100	≥ 99.9995	≤ 420	≥ 550

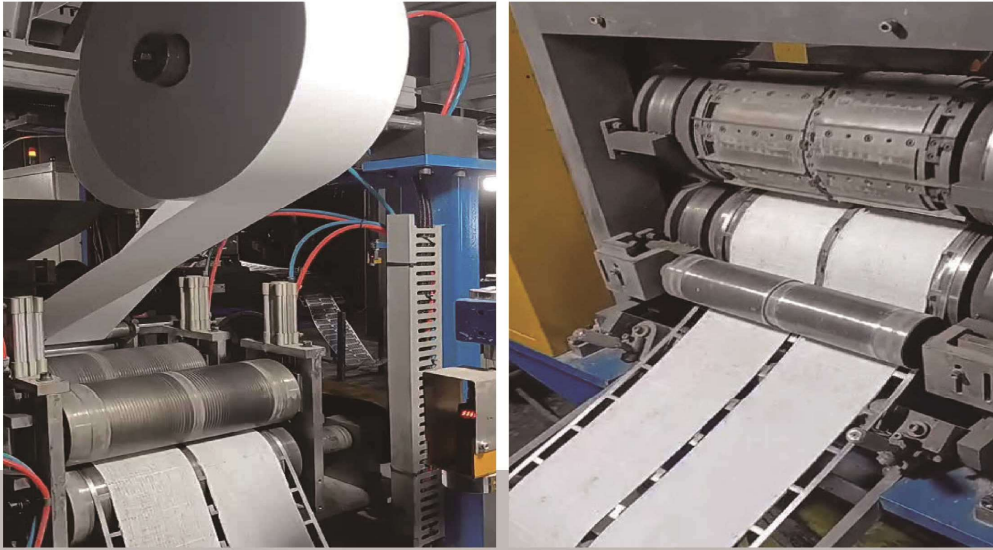




# 1.2

## Pasting Paper (Plate backing paper)

Pasting paper, also known as plate backing paper, is used in the continuous casting and coating process.



### Mutual effect

Pasting paper can improve the electrolytic stratification resistance and electrolyte filling efficiency.

### Improving performance

Pasting paper can optimize the cycling without disturbing other polar plates in the battery assembly. In addition, it can be helpful to high-speed discharge.

### Lighter weight

Pasting paper will not remarkably increase the thickness or weight of the assemblies.

### High adhesion

Pasting paper has pores and reacts well to lead-acid paste, ensuring lasting adhesion between appropriate materials.



HuiTong company is equipped with **On-line defect detection equipments** For AGM separator production line



## Pasting paper

Item	Unit	Standard	Results
Raw material composition	--	Micro-fiberglass	Micro-fiberglass
Thickness	mm	0.25±0.03mm	0.24
Width	mm	Customized size±1mm	136
Quantitative / Grammage	g/m2	39±4	42.4
Dry MD Tensile strength	KN/M	≥0.50	0.53
Air permeability	Cm3/cm2.min	≥9000	10424
Moisture	%	≤1	0.32
Iron contain	%	≤0.0040	0.0029
Chlorine concentration	%	≤0.0030	0.00397
Solubility	--	No	No



# 4

## Composite Filter Paper

Glass fiber composite filter paper is made from ultra-fine glass fibers as raw materials using a wet process. It is formed by combining ultra-fine glass fiber paper with non-woven fabric. The composite non-woven fabric serves the purpose of protecting the core material of the glass fiber paper, and it can be applied on one or both sides. The product is characterized by high dirt-holding capacity, low resistance, high strength, and stable performance.



### Working principle:

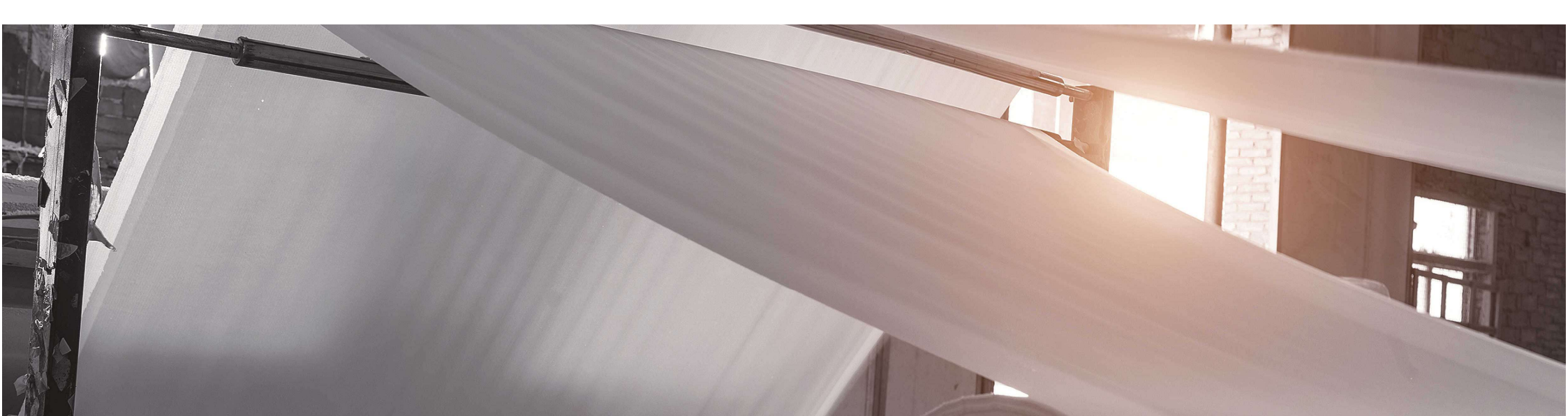
Because of the nanoscale fineness of the ultra-fine glass fibers, the fibers are fused with impregnated cellulose and polyester resin, forming a paper-like mesh with a micro-porous structure. When the liquid to be treated passes through the surface non-woven fabric and reaches the ultra-fine glass fiber paper, impurities and nanoscale particles in the liquid are trapped by the non-woven fabric layer and the network-like structure of the ultra-fine glass fibers, resulting in a clean liquid product.

Ultra-fine glass fiber composite filter paper is mainly used for the filtration of high-grade aviation oil, hydraulic oil, heavy oil, water in nuclear power plants, compressor oil, and other liquids. It effectively removes impurities from the liquid, resulting in purified liquid.



Model	Filtering accuracy	Thickness	Basis weight	Tensile strength	MFP pore size	Air permeability	Resistance	Efficiency
	( $\mu\text{m}$ )	(mm)	( $\text{g}/\text{m}^2$ )	( $\text{kg}/15\text{mm}$ )	( $\mu\text{m}$ )	( $1/\text{m}^2\text{s}@200\text{Pa}$ )	( $\text{Pa}@5.3\text{cm}/\text{s}$ )	$0.3\mu\text{m}@5.3\text{cm}/\text{s}$
HTD1	1	0.50 $\pm$ 0.1	140 $\pm$ 10	$\geq$ 2.5	1-2	-	$\leq$ 550	$\geq$ 99.999
HTD3	3				2-3	-	$\leq$ 460	$\geq$ 99.995
HTD5	5				4-6	-	$\leq$ 200	$\geq$ 99
HTD10	10				8-12	$\geq$ 200	$\leq$ 55	$\geq$ 70
HTD15	15				13-17	$\geq$ 310	$\leq$ 45	$\geq$ 55
HTD20	20				18-22	$\geq$ 430	$\leq$ 35	$\geq$ 45
HTD25	25				23-27	$\geq$ 580	-	-
HTD30	30				26-32	$\geq$ 750	-	-
HTD35	35				33-38	$\geq$ 900	-	-

Note: Double sided composite filter paper



# Management System Certification

**ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATE**  
 NO. 25320E2060R1S

This is to hereby certify that the organization  
**Puyang Huitong Science and Technology Co., Ltd**  
 Unified social credit code: 9141092022801832  
 Registered address: Puyang Industrial Park Zone, Fuyang, Henan  
 Business address: Puyang Industrial Park Zone, Fuyang, Henan  
 P. O. Box: 407512

Environmental management system conformity with standard:  
 GB/T24001-2016/ISO14001:2015  
 The certification scope of the following:  
 AEM separator production and plant.

Date of Issue: December 26, 2020 Expiry Date: February 04, 2024

**环境管理体系认证证书**  
 注册编号: 25320E2060R1S

兹证明  
**濮阳市汇通科技有限公司**  
 统一社会信用代码: 9141092022801832 邮编: 457512  
 注册地址: 濮阳市濮东工业园区 邮编: 457512  
 经营地址: 河南省濮阳市濮东工业园区  
 其质量管理体系符合  
 GB/T24001-2016/ISO14001:2015标准  
 认证范围:  
 AEM隔膜的生产及其场所涉及的环境管理活动

颁发日期: 2020年12月26日 有效期至: 2024年2月4日

**OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM CERTIFICATE**  
 NO. 25320S2047R1S

This is to hereby certify that the organization  
**Puyang Huitong Science and Technology Co., Ltd**  
 Unified social credit code: 9141092022801832  
 Registered address: Puyang Industrial Park Zone, Fuyang, Henan  
 Business address: Puyang Industrial Park Zone, Fuyang, Henan  
 P. O. Box: 407512

Occupational health and safety management system conformity with standard:  
 GB/T45001-2020/ISO45001:2018  
 The certification scope of the following:  
 The occupational health and safety management activities involved in the AEM separator production and plant.

Date of Issue: December 26, 2020 Expiry Date: February 04, 2024

**职业健康安全管理体系认证证书**  
 注册编号: 25320S2047R1S

兹证明  
**濮阳市汇通科技有限公司**  
 统一社会信用代码: 9141092022801832 邮编: 457512  
 注册地址: 濮阳市濮东工业园区 邮编: 457512  
 经营地址: 河南省濮阳市濮东工业园区  
 其职业健康安全管理体系符合  
 GB/T45001-2020/ISO45001:2018标准  
 认证范围:  
 AEM隔膜的生产及其场所涉及的职业健康安全活动

颁发日期: 2020年12月26日 有效期至: 2024年2月4日

**QUALITY MANAGEMENT SYSTEM CERTIFICATE**  
 NO. 25320Q2060R1S

This is to hereby certify that the organization  
**Puyang Huitong Science and Technology Co., Ltd**  
 Unified social credit code: 9141092022801832  
 Registered address: Puyang Industrial Park Zone, Fuyang, Henan  
 Business address: Puyang Industrial Park Zone, Fuyang, Henan  
 P. O. Box: 407512

Quality management system conformity with standard:  
 GB/T19001-2016/ISO9001:2015  
 The certification scope of the following:  
 The AEM separator production.

Date of Issue: December 26, 2020 Expiry Date: February 04, 2024

**质量管理体系认证证书**  
 注册编号: 25320Q2060R1S

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**濮阳市汇通科技有限公司**  
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 AEM隔膜的生产

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