

PLM FILTER SOLUTION GROUP

PLM ***FILTER FABRIC***



Filter Fabric Catalogue

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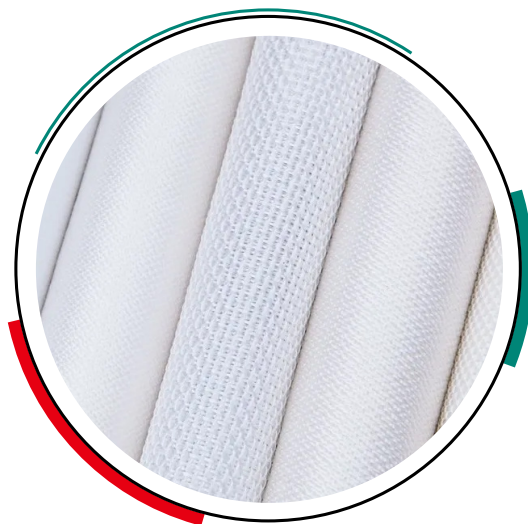
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Filter Fabric

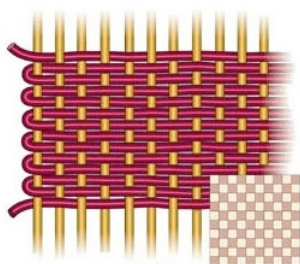
Filter fabric is a filtration medium woven from natural or synthetic fibers. Natural fibers include cotton, hemp, wool, silk, etc.; Synthetic fibers include polypropylene, polyester, nylon, vinylon, etc., with polyester and polypropylene being the most commonly used. In a broader sense, filter fabric materials also include various types of inorganic fibers, such as glass fiber, metal fiber, and asbestos fiber. Here, our products mainly focus on synthetic fibers.

Types of Filter Fabric

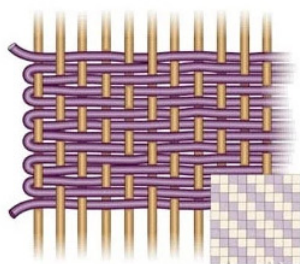
Filter fabric is mainly divided into non-woven filter fabric and woven filter fabric. Woven filter fabric is made by interlacing woven fibers in a certain pattern. The main types are plain weave, twill weave, and satin weave. The weaving process is primarily completed on a loom.



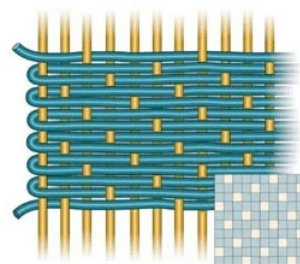
Woven Filter Fabric



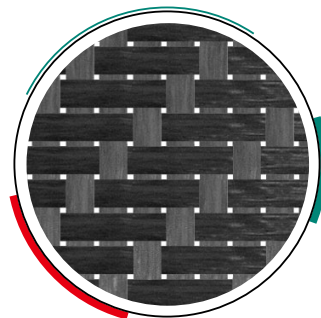
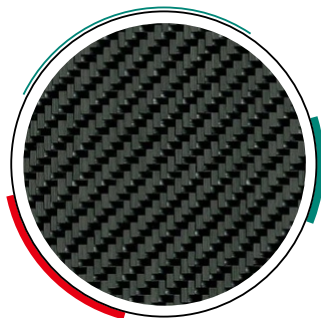
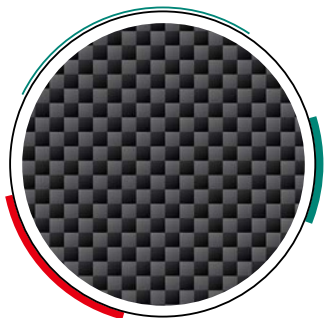
Plain



Twill



Satin



Non-Woven Filter Fabric

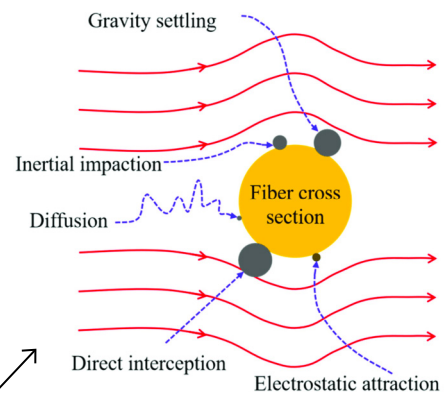
Non-woven filter fabric, also known as non-woven filter cloth, does not go through the usual spinning and weaving processes. Instead, fibers are directly formed into a web, and it is called fabric due to its appearance and certain properties. Our products mainly focus on non-woven filter fabric.

Production Process and Flow

The production process and procedure of non-woven filter fabric include: dry-laid web formation (needle punching, hydroentangling, stitch bonding, thermal bonding, chemical bonding); spunbond method; meltblown process; electrospinning; wet-laid web formation, etc. Among them, the market is mainly dominated by spunbond non-woven fabric and needle-punched non-woven fabric, accounting for 49.8% and 23.03% of the market share, respectively.

Filtration Mechanism

Most of the theories related to non-woven fabrics are based on the in-depth filtration effect. It is much more complex than simple screening or sieving. For particulate matter capture, in-depth filtration and separation theory have greater relevance than other mechanisms. At this point, inertial effect, interception effect, diffusion effect, electrostatic effect, and gravitational effect occur, thereby capturing dust particles.



Mechanism of Dust Capture by Non-woven Fabric Fiber Body

Inertial Effect.

When dust particles move along the streamline and approach the fiber body, the gas flows around, and dust particles with larger mass deviate from the streamline due to inertial force, moving tangentially, colliding with the fibers, and being captured.

Interception Effect.

When dust particles move along the streamline and approach the fiber body, most small dust particles flow around with the airflow, and only those with a radius greater than or equal to the distance from the center of the dust particle to the edge of the fiber are intercepted and attached by the fibers.

Diffusion Effect.

Particles with a diameter $\leq 0.1 \mu\text{m}$ undergo irregular Brownian diffusion due to the thermal motion of fluid molecules, deviating from the streamline and being captured by fibers. For particles with a diameter of $0.1 \mu\text{m}$, the diffusion distance can reach up to $17 \mu\text{m}$ per second at room temperature. The smaller the particle size and the higher the temperature of the dust-laden gas, the more obvious the diffusion effect.

Electrostatic Effect.

Due to frictional induction or the influence of an external electric field, dust particles or fibers become charged. When the charges of the two are opposite in polarity, the dust particles are attracted to and captured by the fibers under the action of Coulomb force.

Gravitational Effect.

When the dust particles are relatively large and heavy, and the airflow speed is low, the dust particles deviate from their trajectory under the influence of gravity, settle on the fiber surface, and are captured.

Types of Non-woven Fabric

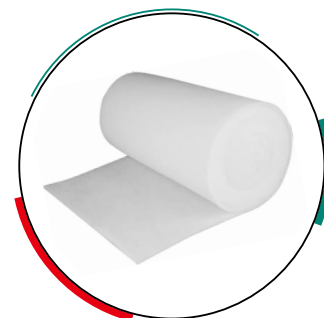
Our types of non-woven fabric include: cabin air filter fabric, filter fabric for dust collector filter bags, filter fabric for dust collector filter cartridges, primary efficiency filter fabric, and medium efficiency filter fabric.

Cabin Air Filter Fabric

Cabin air filter fabric is a filtration medium specifically used for indoor air purification in automobiles. It is composed of high-efficiency adsorption materials and long-fiber non-woven fabric, capable of effectively filtering smoke odors, pollen, dust, harmful gases, and various odors.

Ordinary Cabin Air Filter Fabric

Filament non-woven fabric is a type of non-woven fabric and a common type used in cabin air filters. It is made from continuous filaments processed through specific techniques. The main raw material of this non-woven fabric is polyester fiber, which forms the non-woven fabric through spunbond and thermal bonding methods. Filament non-woven fabric has various characteristics, including water repellency, high temperature resistance, good breathability, tensile and tear resistance, and anti-aging properties.



Code Number	Type	Weight (g/m ²)	Air Permeability (L/m ² /s)	Thickness (mm)	Burst Strength (Kpa)	Tearing Strength (N)	Bending Rigidity (gs)
LM-ACFW-120	White non-woven fabric	120	1540	0.6+0.1	+5	+25	+2.8
LM-ACFB-200	Carbon fiber filter fabric	200	2540	1	+8	+25	2.2

Activated Carbon Filter Fabric

Activated carbon filter fabric is a high-efficiency adsorption and filtration material that combines the physical properties of non-woven fabric with the adsorption performance of activated carbon. This type of filter fabric is formed by orderly processing and compounding multiple layers of non-woven fabrics with different filtration properties, with carbon sandwiched in between. Activated carbon filter fabric not only possesses the physical properties of fabric, such as flexibility and durability, but also has the adsorption and microporous filtration properties of activated carbon. Therefore, it is widely used in the production of automotive filters to adsorb odors and unpleasant smells inside the vehicle, such as benzene, formaldehyde, hydrogen sulfide compounds, ammonia, and other pollutant gases.



Code Number	Type	Weight (g/m ²)	Air Permeability (L/m ² /s)	Thickness (mm)	Burst Strength (Kpa)	Tearing Strength (N)	Bending Rigidity (gs)
LM-ACFC-3-380	Activated carbon filter fabric (3 layers)	380	1130	1.6	+8	+25	3.8
LM-ACFC-5-500	Activated carbon filter fabric (5 layers)	500	1130	1.6	+8	+25	3.8

Filter Fabric for Dust Collector Filter Bag

The filter fabric for dust collector filter bags is a type of filtration material used in industrial dust removal systems, primarily for manufacturing dust collector filter bags. Filter bags are used to capture and filter solid particles, dust, and smoke in the air, and are widely used in various industrial fields such as cement plants, steel mills, power plants, and chemical plants. Filter fabric is the core part of the filter bag, directly determining the dust removal efficiency and service life. It must possess excellent filtration, abrasion resistance, high temperature resistance, and chemical corrosion resistance properties. Filter fabrics made from different materials and treatment methods are suitable for different working conditions, ensuring effective control of dust emissions in industrial processes, thus protecting the environment and equipment.



Code Number	Composition	Air permeability (L/m ² /s)	Weight (g/m ²)	Breaking Strength (N/5/20 cm)		Elongation at Break (%)		Operating Temperature (°C)		Surface Treatment
	Fiber + Base fabric			Warp	Weft	Warp	Weft	Continuous	Instantaneous	
LMPO-PO-250	Polyester + Polyester	150–250	≥ 500	≥ 1100	≥ 1600	≤ 35	≤ 50	130	150	Heat setting, singeing, calendering, water and oil repellent, membrane, impregnation
LMPI-PI-300	Acrylic + Acrylic	200–350	≥ 500	≥ 700	≥ 800	≤ 20	≤ 40	120	140	
LMPP-PP-250	Polypropylene + Polypropylene	150–250	≥ 500	≥ 1500	≥ 1500	≤ 35	≤ 50	90	95	
LMPT-PT-250	PTFE + PTFE	150–250	≥ 750	≥ 700	≥ 800	≤ 15	≤ 30	260	280	Heat setting, PTFE membrane, PTFE emulsion impregnation
LMPI-PI-300	Polyimide + Polyimide	150–300	≥ 500	≥ 800	≥ 1000	≤ 20	≤ 40	260	280	
LMBA-BA-400	Basalt + Basalt	150–400	≥ 700	≥ 1900	≥ 2000	≤ 10	≤ 10	330	350	
LMAF-AF-250	Aramid + Aramid	150–250	≥ 500	≥ 800	≥ 1000	≤ 35	≤ 45	204	240	Heat setting, singeing, calendering, water and oil repellent, membrane, impregnation
LMAF-GF-300	Aramid + Fiberglass	150–300	≥ 650	≥ 1000	≥ 1200	≤ 40	≤ 50	210	250	
LMAF-PT-60	Aramid + PTFE	30–60	≥ 550	≥ 800	≥ 1000	≤ 35	≤ 45	204	240	
LMAFGF-GF-300	Aramid, Fiberglass + Fiberglass	150–300	≥ 850	≥ 2200	≥ 2100	≤ 10	≤ 10	220	260	
LMPPS-GF-300	PPS + Fiberglass	150–300	≥ 850	≥ 2200	≥ 2100	≤ 10	≤ 10	200	230	
LMPPS-PPS-60	PPS + PPS	30–60	≥ 550	≥ 900	≥ 1200	≤ 20	≤ 35	120	140	Microfiber, PTFE microporous membrane, PTFE coating, PTFE emulsion impregnation

Filter Fabric for Dust Collector Filter Cartridge

The filter fabric for dust collector filter cartridges is a filtration material used to manufacture dust collector filter cartridges, primarily applied in industrial dust removal systems. It is the core part of the dust collector filter cartridge, responsible for filtering dust and particulate matter from the gas. The filter cartridge, with its cylindrical structure and pleated filter fabric, provides a larger filtration area and is commonly used in industrial environments where space is limited but efficient dust removal is required. The filter fabric used in dust collector filter cartridges is an indispensable key material in industrial dust removal systems. By selecting the appropriate filter fabric material and treatment method, the filter cartridge can meet the dust removal needs under different working conditions, including normal temperature, high temperature, and chemical corrosion environments. Its pleated design and high-efficiency filtration performance make it widely used in many industrial applications.



Code Number	Composition	Unit Weight (g/m ²)	Thickness mm	Air Permeability [L/(m ² ·s)]	Breaking Strength (5 cm × 20 cm)/N		Working Temperature °C	Filter Rating μm	Dust Removal Efficiency %	Accuracy Grade	Remarks
					Horizontal	Vertical					
LMCTP-250	PET	170	0.45	220	250	300	≤ 135	5	≥ 99	F6	Flame retardant treatment available
LMCTP-150	PET	260	0.6	150	380	440	≤ 135	5	≥ 99.5	F6	Flame retardant treatment available
LMCTM-110	Wood pulp fiber	120	≥ 0.6	110	—	—	≤ 80	5	≥ 99.5	F6	—
LMCTMH-110	Wood pulp fiber and synthetic fiber	120	≥ 0.6	110	—	—	≤ 80	5	≥ 99.8	F6	—
LMCTPF-150	PET	260	0.6	150	380	440	65	5	≥ 99.5	F6	Water and oil repellent function
LMCTPF-70	PET	260	0.6	50-70	380	440	≤ 80	0.3	≥ 99.9	H11	PTFE coating, anti-static function

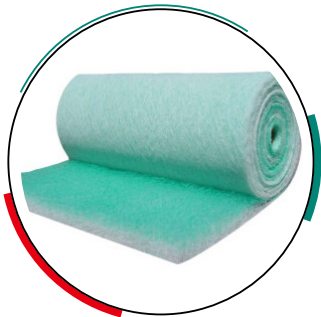
Primary Efficiency Filter Fabric

Primary efficiency filter fabric is a type of filter fabric used for air filtration, primarily functioning to filter large particles, dust, hair, bacteria, and other impurities in the air, ensuring air quality while extending the lifespan of high-efficiency filters. Primary efficiency filter fabric features a simple structure, easy installation, and high filtration efficiency, and is widely used in HVAC systems of clean rooms, hospitals, food processing, electronics, pharmaceuticals, and other fields. Primary efficiency filter fabric is typically used in the initial filtration stage, specifically designed to filter out dust particles of 5 μm and above.

Glass Fiber Paint Stop Filter

Glass fiber paint stop filter is a type of filtration material commonly used in paint booths and coating equipment, specifically designed to capture paint mist particles generated during the spraying process. This type of paint stop net is usually made of glass fiber, offering excellent high temperature resistance and strong filtration capability.

Glass fiber paint stop nets are widely used in the spraying and coating workshops of industries such as automotive, furniture, marine, and aviation, to capture and filter paint mist, maintain air quality within the workshop, reduce pollutant emissions, and protect the health of operators.



Specifications

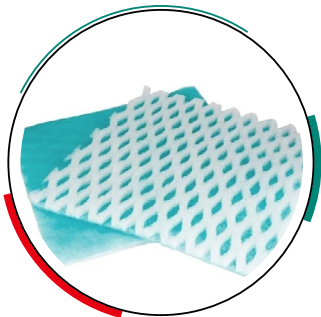
Code Number	Type	Weight (g/m ²)	Efficiency	Initial Resistance	High-Temperature Resistance °C
LM-50	Glass fiber paint stop filter	–	G3	20	170
LM-100	Glass fiber paint stop filter	–	G4	25	170

Filtration Efficiency

2um	5um	10um
35	60	70
45	80	92

DPA Paint Mist Filter Cotton

DPA paint mist filter cotton is an air filtration material used in spray booths and painting workshops, specifically designed to capture and filter paint mist particles generated during the spraying process. It is typically made of high-efficiency synthetic fibers, with strong adsorption capacity and long service life.

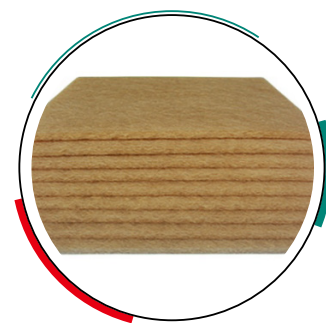


Specifications

Code Number	Type	Weight (g/m ²)	Efficiency	Initial Resistance	High-Temperature Resistance °C
LMDPA-15	DPA paint mist filter cotton	–	G4	15	≤ 100

High-Temperature Resistant Filter Cotton

High-temperature resistant filter cotton is a filtration material specifically used in high-temperature environments, capable of maintaining stable performance and high filtration efficiency under high-temperature conditions. This type of filter cotton is usually made of high-temperature resistant fiber materials, such as polyamide and polyimide, and is widely used in industrial production, flue gas filtration, drying equipment, and other high-temperature environments.



Code Number	Gravimetric Efficiency	Filtration Air Velocity	Initial Resistance	Heat Resistance Temperature	Fiber Material	Thickness	Standard Size
LM-HC-34	90%	1.0 m/s	34Pa	240 °C	Polyamide	23 mm	500 × 500 mm 800 × 800 mm
LM-HC-38	90%	1.0 m/s	38Pa	300 °C	Polyimide	20 mm	500 × 500 mm 800 × 800 mm

Non-Woven Filter Cotton

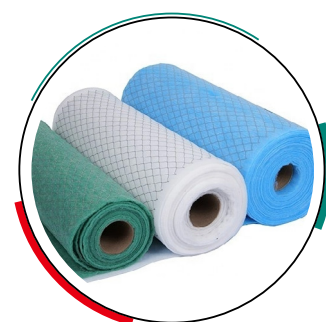
Non-woven filter cotton is an air filtration product made from non-woven fabric materials, widely used in air purification, industrial filtration, and other fields. It has good filtration performance, lower resistance, and a longer service life, suitable for various filtration applications. Non-woven filter cotton can be made from materials like polyester fiber, forming a dense filtration layer through special hot pressing or needle punching process.



Code Number	Type	Weight (g/m ²)	Efficiency	Initial Resistance	High-Temperature Resistance °C
LMCW-150	Non-woven filter cotton	150	G4	25	≤ 100
LMCW-200	Non-woven filter cotton	200	G4	30	≤ 100
LMCW-250	Non-woven filter cotton	250	G4	35	≤ 100
LMCW-280	Non-woven filter cotton	280	G4	40	≤ 100

Mesh-Covered Primary Effect Cotton

Mesh-covered primary effect cotton is a primary filtration material with a support mesh, mainly used in the primary filtration stage of air filtration systems. By covering a layer of metal or plastic support mesh on the filter cotton, the filtration material becomes more robust and durable, suitable for environments with high air volume and dust levels, commonly used in HVAC systems, ventilation systems, and other air handling equipment.



Model	Filtration Level	Gravimetric Efficiency (%)	Air Velocity (m/s)	Initial Efficiency (%)	Initial Resistance (Pa)	Dust Holding Capacity (g/m ²)
LM-MC-G3	G3	91%	0.2	<15	3	135
LM-MC-G4	G4	91%	0.5	<10	10	135

Activated Carbon Honeycomb Cotton

Activated carbon honeycomb cotton uses powdered activated carbon as the adsorption material, which is loaded onto a non-woven fiber substrate for air filtration. It has good adsorption and dust collection effects, good formability (can be cut and folded arbitrarily), high strength, and low airflow resistance. It is mainly used for oil fume purification, various household and automotive cabin air conditioners, air filter accessories, water purification, gas phase adsorption, etc. It can be used alone to remove fine dust, smoke, odors, and volatile organic pollutants such as benzene and formaldehyde. It can also be combined with superfine melt-blown fibers and coarse filter cotton to achieve higher dust filtration and deodorization effects.



Specifications

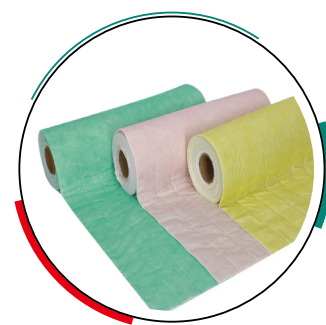
Substrate	Polyester Fiber
Activated Carbon	Wood-based, coal-based, coconut shell powdered activated carbon
Carbon Content	≥ 45%
Benzene Adsorption	≥ 22%
Product Features	High dust holding capacity, easy to fold
	Width: ≤ 200 cm
Standard Specifications	Thickness: 1–4 mm Length: 100 m/roll
	Thickness: 5–10 mm Length: 60 m/roll
	Thickness: 15–20 mm Length: 20 or 30 m/roll
Conventional Thickness	2–20 m
Resistance	Gas Line Velocity 1.0 m/s
Type	Pressure Drop ≤ 80 Pa (tested with 5 nm thick filter material)
Remarks	Non-Flame Retardant and Flame Retardant
	Can be customized according to customer requirements, products are divided into flame retardant and non-flame retardant types.

Medium Efficiency Filter Fabric

Medium efficiency filter fabric is a key component used in air filtration systems. It belongs to the F series filters and is mainly divided into bag-type and non-bag-type (such as panel, partitioned, and combination types). The main function of medium efficiency filter fabric is to capture particulate dust and various suspended matter in the air ranging from 1–5 microns, to protect the next level of filters in the system and the system itself. In some environments where the cleanliness requirements are not particularly stringent, medium efficiency filter fabric can be used directly to deliver filtered air indoors.

Non-Woven Bag Filter Material

Non-woven bag filter material is a type of high-efficiency filtration material made from non-woven fabric, commonly used in bag filters. It has excellent filtration performance and a relatively high dust holding capacity, and is widely used in air purification, industrial dust removal, HVAC systems, and other fields. Non-woven bag filter material is often made from materials such as polyester fiber or polypropylene, and is formed into a bag shape through special heat sealing or sewing processes, effectively capturing dust and particulate matter in the air.



Type	Rated Wind Speed (m/s)	Enumerative Efficiency (%)			Initial Resistance (Pa)	Dust Capacity (g/m ²)	Basic Fabric	Thickness mm	Basic Fabric
		≥ 0.5 μm	≥ 1 μm	≥ 5 μm					
LMDS-A-F5	—	—	≥ 60	≥ 85	≤ 50	≥ 150	White or light yellow	3±1	F5 Bag filter
LMDS-A-F6	—	≥ 35	≥ 70	≥ 90	≤ 45	≥ 140	Green or orange	3±1	F6 Bag filter
		—	≥ 37	≥ 80	≥ 90				
LMDS-A-F7	—	≥ 70	≥ 90	≥ 95	≤ 45	≥ 120	Pink or purple	4±1	F7 Bag filter
		—	≥ 80	≥ 95	≥ 95				
LMDS-A-F8	—	≥ 95	≥ 98	≥ 99	≤ 50	≥ 100	Light yellow or dark yellow	4±1	F8 Bag filter
LMDS-B-F5	—	≥ 35	≥ 70	≥ 80	≤ 45	≥ 120	White or light yellow	3±1	F5 Bag filter
LMDS-B-F6	—	≥ 37	≥ 75	≥ 90	≤ 45	≥ 110	Green or orange	3±1	F6 Bag filter
		≥ 70	≥ 80	≥ 90	≤ 35				
LMDS-B-F7	—	≥ 80	≥ 95	≥ 99	≤ 55	≥ 100	Pink or purple	4±1	F7 Bag filter
		≥ 95	≥ 95	≥ 95	≤ 35				
LMDS-B-F8	—	—	≥ 98	≥ 99	≤ 50	≥ 100	Light yellow or dark yellow	4±1	F8 Bag filter

Non-Woven Filter Cotton

Non-woven filter cotton is a filtration medium made from non-woven fabric, widely used in air purification, industrial filtration, and other applications. Its main features include good permeability, high filtration efficiency, and low air resistance, effectively capturing dust, particulate matter, and suspended matter in the air. Non-woven filter cotton is usually made of synthetic fibers such as polyester fiber or polypropylene, and is processed and formed through techniques such as heat pressing, needle punching, or chemical bonding.



Model	Thickness mm	Filtrate speed m/s	Initial Resistance	Final Resistance	Particle Size μm	Counting Efficiency (E)%	Dust Holding Capacity g/m
LM-NC-F5	8–10	2.5	≤ 50	150–200	≥ 0.5	$40 > E \geq 20$	650
LM-NC-F6				200–300		$60 > E \geq 40$	600
LMS-NC-F6				240–320		$60 > E \geq 40$	600
LM-NC-F7				250–350		$70 > E \geq 60$	550
LM-NC-F8	8–10	2.0	≤ 100	300–400		$95 > E \geq 70$	500
LM-NC-F9		1.5	≤ 120	400–450		$99.9 > E \geq 95$	400

Medium Efficiency Mesh-Covered Cotton

Medium efficiency mesh-covered cotton is a medium efficiency filtration material with an additional metal or plastic mesh on non-woven filter cotton, mainly used for medium efficiency air filtration. Its mesh-covered design enhances the structural stability and durability of the filter cotton, making it suitable for environments with high air volume and dust, such as air conditioning systems, ventilation equipment, and industrial dust removal equipment.



Code Number	Type	Filtration Level	Weight Efficiency (%)	Air Velocity (m/s)	Initial Efficiency (%)	Initial Resistance (Pa)	Dust Holding Capacity (g/m ²)
LMFM-F5	Mesh-covered cotton	F5	92	0.4	< 20	20	138
LMFM-F6	Mesh-covered cotton	F6	96	0.3	< 30	30	138
LMFM-F7	Mesh-covered cotton	F7	97	0.15	< 55	40	142
LMFM-F8	Mesh-covered cotton	F8	98	0.1	< 80	50	142
LMFM-F9	Mesh-covered cotton	F9	99	0.1	< 90	55	150

Glass Fiber Flame Retardant Filter Cotton

Glass fiber flame retardant filter cotton is a filtration material made of glass fiber, possessing excellent flame retardant properties and high filtration efficiency, widely used in air filtration in high-temperature environments. Due to its inherent good heat resistance, flame retardancy, and chemical stability, glass fiber flame retardant filter cotton is commonly used in high-temperature equipment in industrial fields and air purification systems requiring flame retardant properties.

Specifications

Filter Material	Special Organic Synthetic Fiber Material
Special Organic Synthetic Fiber Material	F5 / EU5
Filtration Precision	Capable of Filtering $\geq 1 \mu\text{m}$ Particles
Filtration Efficiency	96%
Initial Resistance	25 Pa
Final Resistance	(Recommended) 450 Pa
Dust Holding Capacity	520 g/m ²
Temperature Resistance	220 °C





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