Solid Pollutant Treatment Filtration Media-KLN Meltblown Nonwoven Series

KLN Functional Meltblown Nonwoven Spec

Product Name	Weight（g / ㎡）	Thickness（mm）	32L/min		85L/min		Function Test Data
			Efficiency（%）	Pressure Drop（Pa）	Efficiency（%）	Pressure Drop（Pa）	
KLNK95-20L	20±10%	0.2±0.1%	≥95	≤12	≥80	≤28	Antibacteria：Escherichia coli ＞99.9%
KLNK99.5-25L	25±10%	0.24±0.1%	≥99.5	≤20	≥95	50	Staphylococcus aureus>98.9%
KLNQS-20L	20±10%	0.2±0.1%	/	/	/	/	/

⋆Tested and certified by SGS

KLN High CCM Media Spec（Meltblown）

Product Name	Model Number	Weight（g / ㎡）	Thickness（mm）	32L/min	
				Efficiency（%）	Pressure Drop（Pa）
KL-M14	98-40	40.2	0.276	99.354	14.65
KL-M16	99.5-38	38.6	0.291	99.825	16.02
KL-M18	99.97-40	38.8	0.311	99.977	29.42

KLN High CCM Laminated Media Spec（Single Function Lamination）

Product Name	Model Number	Weight（g / ㎡）	Thickness（mm）	32L/min	
				Efficiency（%）	Pressure Drop（Pa）
KL-M18	99.97-40 Meltblown Laminated with 75G Dry Laid Nonwoven	118.1	0.582	99.992	33.4

KLN High CCM Laminated Media Spec（CCM,PCADR）

Filter Area（2.07 ㎡）/ Unloaded Air Flow（550m3 / h）

Product Name	Model Number	PCADR (m/h)m3/h	PCCM (mg)	单位面积净化量 (mg/㎡)
KL-M14	98-40 Meltblown Laminated with 75G Dry Laid Nonwoven	318.6	6199	≈3000
KL-M16	99.5-38 Meltblown Laminated with 75G Dry Laid Nonwoven	326.5	10448	≈5000
KL-M18	99.97-40 Meltblown Laminated with 75G Dry Laid Nonwoven	310.5	23057	≈11000

Solid Pollutant Treatment Filtration Media-KLN Meltblown Nonwoven Series

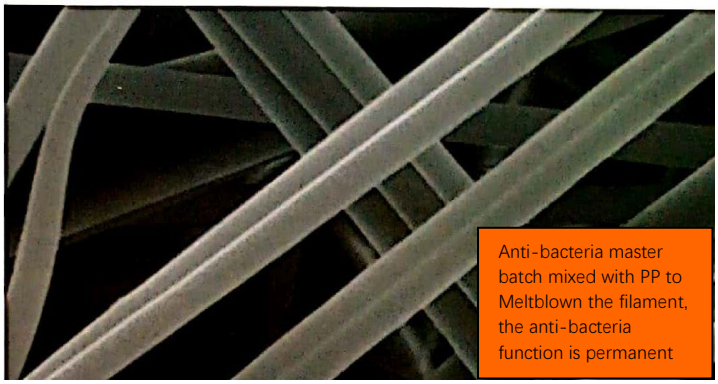
Anti-bacteria Meltblown Filtration Media Spec					
Application	**Product Name**	**Efficiency**	**Weight（g / ㎡）**	**Pressure Drop（Pa）**	**Remark**
Automotive Filter	—	65%	15-30	4.0↓	Test Equipment：TSI 8130 Air Flow：32LPM Particle：0.3μm Experimental Particle：NaCl
	-	85%	15-30	8.0↓	
Air Filter Vacuum Cleaner，Air Conditioner，Air Purifier	H-10	85%	15-30	8.0↓	
	H-11	95%	15-40	11.0↓	
Surgical Mask	BFE 95	85↑	10-30	8.0 ↓	
	BFE 99	90↑	10-40	10.0↓	

1）Material:100%PP+Anti-bacteria master batch

2）Meltblown processing with PP+Master batch, excellent performance

Anti-bacteria Meltblown filter media

Anti-bacteria treatment for most competitors



KL Anti-bacteria treatment

KLN Meltblown Nonwoven Spec						
Product Name	Weight（g / ㎡）	Thickness（mm）	32L/min		85L/min	
			Efficiency（%）	Pressure Drop（Pa）	Efficiency（%）	Pressure Drop（Pa）
KLN35-15L	15±10%	0.18±0.1%	≥35	≤2	≥30	≤9
KLN65-15L	15±10%	0.2±0.1%	≥65	≤4	≥45	≤12
KLN85-20L	20±10%	0.2±0.1%	≥85	≤7	≥75	≤18
KLN95-20L	20±10%	0.2±0.1%	≥95	≤12	≥80	≤28
KLN95-40L	40±10%	0.3±0.1%	≥95	≤13	≥80	≤29
KLN98-20L	20±10%	0.2±0.1%	≥98	≤15	≥92	≤42
KLN99-20L	20±10%	0.2±0.1%	≥99	≤15	≥94	≤55
KLN99.5-25L	25±10%	0.22±0.1%	≥99.5	≤20	≥95	≤50
KLN99.5-38PL	38±10%	0.26±0.1%	≥99.5	≤20	≥95	≤48
KLN99.97-25L	25±10%	0.22±0.1%	≥99.97	≤30	≥99.5	≤85
KLN99.97-30L	30±10%	0.25±0.1%	≥99.97	≤30	≥99.5	≤85
KLN99.97-40L	40±10%	0.33±0.1%	≥99.97	≤35	≥99.5	≤85
KLN99.97-60L	60±10%	0.5±0.1%	≥99.97	≤38	≥99.5	≤85
KLN99.99-40L	40±10%	0.35±0.1%	≥99.99	≤40	≥99.9	≤105

* RoHS,REACH TESTED AND APPROVED BY SGS AND OTHER TEST LABS

Solid Pollutant Treatment Filtration Media-KLN Meltblown Nonwoven Series

KLN Meltblown Nonwoven Series

With USA Equipment imported PP resin, unique recipe and electrostatic electret treatment technology KLN Meltblown nonwoven filter media is with high efficiency, low pressure drop, high dust capacity, long life and excellent filtration performance for micro particle

Household Air Purifier and Automotive Meltblown Filter Media Spec

Product Name	Efficiency	Weight（g / ㎡）	Pressure Drop（Pa）	Remark
H-10	85%	15-30	7.0↓	Tester：TSI 8130 Air Flow：32LPM Particle：0.3μm Experimental particle：NaCl
H-11	95%	15-40	10.0↓	
H-12	99.5%	20-40	18.0↓	
H-13	99.95%	25-50	30.0↓	
H-14	99.995%	30-60	40.0↓	

Industry Application Meltblown Filter Media Spec

Product Name	Efficiency	Weight（g / ㎡）	Pressure Drop（Pa）	Remark
MERV 13	65 75%	10-30	6.0↓	Tester：TSI 8130 Air Flow：32LPM Particle：0.3μm Experimental particle：DOP Particle：0.3μm Experimental particle：NaCl
MERV 14	75 85%	10-40	10.0↓	
MERV 15	85 95%	25 50	15.0↓	
MERV 16	95 99.0%	25 80	25.0↓	
MERV 17	99.0%	25 80	30.0↓	

Mask Application Meltblown Filter Media Spec

Product Name	Model Name	Weight（g / ㎡）	Efficiency（%）	Drop Pressure（Pa）	备注
Surgical Mask	BFE 95	10-30	85↑	8.0↓	TSI 8130,NaCl,32LPM
	BFE 99	10-40	90↑	10.0↓	
N Series Mask	N95	20-50	95↑	50.0↓	TSI 8130,NaCl,85LPM TSI 8130,Paraffin,95LPM
Dust Proof Mask	P1	25-80	85↑	100.0↓	
	P2	35-80	94↑	150.0↓	

Tested and approved by Nelson Labs, BFE95（=97.5%） BFE 99（=99.7%）

Solid Pollutant Treatment Filtration Media-KLN Meltblown Nonwoven Series

Thermostability Meltblown Nonwoven Series			
Product Name	**Weight（g / ㎡）**	**Air permeability (cm3/c ㎡/sec)**	**Remark**
PBT20	20	10.0↑	100％ Meltblown Nonwoven Air permeability：FX3300
PBT30	30	13.0↑	
PBT40	40	60.0↑	
PBT60	60	80.0↑	
3 Layers Laminated	320	6.0↑	PET SB/PBT MB/Paper
6 layers laminated	270	7.0↑	PET SB/PBT MB/PBT MB/PBT MB/PBT MB/PET TB

Thermostability Meltblown Filter Media Spec

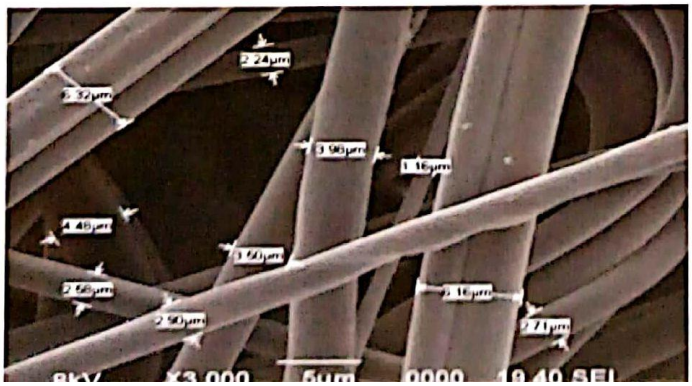
1) Better thermostability vs PP（150℃）
2） Organic solvent，longer life for fuel filtration
3） Thermostability filter media for hydrocarbon and liquid fuel：Freight vehicles and heavy equipment
4） Suitable as filter media for lubricant、coolant, carbon ore de-humidity, high efficiency blood filtration
5） Good tension and air permeability

Hydrophilic Meltblown Nonwoven Filter Media Spec				
Item	**Weight（g / ㎡）**	**Filamentφ（μm）**	**Air Permeability (cm3/c ㎡ 2/sec)**	**Remark**
Hydrophilic 100％PP	20 150	Minimum 1.5	20↑	Hydrophilic agent is included into the PP filament while spinning

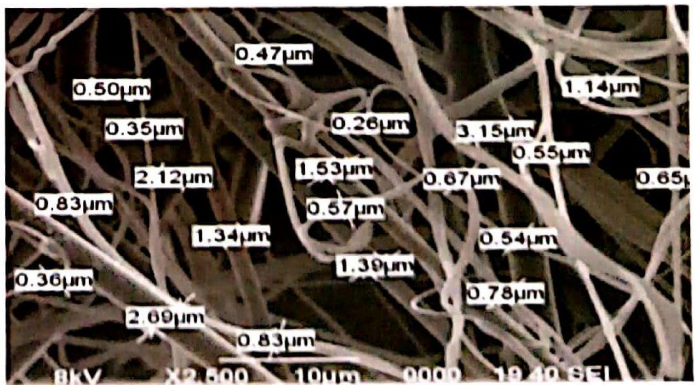
Existing Meltblown of most makers vs Kunlun's Hydrophilic Nano ultrafine Meltblown nonwoven

	Existing hydrophilic Meltblown of most makers	Kunlun's hydrophilic nano ultrafine Meltblown nonwoven
Material	100%PP	100%PP
Approach of hydrophilization	Spray the hydrophilic agent on the filament surface, unknown if it is harmful to human body	Mix the hydrophilic agent into PP while spinning, agent is embedded into filament, safe to human body。
Average filament diameter	3.6μm	1.5μm
Application	Water treatment filtration media：water permeability improved cosmetic mask, The contact feeling between nanofibers and skin is good	

Hydrophilic Meltblown Filter Meida



Most maker's Meltblown filament diameter is 3.6μm

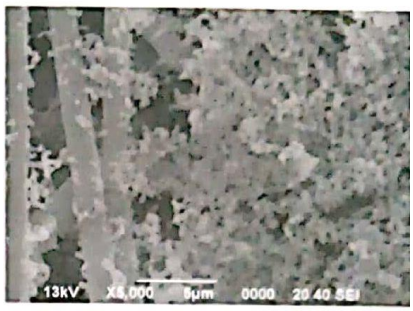


Kunlun Meltblown filament diameter 1.5μm

Solid Pollutant Treatment Filtration Media-KLE Electrostatic Nonwoven

KLE Electrostatic Nonwoven

1. Compared with ordinary fiber filter media, electrostatic fiber is made by unique process, which has the characteristics of small pressure drop, high efficiency and long life;
2. Because of its unique three-dimensional structure, compared with ordinary filter material, it has the advantages of high dust capacity and long life;
3. Non toxic and tasteless, without adhesive. It has the advantages of high dust capacity and long life;
4. The flame retardant level can be achieved without affecting the efficiency and other functions!



KL Electrostatic Nonwoven Fabric Spec

Product Name	Weight（g / ㎡）	Efficiency（%）	Pressure Drop（Pa）	Remark
KLE80P-G35L	35	60↑	1.7↓	Non Flame-retardant Tester：TSI8130 Air Flow：32LPM Particle：0.3μm Experimental Particle：NaCl
KLE90P-G45L	55	80↑	2.5↓	
KLE70-G50L	50	80↑	3.0↓	
KLE80-G70L	70	85↑	4.0↓	
KLE90-G90L	90	90↑	5.0↓	
KLE95P-G120L	120	95↑	6.0↓	
KLE99P-G170L	170	99↑	8.0↓	
KLE99.5P-G210L	210	99.5↑	12.0↓	
KLE70-G50FL	35-210	60-99.5	1.7-12	Flame-retardant

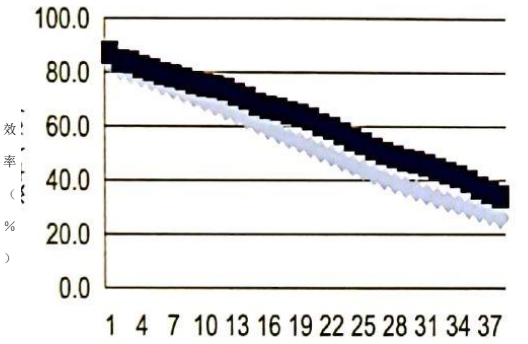
KL Electrostatic Nonwoven Fabric vs a famous US maker's Electrostatic Nonwoven Fabric

Product Name	Weight（g / ㎡）	Efficiency（%）	Pressure Drop（Pa）	Remark
US maker	37	51.5	1.4	Tester：TSI 8130 Air Flow：32LPM Particle：0.3μm Experimental Particle：NaCl
KLE80P-G35L	35	60↑	1.7↓	
US maker	60	76.5	2.8	
KLE90P-G45L	55	80↑	2.5↓	
US maker	120	93.5	5.3	
KLE95P-G120L	120	95.5↑	6.0↓	
US maker	180	97.6	7.8	
KLE99.5P-G210L	170	99↑	8.0↓	

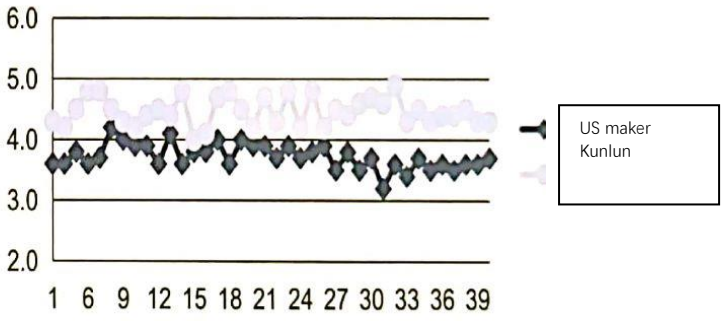
Solid Pollutant Treatment Filtration Media-KLE Electrostatic Nonwoven

Life Test:KL Electrostatic Nonwoven Fabric vs a famous US maker's Electrostatic Nonwoven Fabric					
Test Time	Pressure Drop（Pa）		Efficiency（%）		Remark
	Kunlun	US maker	Kunlun	US maker	Tester：TSI8130 Air Flow：32LPM， Particle Size：0.3μm Experimental Particle ：DOP， Test Time：40 分钟
1min	3.6	4.3	87.2	84.1	
10min	3.9	4.2	77.6	72.5	
20min	3.9	4.2	65.1	55.7	
30min	3.7	4.7	48.9	39.2	
40min	3.7	4.3	34.1	26.3	

Kunlun vs US maker Efficicency



Kunlun vs US maker Pressure Drop



KLE Electrostatic Nonwoven Spec

Product Name	Weight（g / ㎡）	Thickness（mm）	Efficiency（%）	Pressure Drop（Pa）	Air Permeability（L / ㎡ / s）
KLE80P-G35L	35±10%	0.4±1%	≥60	≤2	≥5500
KLE90P-G45L	45±10%	0.6±1%	≥70	≤3	≥4500
KLE70-G50L	55±10%	0.55±1%	≥80	≤4	≥3000
KLE80-G70L	70±10%	0.6±1%	≥85	≤5	≥2500
KLE90-G90L	90±10%	0.9±1%	≥90	≤6	≥2000
KLE95P-G120L	120±10%	1.2±1%	≥95	≤7	≥1500
KLE98P-G150L	150±10%	1.4±1%	≥98	≤8	≥1000
KLE99P-G170L	170±10%	1.5±1%	≥99	≤9	/
KLE99.5P-G210L	210±10%	1.9±1%	≥99.5	≤10	/

Tester：TSI8130 Air Flow：32LPM @:0.3μm

Solid Pollutant Treatment Filtration Media -Dry Laid Framwork Filter Media

Dry Laid Framework Filter Media

1．Material: PET;

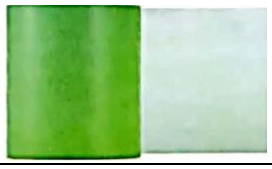
2．ECO friendly, safe, no adhesive, no odor;

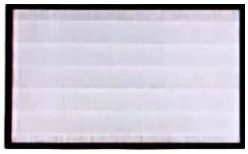
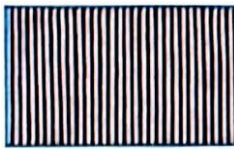
3．Excellent Stiffness, air permeability, ultra thin, low air flow resistance;

4．Custom design: Flame retardant, anti-bacteria, color custom design

Application

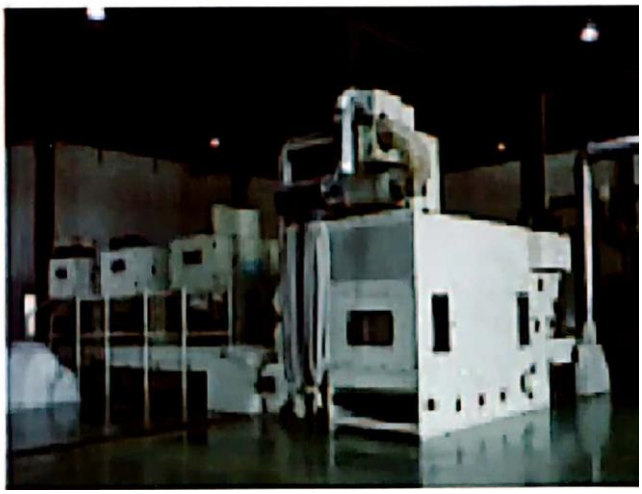
Air filtration for face mask, household air purifier, cabin air filter, industry filter

Dry Laid Framework Filter Media Spec

Product Name	Weight（g / ㎡ 2）	Thickness（mm）	Air Permeability（L / m2 / s）	Remark
KLD45GL	45±10%	0.2±0.03	≥4500	
KLD55GL	55±10%	0.24±0.03	≥4400	
KLD65GL	65±10%	0.27±0.04	≥4500	
KLD75GG（绿色）L	75±10%	0.34±0.04	≥4200	
KLD85GL	85±10%	0.36±0.05	≥4400	
KLD75GBL（蓝色）	75±10%	0.34±0.04	≥4700	
KLD75GYL（黄色）	75±10%	0.34±0.04	≥4700	
KLD70K-20-15D	70±10%	0.25±0.03	≥3500	(Anti-Bacteria and Virus)
KLD75KFL	75±10%	0.35±0.03	≥4500	(Anti-Bacteria and Mildew)

Microbio Pollutant Treatment Filter Media

US Lab Test Data

Test Lab: MICROBAC'

Test Standard: AATCC100-2012

Test Data:

SARS Antiviral activity rate: 99.58%

H1N1 Antiviral activity rate: 99.91%

H7N9 Antiviral activity rate: 99.98%

Chinese Lab Test Data

Test Lab 广微测 Gmicro Testing

Test Standard: AATCC100-2012

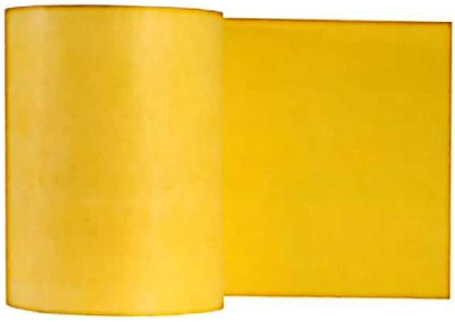
Test Data:

H1N1 Antiviral activity rate: 99.91%

H3N2 Antiviral activity rate: 99.90%

Anti Bacteria and Mildew

By using the advanced and safe antibacterial technology of Swiss sanitized company, the non-woven materials (such as PET) produced by Kunlun are treated with a unique process, which can interfere with the metabolic process of microorganisms and inhibit their activities, growth and reproduction. For a large number of molds, fungi, yeasts and algae with reliable effect!



KL-Anti bacteria and Mildew Filter Media

＊Tested by A&F / SGS / Sanitiged for Anti Mildew Performance per AATCC 30, anti mildew class 0!

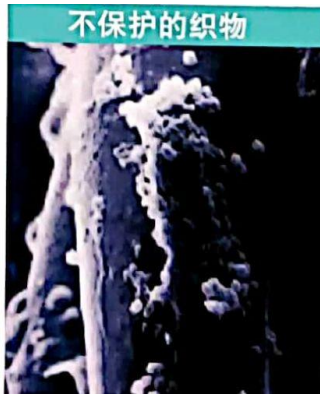
Sanitized® anti bacteria agent working mechanism

1) The cell wall of bacteria is damaged under the action of antibacterial agents, and becomes less firm and easy to be damaged.
2) Bacteria are forbidden to breathe.
3) Food intake (mainly nutrients) is hindered.
4) Cell division was inhibited.
5) The normal metabolism of bacteria cannot be completed. New bacteria can't be produced. So as to inhibit bacteria and play an antibacterial role.
6) Although the inhibition of bacteria, but the human body is harmless!

Anti Mildew Treated vs Untreated

Fabric with Sanitized®

Fabric w/o Sanitized®



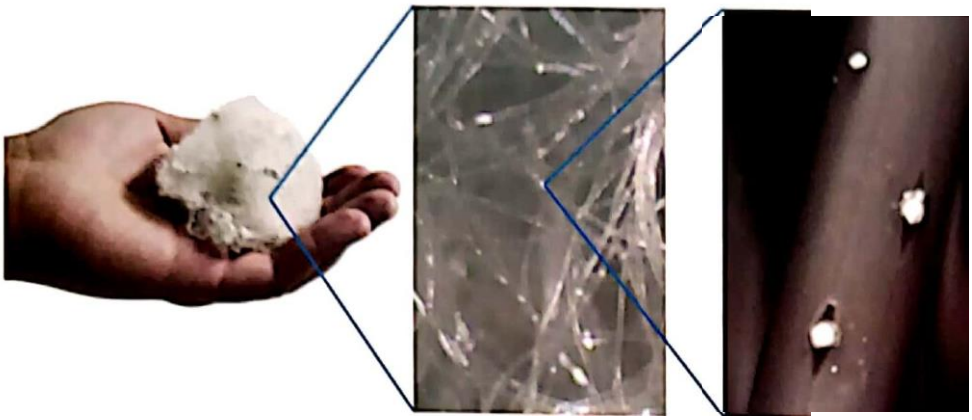
Test Standard

Gb21551.2-2010 special requirements for antibacterial, sterilization and purification functional antibacterial materials for household and similar electrical appliances Appendix B test method 2 (absorption method) for antibacterial performance and effect evaluation.

Microbio Pollutant Treatment Filter Media

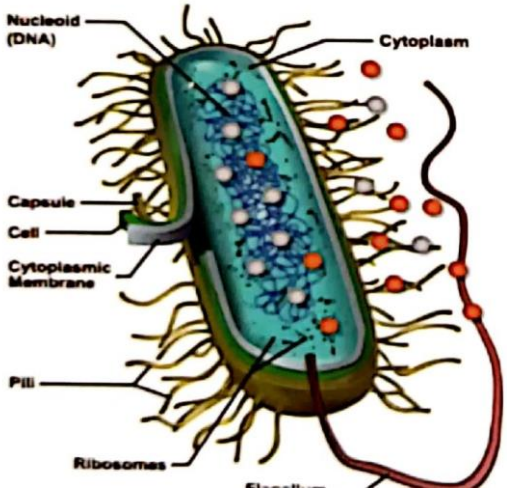
Anti Bacteria and Virus

KL-PuraWard Fiber



KL-PuraWard Fiber Technology

KL-PuraWard Fiber Technology



Synergism-Copper is good at attacking protein/amino acids in cell wall so that silver can invade cells easily

Intracellular joint attack:

Sterilization: once silver invade into cytoplasm, it will react with genomic DNA

Asphyxiation: inactivation of key enzymes related to respiratory function

Starvation: inactivation of key enzymes related to cell wall nutrient permeability

Safe No harmful substances or chemicals in safe use

Clean The highest efficiency is achieved through the synergistic effect of silver ion and copper ion.

Healthy long-term exposure and respiratory safety certification, no exhaust emissions

Durable Durable in the whole lifetime, even after washing, abrasion and ultraviolet radiation

ECO Friendly No produce harmful chemicals or waste gas, material 100% recyclable, natural filter material.

Innovative silver ion and copper ion work together to attack bacteria and virus cells.

No leakage

No waste gas emissions

No absorbed by skin

Microbio Pollutant Treatment Filter Media

Test Basis: according to NY/ T1151.2-2006 "indoor efficacy test methods and evaluation of public health insecticides for pesticide registration, Part 2: acaricides and acarides"

The tested insects are dermatophangoides farinae, male and female

Experimental conditions: incubator temperature 25 ℃ ± 2 ℃, relative temperature 75% ± 5%

Test Item and Test Result

Test Item: KL- Mites removing efficiency test for primary nonwoven with acaricides and acarides

Test Result: see table 1 and table 2

KL- Mites removing efficiency test for primary nonwoven（6g / ㎡） with acaricides and acarides			
Tested Group	Mites Qty（pcs）	Killed Mites Qty(pcs)	Mites Killing Efficiency（%）
Experimental Group	601	397	66.06
Control Group	623	4	-

＊Laboratory report of Institute for parasitic disease control and prevention, Chinese Disease Control and Prevention Center

KL- Mites removing efficiency test for primary nonwoven（10g / ㎡） with acaricides and acarides			
Tested Group	Mites Qty（pcs）	Killed Mites Qty（pcs）	Mites Killing Efficiency（%）
Experimental Group	608	473	77.80

Test Method

Test Standard: GB / T24253-2009《Evaluation of anti mite property of textiles》

The tested insects are dermatophangoides farinae, male and female

Experimental conditions: incubator temperature 25 ℃ ± 2 ℃, relative temperature 75% ± 5%

Test item and result

Test Item: KL- Mites removing efficiency test for primary nonwoven with acaricides and acarides

Test Result: See table 1

KL- Mites removing efficiency test for primary nonwoven（10g / ㎡） with acaricides and acarides			
Tested Group	Control Group Mites Qty	Experimental Group Mites Qty	Mites Killing Efficiency（%）
1	133	7	-
2	129	7	-
3	119	5	
合计	381	19	95.01

Microbio Pollutant Treatment Filter Media

Anti Bacteria and Mildew Spec				
Test Bacteria	Bacterial concentration (cfu/mL)	Average number of bacteria recovered after 24 hours of inoculation (CFU / sample)	Stuff density g/m	Antibacterial rate(%)
Escherichia coli AS1.90	$8.1x10^5$	Experimental Sample	<100	>99.99
		Control Sample	1.2*10	
Staphylococcus Aureus AS1.89	$8.6x10^5$	Experimental Sample	<100	>99.99
		Control Sample	1.6*10	

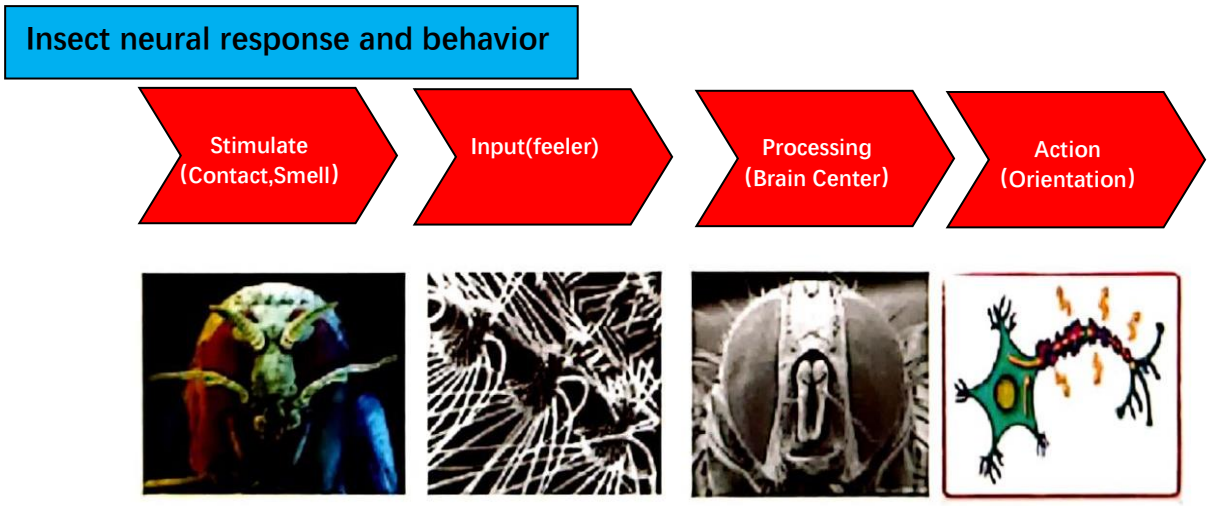
Antiallergic

Mites Killing PET Media

Using EULAN® Technology on the Dry Laid PET nonwoven as weight 45～85g。EULAN® active ingredient is synthetic permethrin， which is similar to the extract from a certain chrysanthemum (pyrethrum). Soldiers in Napoleonic period used permethrin to resist the bite of lice

Permethrin is the only insect repellent approved by the US Environmental Protection Agency (EPA) for non-woven fabric processing in the United States., The world safety organization (who) recommends that people use permethrin to protect against mosquito bites.

Eulan was discovered in the 1970s ® In addition to permethrin, the most "perfect" insect repellent, can be used in the processing of non-woven fabrics.




Touching


Paralysis


Death

Gaseous Pollutant Treatment Filtration Media

Gaseous Pollutant Treatment Filtration Media

YM-F 系列　YM-FS 系列　YM-T 系列　YM-A 系列　YM-S 系列　YM-L 系列

KL Formaldehyde removal activated carbon spec						
Product Name	Product Shape	Size	Stuff density g/㎡	Strength	Formaldehyde removal rate %	CCM %‰
KL-FS2	cylindrical	Φ2mm	0.50~0.60	93	80	2-5
KL-FT2	cylindrical	Φ2mm	0.40~0.50	90	85	4-6
KL-FS	cracked	30～60 Mesh	0.49~0.59	90	60	3-6
KL-FT	cracked	30～70 Mesh	0.45~0.55	90	65	5-7

Test Method

Refer to GB / T18801-2015《Air Purifier》National standard, test with 450m^3/h(air quantity) air purifier in 30m^3 test chamber, activated carbon volume is 130g with cylindrical shape, 40g with cracked shape, test the Formaldehyde removing efficiency in 1 hour.

KL TVOC removal activated carbon spec					
Product Name	Product Shape	Size	Stuff density g/㎡	Strength	TVOC removing rate %
KL-TS2	cylindrical	Φ2mm	0.42~0.50	93	85
KL-TT2	cylindrical	Φ2mm	0.34~0.42	90	90

Test Method

Refer to GB / T18801-2015《Air Purifier》National standard, test with 450m^3/h(air quantity) air purifier in 30m^3 test chamber, activated carbon volume is 130g with cylindrical shape, test the TVOC removing efficiency in 1 hour.

KL NH3 ammonia removal activated carbon spec					
Product Name	Product Shape	Size	Stuff densityg / ㎡	Strength	Ammonia removing rate %
KL-AS2	cylindrical	Φ2mm	0.51~0.61	90	85
KL-AT2	cylindrical	Φ2mm	0.45~0.55	90	95

Test Method

Refer to JEM1467-1995《Household Air Purifier》standard, test with 150m^3/h(air quantity) air purifier in 1m^3 test chamber, the activated carbon filling in the filter is 47.5g, to test the NH3 ammonia removing efficiency.

Gaseous Pollutant Treatment Filtration Media

KL smoke removal activated carbon spec					
Product Name	Product Shape	Size	Stuff density	Strength	香烟中乙醛、乙酸、氨气总去除效率%
KL-SS2	cylindrical	Φ2mm	0.50~0.60	90	85
KL-SE3	cylindrical	Φ3mm	0.45~0.55	90	90
KL-ST2	cylindrical	Φ2mm	0.45~0.55	90	95

Test Method

Refer to JEM1467-1995《Household Air Purifier》standard, test with 150m^3/h(air quantity) air purifier in 1m^3 test chamber, the activated carbon filling in the filter is 47.5g, to test the cigarette's smoke removing efficiency

KL SO_2 removal activated carbon spec					
Product Name	Product Shape	Size	Stuff density	Strength	SO2 removing volume mg/g
KL-LS	cracked	30～60 Mesh	0.45~0.55	95	55
KL-LT	cracked	30～70 Mesh	0.40~0.50	95	15

Test Method

A fixed bed continuous flow method was used to evaluate the SO2 removal performance of activated carbon. A 20 mm thick carbon layer was put into a 26 mm inner diameter Teflon tube. The SO2 gas was produced by a standard cylinder. The inlet concentration of SO2 was 80 mg / m^3 and the flow rate was 1.8 L / min. the SO2 removal per unit of carbon was calculated with the concentration limit specified in the air quality standard as the breaking point. The concentration of sulfur dioxide was determined by the model T100 SO2 analyzer of Teledyne company.

High End Gas Phase Analyzer

TSI MODEL T100 Ultraviolet fluorescence SO2 analyzer

TSI MODEL T100 Ultraviolet fluorescence NH3 analyzer

TSI MODEL T100 Ultraviolet fluorescence NOX analyzer

TSI MODEL T100 Ultraviolet fluorescence 03 analyzer

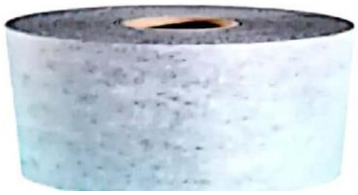
Thermal Fisher TRACE1300E Gas chromatograph

Thermal Fisher TRACE 1300 modularization Gas chromatograph

Filtration Media for Respiratory protective equipment

KLN Meltblown

KLE Electrostatic Nonwoven



KLBFF Series

KN Series Facemask Filtration Media

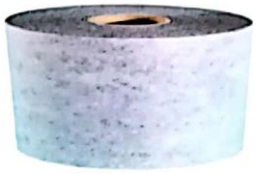
KLN Meltblown Nonwowen Spec for KN series mask							
Facemask Model	Product Name	Weight（g / ㎡）	Thickness（mm）	32L/min		60L/min	
				Efficiency（%）	Pressure Drop（Pa）	Efficiency（%）	Pressure Drop（Pa）
KN95	KLN95-25L	50(25x2)	0.4	≥99.93	≤22.8	≥99.77	≤42.5
KN99	KLN99-25L	50(25x2)	0.4	≥99.94	≤27.5	≥99.85	≤51.3
KN100	KLN99.97-30L	60(30x2)	0.5	≥99.994	≤54.3	≥99.984	≤102

FFPx Series Facemask Filtration Media

KLN Meltblown Nonwowen Spec for FFPx series mask											
Face Mask Model	Product Name	Weight(g/㎡)	Thickness (mm)	32L/Min				60L/Min			
				NaCl		Paraffin Wax		NaCl		Paraffin Wax	
				Efficiency（%）	Pressure Drop（Pa）	Efficiency（%）	Pressure Drop（Pa）	Efficiency（%）	Pressure Drop（Pa）	Efficiency（%）	Pressur Drop（Pa）
FFP1	KLN99-20L	40(20x2)	0.4	≥99.96	≤30	/	/	≥99.88	≤55	≥99.64	≤55
FFP2	KLN99.5-25L	50(25x2)	0.45	≥99.98	≤38	/	/	≥99.72	≤71	≥99.87	≤72
FFP3	KLN99.97-30L	60(30x2)	0.5	≥99.99	≤63	/	/	≥99.99	≤122	≥99.98	≤117

Filtration Media for Respiratory protective equipment

KLBFF Series Filter Media



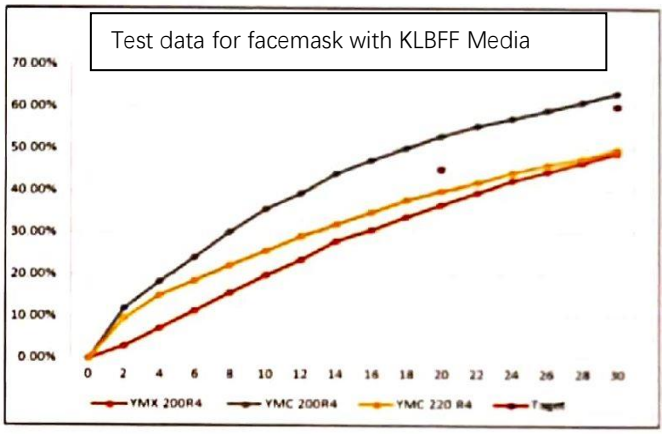
KLBFF Series Filter Media Spec

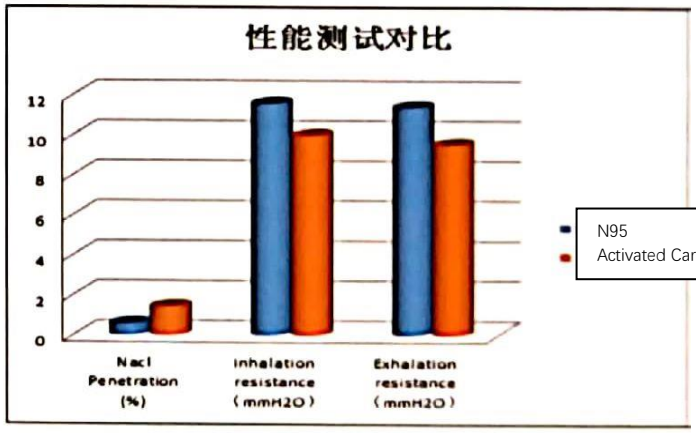
Mask Description	Product Name	Weight(g/m^2)	Thickness(mm)	Carbon Stuff Quantity(g/m^2)	Gas
Activated carbon mask	KLBFF-G160	160	1.2	100	Acidity,alkalinity
Activated carbon mask	KLBFF-G200	160	1.4	130	Acidity,alkalinity

*Anti bacteria and virus with Puraward fiber technology(Ag+/Cu+)

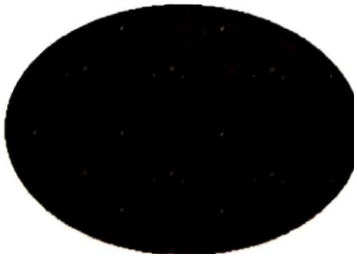
*Toxic and harmful gas removal with activated carbon material(Japan Maker Kuraray Carbon)

*Filter particle ⩾0.3μm, high efficiency, low pressure drop, long life, high dust capacity by Meltblown+electrostatic nonwoven





KL-P Series Filter Media



KLBFF Series Filter Media Activated Carbon Spec

	Product Name	Shape	Coal based Material	Coconut Husk Based material	Treatable Gas	Application
Respirator Carbon	KLP10-3	Cylindrical	Φ2mm	8-22 Mesh	Organic gas	Military / civil gas tank, gas filter box, gas mask, gas filter fume hood, various gas treatment filters
	KLP10-4	Cylindrical	Φ2mm	8-22 Mesh	Ammonia	
	KLP10-7	Cylindrical	Φ2mm	8-22 Mesh	Acidity/alkalinity gas	

Industry Air Filtration Solution with Compound Material

Multi-Fuction(toxic and harmful gas/solid pollutant) Compound Material Spec						
Product Name	Weight（g）	Thickness（mm）	Gas pollutant cleaning efficiency（%	Efficiency（%）0.3μm	Pressure Drop（Pa） 32LPM	Air Permeability（L／㎡／s）
KL-CPS700-1	730±10%	2.6±0.4	≥90	F8H13	≤28	≥1200
KL-PSAM700-2	700±10%	2.8±0.3	≥90	F8 H13	≤43	≥900
KL-PSPB700-3	700±10%	2.25±0.4	≥90	F8 H13	≤39	≥1100

1) KI-CPS compound filter material was used to remove hydrogen sulfide, sulfur dioxide, organic matter and ozone in wet etching and metal deposition industry

2) KI-PSAM compound filter material was used to remove acid gas, amine, ammonia and N-methylpyrrolidone in lithography industry

3) KI-PSPB compound filter material was used to remove hydrogen arsenide, boron trifluoride, chlorine, hydrogen chloride, hydrogen fluoride, hydrogen sulfide and phosphine in the fields of etching, ion implantation and metal deposition

4) Able to clean the solid pollutant with efficiency grade F8-H13;

5) Weight and color customizable

1、Able to Compound with anti bacteria and virus material

Toxic and harmful gas cleaning filter media（particle） spec					
Product Name	Shape	Size	Stuff density（g／ml）	Strength（%）	Efficiency（%）
KL-FS2	cylindrical	Φ2	0.5 0.58	90	≥90
KL-FS2	cylindrical	Φ2	0.4 0.48	90	06<
KL-FS3	cylindrical	Φ2	0.4 0.48	90	>90
KL-TS1	globular	Φ2 globular	0.53 0.58	90	06<
KL-TS2	globular	Φ2 globular	0.47 0.52	90	06<
KL-TS3	globular	Φ2 globular	0.39 0.44	90	06

1) It can effectively remove the general gases such as Sox, NOx, O, VOCs, h, s, DMS, cos, total sulfur (TS), ci2 and other harmful gases;

2) It can effectively remove acid gases: HF, HCI, HBr, h, so;

3) It can effectively remove alkaline gases: NH3, NMP, CH, NH;

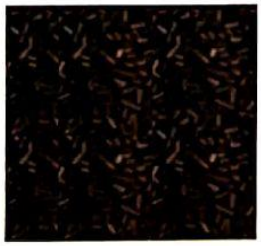
4) The filter material formula can be customized according to the type and concentration of the target polluted gas.

Industry Air Filtration Solution with Compound Material

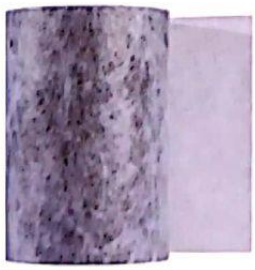
Primary Air Filter Media

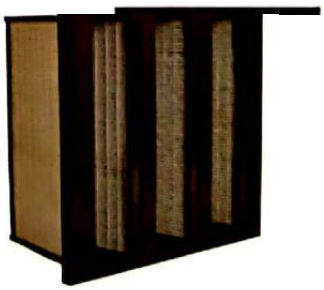
Medium and High Efficiency Filter Media

Gas Pollutant Filter Media

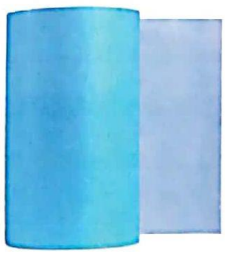


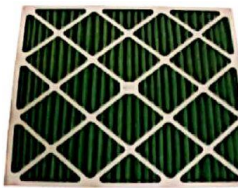
Gas/Solid Pollutant Filter Media





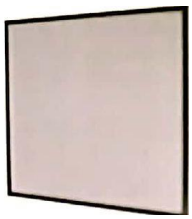
Industry Air Filtration Solution with Compound Material






G3 ~ G4,able to compound with anti bacteria and virus material

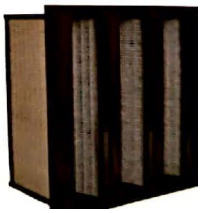





Medium/High Efficiency Filter Media Spec					
Product Name	**Weight（g/m²）**	**Thickness（mm）**	**Efficiency（%）**	**Pressure Drop（Pa）**	**Air Permeability（L/㎡/s）**
KLR65L	85±10%	0.5±10%	≥65	≤7	≥1600
KLR85L	90±10%	0.5±10%	≥85(H10)	≤12	≥1000
KLR95L	95±10%	0.5±10%	≥95 (H11)	≤15	/
KLR99.5L	95±10%	0.6±10%	≥99.5(H12)	≤27	/
KLR99.97L	110±10%	0.6±10%	≥99.97(H13)	≤40	/

1、able to compound with anti bacteria and virus material;　　2、color customizable





The central air conditioning ventilation system can eliminate low concentration of organic pollutants, sulfur dioxide and nitrogen dioxide, and has the functions of dust removal and pollutant gas removal;
For Air filtration in public places such as airports, hospitals (such as wards for patients with respiratory diseases) and office buildings the filter can effectively remove the peculiar smell in the air;
For Museums, archives, libraries and other places, it is able to remove sulfur oxides, nitrogen oxides and other polluting gases in the air, to protect the collection from damage;
For Central control rooms and data processing centers of chemical, petrochemical, iron and steel, banking, telecommunications and other enterprises the filters are used to protect precision instruments and data storage equipment from corrosive gases;
For Semiconductor and microelectronics manufacturing enterprises it should remove "airborne molecular contaminant" (AMC), improve product quality and protect personnel health;
In the laboratory animal room, the odor could be reduced, the quality of laboratory animals could be improved, and the atmospheric environment is protected.

Toxic and harmful gas cleaning filter media(compounded) spec						
Product Name	Weight（g/m²）	Thickness（mm）	Gas Pollutant Cleaning Efficiency（%）	Pressure Drop（Pa）	Air Permeability（L/㎡/s）	Remark
KL-SPB500	730±10%	2.6±0.4	90	≤10	≥700	Clean the H2S Pollutant for electronics and semiconductor industry
L-AFD005	700±10%	2.8±0.3	90	≤10	≥900	
KL-PSPB500	730±10%	2.25±0.4	90	≤10	≥700	
KLADC-G700	700±10%	2.5±0.4	85	≤10	≥700	

Gas Pollutant Filtration Compound Media for Household Air Purifier and Ventilation System











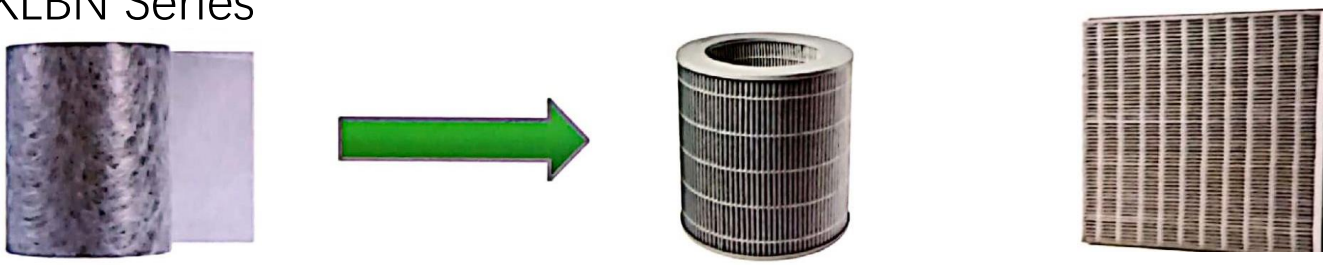




Gas Pollutant Filtration Compound Media for Household Air Purifier and Ventilation System

KLR Filter Media Spec					
Product Name	Weight（g/m2）	Thickness（mm）	Gas Pollutant Cleaning Efficiency（%）	Pressure Drop（Pa）	Air Permeability（L / ㎡ / s）
KLR65L	85±10%	0.5±10%	≥65	≤7	≥1600
KLR85L	90±10%	0.5±10%	≥85	≤12	≥1000
KLR95L	95±10%	0.5±10%	≥95	≤15	/
KLR99.5L	95±10%	0.6±10%	≥99.5	≤27	/
KLR99.97L	110±10%	0.6±10%	≥99.97	≤40	/

KLBN Series



KLBN Series Spec

Product Name	Weight（g/m2）	Thickness（mm）	Gas Pollutant Cleaning Efficiency（%）	Pressure Drop（Pa）	Air Permeability（L / ㎡ / s）
KLBN3DQ-G350L	350±10%	1.4±0.15	≥35	≤10	≥900
KLBN6G-G210L	210±10%	0.9±0.15	≥65	≤9	≥1200
KLBN8D-G300L	300±10%	1.2±0.15	≥85	15	≥600
KLBN11D-G250L	250±10%	1.2±0.15	≥95	≤18	/
KLBN12D-G300L	300±10%	1.2±0.15	≥99.5	≤28	/
KLBN13G-G390L	390±10%	1.3±0.15	≥99.97	≤43	/
KLBN11D-G275(P20-W)L	275±10%	1.3±0.15	≥95	≤17	
KLBN13D-G310(P30-W)L	310±10%	1.4±0.15	≥99.97	≤42	/ /

Case Study:

One of customer product is loading air flow volume 550m^3 / h, customer request:

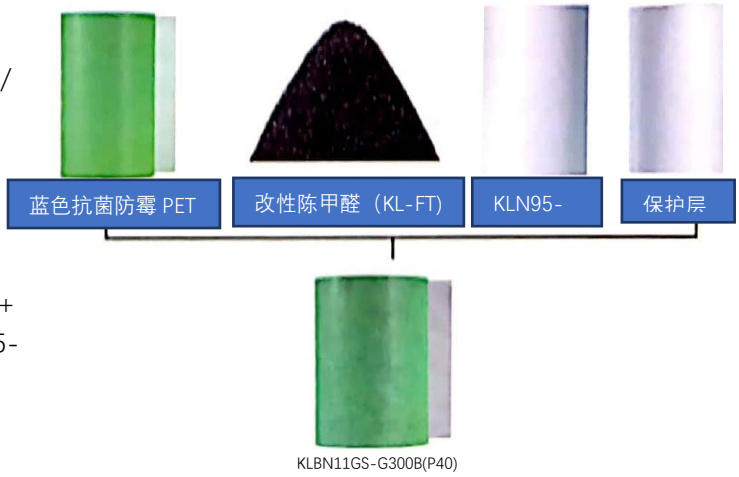
(1) PCADR up to 480m / h, FCADR up to 300m3 / h; CCM up to P4 and F4

(2) Anti bacteria 99%+;

(3) Anti mildew class 0;

Compound Structure: Blue anti bacteria and mildew PET + Ammonia removal activated carbon (KL-FT) + KLN95-40→Henkel glue, laminate with 3 layer with glue

Model: KLBN11GS-G300B (P40) (18.6pa, 97.6%, 32L)
Customer: M Customer, KJ500 series



KLBN11GS-G300B(P40)

Gas Pollutant Filtration Compound Media for Household Air Purifier and Ventilation System

Application: Air Filter for Home Appliance

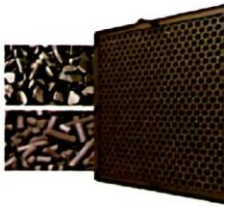
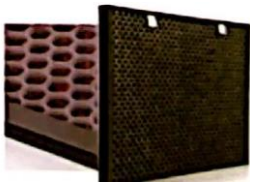
Home Appliance-Air Filter Spec								
Unloaded Air Volume m^3/h	Loaded Air Volume M^3/h	Filter Area M^2	Anti Bacteria	Anti Mildew	Total Cumulative purification capacity (CCM) mg	PCADR m/h	CCM	CCM/m^2
600	550	2.2	Escherichia coli (99.9%) Staphylococcus aureus (99%)	0 级	3500	509	P4	≈8400mg
					7000	434		
					10500	370		
					14000	325		
					17500	278		
					18550	257		

Home Appliance-Air Filter Spec

Unloaded Air Volume m^3/h	Loaded Air Volume M^3/h	Filter Area M^2	Anti Bacteria	Anti Mildew	Carbon Quantity	Total Cumulative purification capacity (CCM) mg	FCADR m/h	CCM	CCM/m^2
600	550	2.2	Escherichia coli (99.9%) Staphylococcus aureus (99%)	0 级	385g / Pcs	30	321	F4	≈4.2mg
						300	302		
						600	284		
						1000	262		
						1500	186		
						1620	163		

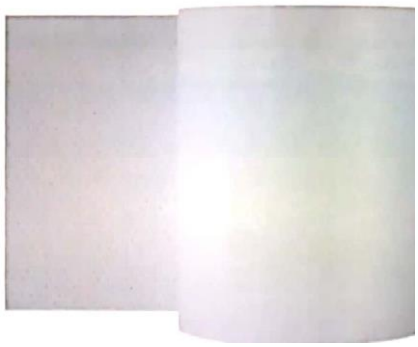
KL-F、KL-O、KL-S、KL-C、KL-T Activated Carbon



KL-F、KL-O、KL-S、KL-C、KL-T Activated Carbon Spec					
Product Name	**Shape**	**Size**	**Stuff Density g / ㎥**	**Strength %**	**Purpose**
KL-FS2	Cylindrical	Φ2	0.5 0.58	90	Formaldehyde removal
KL-FTW2	Cylindrical	Φ2	0.4 0.48	90	
KL-OW2	Cylindrical	Φ2	0.4 0.48	90	Deoxidization
KL-CS2	Cylindrical	Φ2	0.5 0.58	90	Smoke removal
KL-CE3	Cylindrical	Φ3	0.48 0.54	90	
KL-CW2	Cylindrical	Φ2	0.4 0.48	90	
KL-TS2	Cylindrical	Φ2mm	0.53 0.58	90	TVOC removal
KL-TN2	Cylindrical	Φ2mm	0.47 0.52	90	
KL-TW2	Cylindrical	Φ2mm	0.39 0.44	90	

Compound Filtration Media for Automible Fuel and Engine Oil



Compound Filtration Media Spec for Automobile Fuel and Engine Oil						
Product Name	Weight（g / ㎡）	Thickness（mm）	Filtration Efficiency（%）		Air Permeability（m3 / c ㎡ / s）	Pollution Capacity（g / ㎡） 200c ㎡
			4μ	20μ		
KLDT40-G270L（滤纸）	270±10%	1.0±0.05	51	100	5.8±0.5	1.07
KLDT02-G300L	300±10%	1.05±0.1	98.84	99.99	2±0.5	1.3

＊as ISO16889-2008 standard

The fuel filter is connected in series with the pipeline between the fuel pump and the oil inlet of the throttle body. The function of the fuel filter is to filter the iron oxide contained in the fuel. The structure of the fuel filter is composed of an aluminum shell and a bracket with stainless steel inside. The bracket is equipped with high-efficiency filter paper, which is chrysanthemum shaped to increase the flow area.

The oil filter is located in the engine lubrication system. Its upstream is the oil pump, and its downstream is the parts that need to be lubricated in the engine. Its function is to filter the harmful impurities in the oil from the oil pan, and supply clean oil to the crankshaft, connecting rod, camshaft, supercharger, piston ring and other motion pairs, so as to play the role of lubrication, cooling and cleaning, so as to extend the service life of these parts.

Auto Air Filter Media Solution

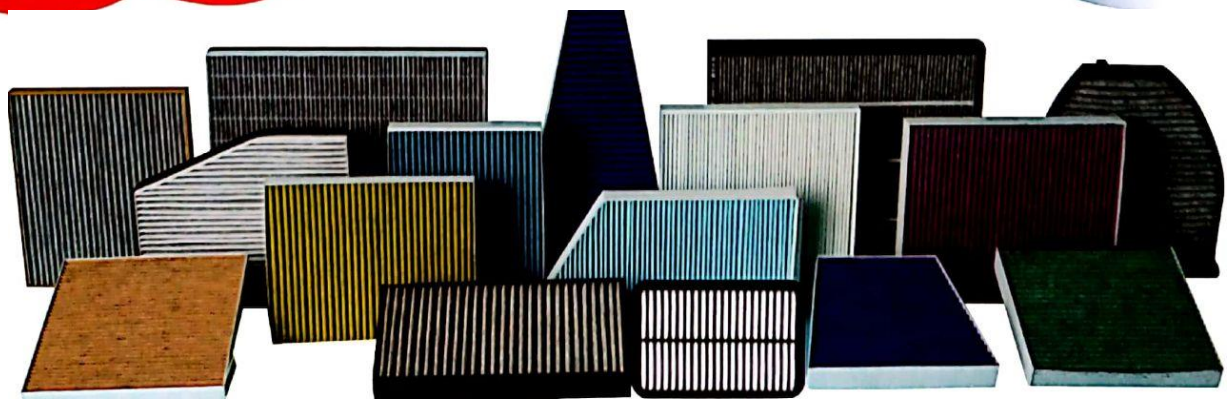
KLAN35E85W-G620 filter media vs the OEM air filter media（Tested by a famous Japanese company）

Part Number	Test Sample	Filter Type	Sample No.	Pressure Drop Pa]		Fractional Collection Efficiency M											
						Dust Type NaCl	MFR 4.5 (Kg/min)	Dust Type A2	MFR 4.5 (kg/min)								
						Initial Condition		Initial Condition					+25 [Pa] Condition				
				MFR kg/min 4.5	MFR kg/min 4.5	0.1~0.3[μm]	0.3~0.5 [μm	03~05 [μm]	0.5~1.0 μm	1.0~2.0μm	2.0~5.0μm	5.0~10.0μm	03~05 [μm]	0.5~1.0 μm	1.0~2.0μm	2.0~5.0μm	5.0~10.0μm
Customer No.	ASSY	Fine Dust (BMW)	Reg														
64 316 835 406			1	45	109	84	85	98	98	98	99	100	93	92	94	97	100
			2	44	105	85	85	99	99	99	99	100	94	93	95	98	100
MFG No.			3	45	109	84	86	98	98	98	99	100	93	92	93	97	100
			4	44	107	84	85	98	98	98	99	100	93	92	94	97	100
			5	45 Avg	108 Avg	84% Avg	85% Avg	98% Avg	98% Avg	98% Avg	99% Avg	100% Avg	93% Avg	92% Ava	94%Avg	97% Avg	100% Avg
Customer No.	Flat Sheet	Kunlun	Reg	[Pa]	[Pa]	%	%	%	%	%	%	%	%	%	%	%	%
			1	22	41	91	92	99	99	99	100	100	89	89	91	96	99
			2	24	44	91	92	99	99	99	100	100	93	94	94	97	100
MFG No.			3	22	42	90	89	99	99	99	100	100	93	93	95	97	100
KLAN35EB5 W-G620			4	22	41	91	91	99	99	99	100	100	92	92	93	97	100
			5	23 Avg	42 Avg	91% Avg	91% Avg	99% Avg	99% Avg	99% Avg	100% Avg	100% Avg	92% Avg	92% Avg	93% Avg	97% Avg	100% Avg

KLAN35E85W-G620 filter media vs the OEM air filter media（Tested by a famous Japanese company）

Part Number	Test Sample	Filter Type	Sample No.	Gas adsorption Efficiency							
				Target Gas:	N-Butane	Target Gas:	Sulfur Dioxide (SO,)			Target Gas:	Toluene
				MFR[kg/min]: 4.5		MFR[kg/min]: 4.5				MFR [kg/min]:	4.5
				Concentration:	80 ppm	Concentration:	30ppm]			Concentration:	80ppm
				0[min]	5[min]	0[min]	5[min]	10[min]		0[min]	5[min]
Customer No.	ASSY	Fine Dust (BMW)	Req.								
64 316 835 406			1	69	19	86	51	38			
			2	72	21	77	45	34			
MFG No.			3	70% Avg	20% Avg	81% Avg	48% Avg.	36% Avg		88	80
-			4							90	82
			5							89% Avg	81% Avg
Customer No.	Flat sheet	Kunlun	Req.	[%]	[%]	[%]	[%]	[%]		[%]	[%]
			1	75	29	75	27	19			
MFG No.			3	75% Avg	29% Avg	75% Avg	27% Avg	19% Avg		93.4	90.2
KLAN35E85W-G62			4								
			5							93% Avg	90% Avg

Auto air filter edging material



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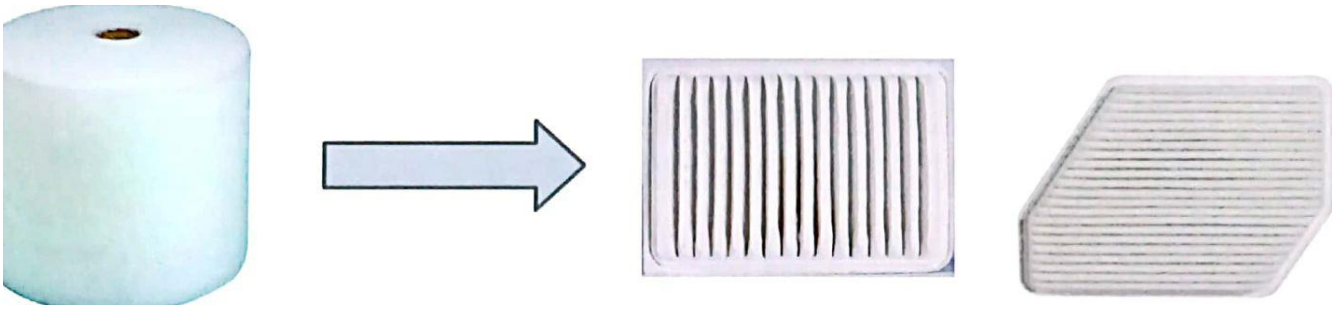
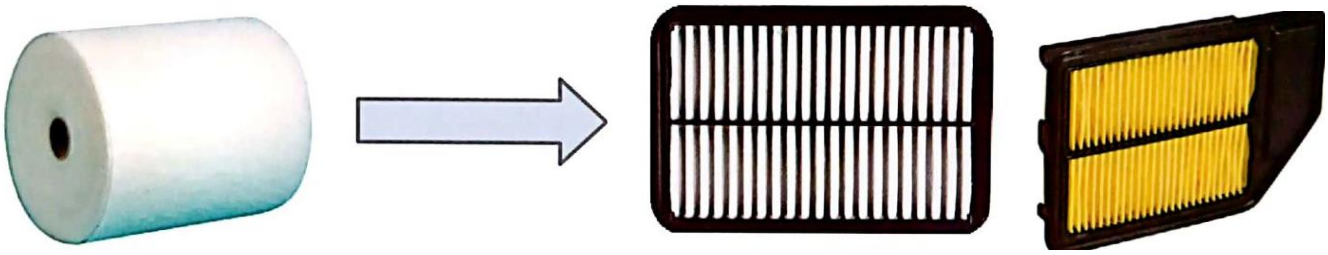
Auto Air Filtration Media Solution

KLH Series



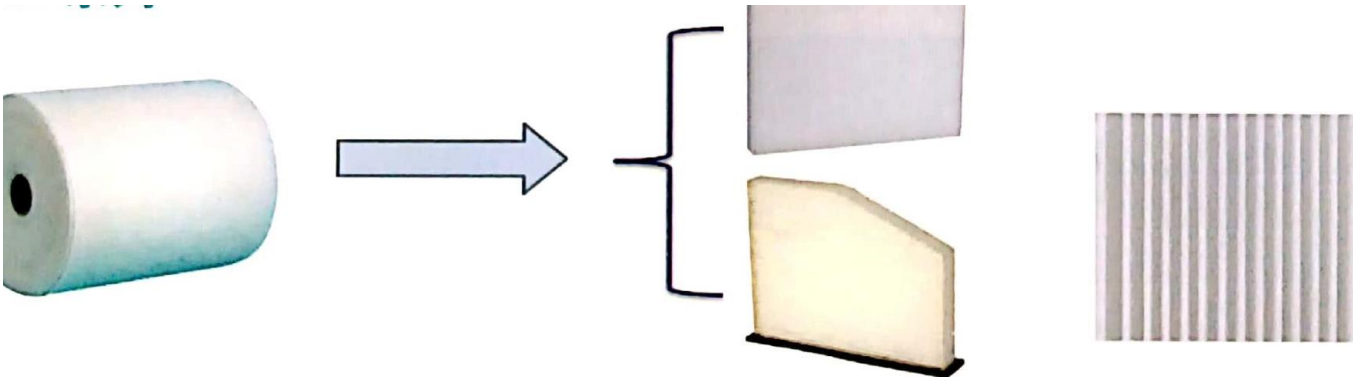
KLH Series Spec			
Product Name	Weight（g）	Thickness（mm）	Air Permeability（L/M2/S）
KLH360	360±10%	3.3±0.3	≥

KLF Series



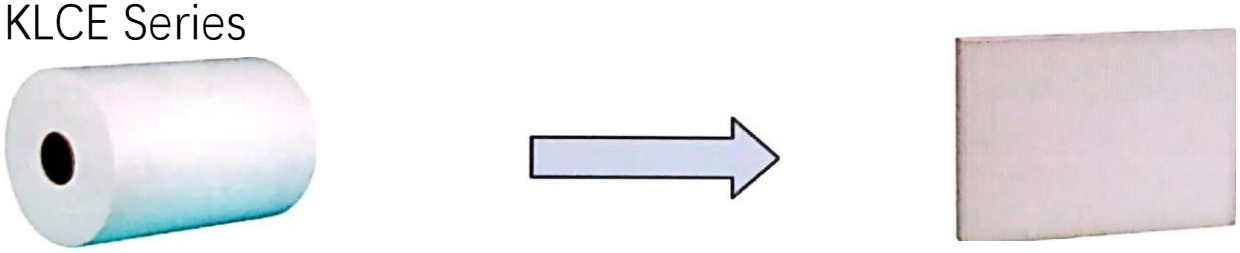
KLF Series Spec			
Product Name	Weight（g）	Thickness（mm）	Air Permeability（L/M2/S）
KLF250	250±10%	1.7±0.2	≥900
KLF300T	300±10%	2.8±0.3	≥1000

Auto Cabin Filter Compound Filtration Media Solutions



KLD Series Filter Media Spec				
Product Name	Weight（g）	Thickness（mm）	Air Permeability（L / ㎡ / s）	Remark
KLD70	70±10%	0.3±0.04	≥4500	
KLD110	110±10%	0.52±0.06	≥2300	
KLD130	130±10%	0.7±0.08	≥2100	
KLDS70K-20-15D	70±10%	0.4±0.05	≥4500	Anti bacteria,low pressure drop
KLD70K-20-15D	70±10%	0.4±0.05	≥4500	Anti bacteria&virus,low pressure drop
KL70-70G	70±10%	0.4±0.05	≥4800	Frame retardant, low pressure drop

KLCE Series



KLCE Series Filtration Media Spec					
Product Name	Weight（g）	Thickness（mm	Filtration Efficiency（%）	Pressure Drop（Pa）	Air Permeability（L / ㎡ / s）
KLCE8-D70L	140±10%	0.9±0.1	≥80	≤8	≥1500
KLCE99-G90L	260±10%	1.7±0.15	≥99	≤14	/

Cabin Filter Media-Single Function

Case 1

Structure Comination： PET Nonwowen(Support Layer) + Electrostatic Nonwoven→Laminated

Model：KLCE70-G90（3.2pa，76.2%，32L）

Car：Volkswagen Lavida

Particle	0.3μm	0.5μm	3μm	10μm
efficiency	75%	79%	98%	100%
Air Volume	100m³/h	300m³/h	400m³/h	600m³/h
Pressure Drop	10pa	37pa	54pa	100pa
300m3 / h，+200pa，DHC（A4 Gray）=67.4G				

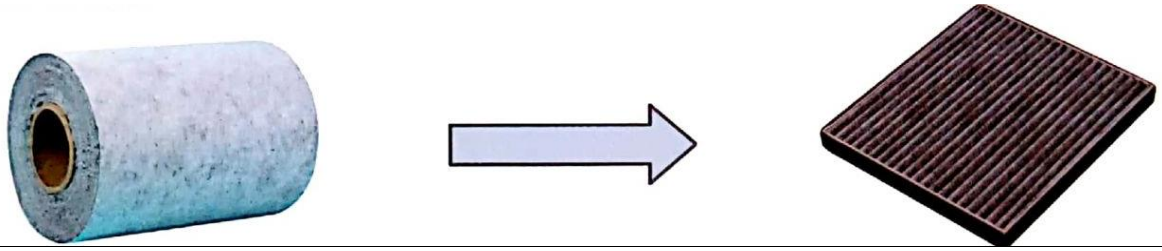
Auto Cabin Filter Compound Filtration Media Solutions

Protect Driver

According to the technical requirements of GB / T27630-2011, the concentration of organic matter in the air of passenger cars shall meet the requirements specified in Table 1 below

the concentration standard of organic matter in the air of passenger cars（Unit：mg / m3）	
Item	Concentration≤0.11
Benzene	≤0.11
Toluene	≤1.1
xylene	≤1.50
ethylbenzene	≤1.50
Styrene	≤0.26
formaldehyde	≤0.10
acetaldehyde	≤0.05
Acrolein	≤0.05

KLBE Series



KLBE Serie Filter Media Spec					
Product Name	Weight（g）	Thickness（mm）	Filtration Efficiency（%）	Pressure Drop（Pa）	Air Permeability（L / ㎡ / s）
KLBE7D-G450L	450±10%	1.8±0.2	≥70	10	≥1000
KLBE8G-G410BL	410±10%	1.8±0.2	≥80	11	≥900
KLBE9GGD-G480L	480±10%	2.4±0.2	≥90	≤12	≥800
KLBE6Q-G330	330±10%	1.6±0.2	≥65%	≤7	≥1200

Case of Cabin Filter Media

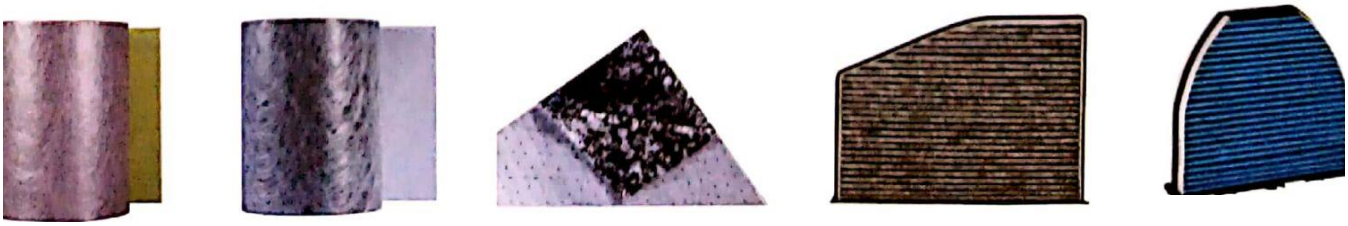
Case 2

Structure Combination：PET Nonwoven + Activated Carbon + Electrostatic Nonwoven→Laminating

Model：KLBE6Q-G330（6.8pa，72.6%，32L）

Car Model：All

Particle Size	0.3μm	0.5μm	3μm	10μm
Efficiency（Nacl）	62%	76%	98%	100%
Air Volume	150m³/h	300m³/h	450m³/h	600m³/h
Pressure Drop	26pa	61pa	118pa	173pa
300m³/h,+200pa,Arizona(A2 gray)=48.6G				



* All materials have passed the national authority safety certification. For example: Rosh / reach / oral test / skin irritation test, etc

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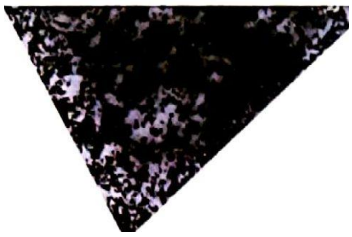
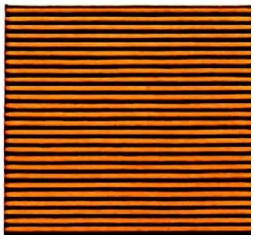
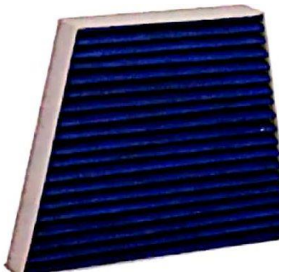
Auto Cabin Filter Compound Filtration Media Solutions

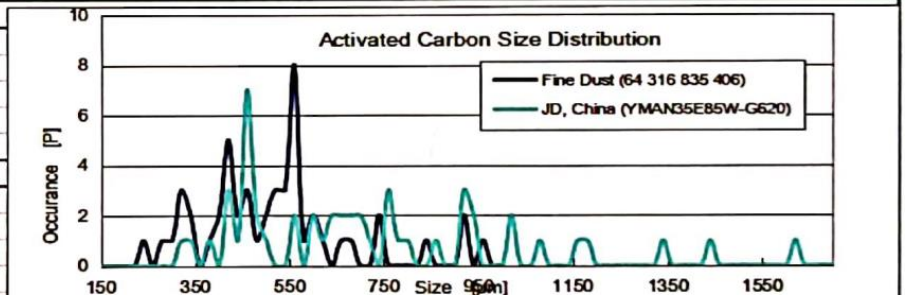
Case of Cabin Filter Media
Case 2
Structure Combination:
PET Nonwoven + Activated Carbon + Electrostatic Nonwoven→ Laminating
Model: KLBE6Q-G330 (6.8pa, 72.6%, 32L)
Car Model: All

Particle Size	0.3μm	0.5μm	3μm	10μm
Efficiency (Nacl)	62%	76%	98%	100%
Air Volume	150m3/h	300m3/h	450m3/h	600m3/h
Pressure Drop	26pa	61pa	118pa	173pa

Comparison Test with BMW OEM Filter Media(by a famous Japanese Company)

Part Number	Test Sample	Filter Type	Sample No.
Customer No.	ASSY	Fine Dust (BMW)	Req.
64 316 835 406			1
MFG No.			2
-			3
			4
			5
Customer No.	Flat Sheet	Kunlun (China)	Req.
-			1
MFG No.			2
MAN35E85W-G62(			3
			4



Comparison Test with BMW OEM Filter Media(by a famous Japanese Company)

Part Number	Test Sample	Filter Type	Sample No.	Media Properties						
				Thickness	Layers					
					Item	All	Upper	Carbon	Middle	Lower
Customer No	ASSY	Fine Dust (BMW)	Req	[mm]			100x	50x		100x
64 316 835 406			1							
MFG No			2		Image					
-			3	1 84						
			4		Avg Mass	588	96	400		88
			5		Avg Diameters		38	597		21
Customer No	Flat Sheet	Kunlun (China)	Req	[mm]			100x	50x	100x	100x
-			1							
MFG No			2		Image					
MAN35E85W-G62(			3	2 27						
			4		Avg Mass	679	96	514	55	12
			5		Avg Diameters		39	703	13	5

【試験条件】
■ASSY *2個仕様（現行品）

W	L	H	山数	通過面積 m2	(4.6kg/min時) 流量 m3/h	線速 m/s
229	233	32	32	0.47	208	0.12

■平板

W	L					
200	200			0.04	18	0.12

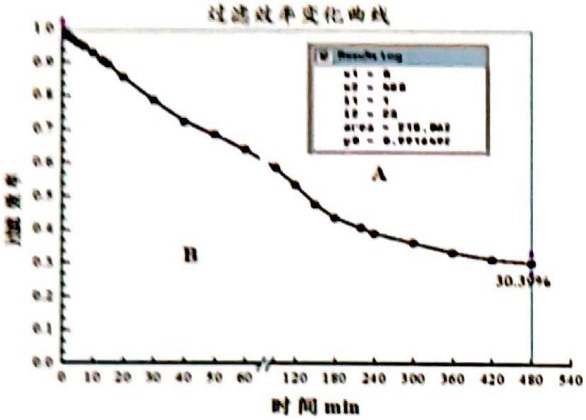
Hydrogen Vehicle Compound Filter Media Solution

Case 1

Structure： PET Framework Nonwoven + High Efficiency SO removal activated carbon + High Efficiency NO compound removal activated carbon + benzene / TVOC removal activated carbon + high dust capacity electrostatic nonwoven

Product Name：KLAE9Q-G1000L（20pa，90%）

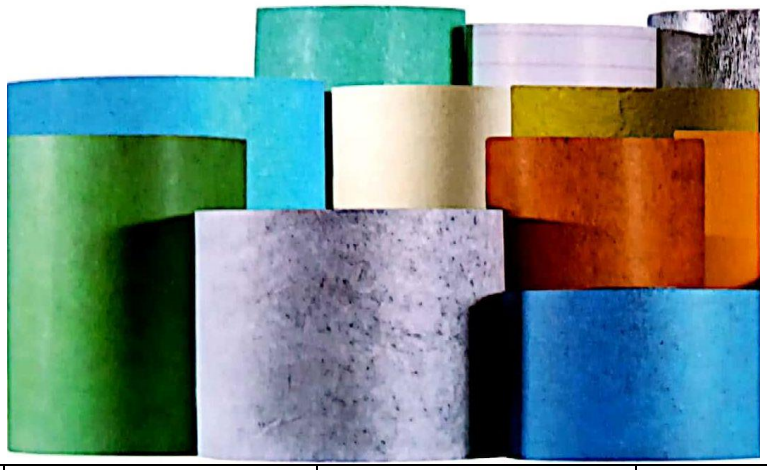
Model:ALL



Test Result：

Filtration Efficiency		1 Type Spec	I Type Spec	Efficiency Grade for Filter SO compound filtration
0min	99.16%	≥65%	≥90%	II type
1 min	98.39%	≥40%	≥75%	
5 min	95.73%	≥20%	≥45%	
15 min	89.11%	480 min SO2 absorbing quantity	21.944g	Filter Pollutant Capacity：12.908g / dm

* Harmful gas absorbing requirements as DIN71460 and ISO5011 standard



Gas Pollutant	PPM	Pollutant capacity	Kunlun
SO2	30ppm	15.3g	35g
NH3	30ppm	4.6g	13g
NOx	30ppm	10.9g	25g
Toluene	80ppm	28.5g	60g
n-Butane	80ppm	3.7g	12g

Hydrogen Vehicle Compound Filter Media Solution

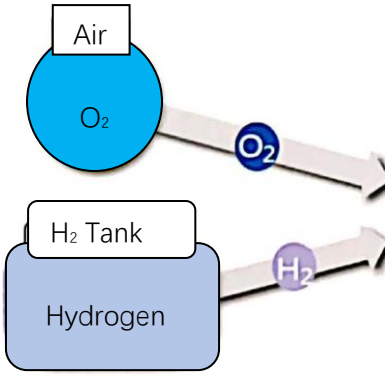
Why do hydrogen fuel cells filter the combustion air?

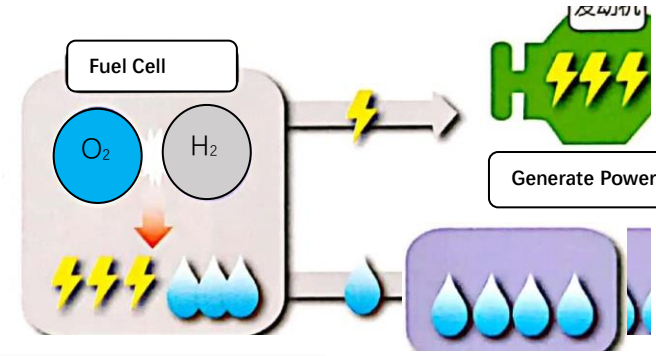
1) At present, the fuel cell still uses "Platinum" catalyst, which has high requirements for combustion air. It is not allowed to contain too much sulfide, carbon monoxide and nitride. Otherwise, the platinum catalyst will be poisoned and the power generation performance of the fuel cell will be reduced.

China once imported two German hydrogen fuel cell electric buses, which were originally planned to run in the suburbs of Beijing for two years, but only one year later, six fuel cell engines were worn out. The planned experiment came to a hasty end only half the time later. The German side attributed it to the serious air pollution in Beijing. The imported combustion supporting agent contained too much sulfide, carbon monoxide and nitride in the air, causing poisoning of platinum catalyst and reducing the power generation performance of fuel cells.

2) The solid particles contained in the haze and the dust in the air are also easy to block the fuel cell. Therefore, air pollution must be considered in the research of hydrogen fuel cells for electric vehicles!

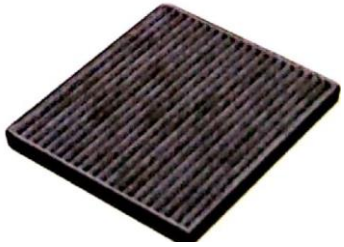
Oxygen in the air reacts with hydrogen in the fuel reactor to produce electricity





Oxygen reacts with hydrogen in the fuel reactor to produce electricity and water

It is discharged in the form of steam and water



Hydrogen Vihecle Compound Filter Media Spec					
Product Name	Weight（g）	Thickness（mm）	Filtration Efficiency（%）	Pressure Drop（Pa）	Air Permeability（L／㎡／s）
KLBN12G-G700L	700±10%	2.3±0.2	≥99.5	≤32	≥600
KLAE9Q-G1000L	1000±10%	2.5±0.3	≥90	≤20	≥900
KLBN6G-G1000L	1000±10%	2.8±0.3	≥65	≤12	≥1000

Formaldehyde Removal Nonwovens-Supporting Framework Material

Formaldehyde Removal framework nonwoven is the new air filtration media launched in 2021 after 2 years development。

Product Feature

＊Formaldehyde Removal fast, absorbing capacity high, long life

＊Molecular self-assembly technology, no organic adhesive, no organic volatile components.

＊Nano adsorbent with small molecular size has little influence on the drop pressure of non-woven fabrics.。

＊It can be used in high and low temperature (10-70 ℃) and high and low humidity (RH% 20-90) environment without peculiar smell。

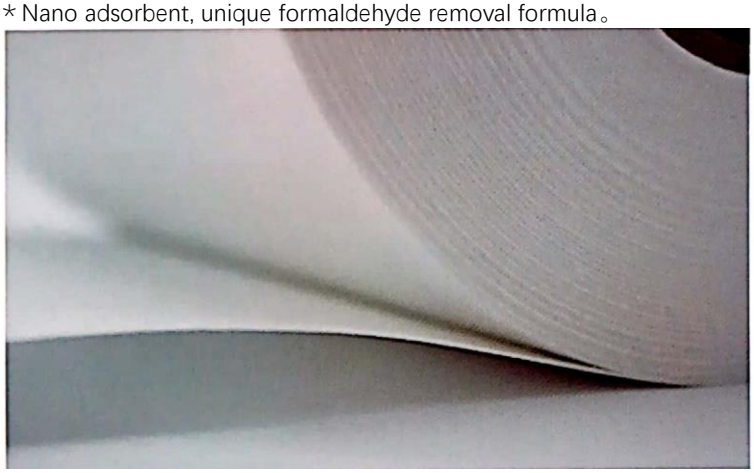
＊It is especially suitable for various requirements of CADR and CCM in national standard GB / T 18801-2015 air purifier。

Product Brief Summary

＊The framework material of formaldehyde removal non-woven fabric adopts the molecular self-assembly technology. The adsorbent and non-woven fabric are firmly combined by the intermolecular force. There is no organic adhesive and no organic volatile component。

＊By modifying the surface of the adsorbent, the surface functional groups are rich in hydroxyl (- OH). The hydroxyl groups on the surface of the adsorbent and the hydroxyl groups contained in the non-woven fiber are self-assembled in the form of hydrogen bond (O-H ···: O), so they are firmly combined。

＊Nano adsorbent, unique formaldehyde removal formula。



Filter Media Application

Formaldehyde removal framework non-woven can be widely used in the case with high formaldehyde removal performance and low pressure drop requirements, especially for air purifier, central air conditioning system, ventilation system and other air purification devices.
It is especially suitable for the application that needs to significantly improve the formaldehyde CADR.。

Case Study

＊ Formaldehyde(CH_2O) Removal framework nonwoven+Meltblown Nonwoven test data as below。

＊Use Philips KUJ360F-C06 as test equipment。

＊Use Kunlun filter media KLCN13-G50J compound media, pleated as filter, refer to GB / T18801-2015《Air Purifier》 national standard, test formaldehyde CADR and CCM data。

product Name	KLCN13-G50J	KLBN12G-G430J (CH_2O Clean framework)	KLBN12G-G440(w/o CH20 clean framework)
Loaded Air Volume m^3 / h	711	744	699
Filter area ㎡	1.9	1.69	1.82
Filtration Rate cm / s	10.4	12.2	10.4
CH_2O CADRm3 / h	115	474	325
CH_2O CCM mg	320	2958	2264
CH_2O absorb mg / g		6.1	4.8

＊ Test data comparison: with Formaldehyde(CH_2O) Removal framework nonwoven+ activated carbon vs without Formaldehyde(CH_2O) Removal framework nonwoven+ activated carbon

＊Refer to GB / T18801-2015《Air Purifier》 national standard, use Philips KJ360F-C06 as test equipment, test the data the pleated filter with KLBN12G-G430J and KLBN12G-G440 Formaldehyde CADR 和 CCM。