

**labfil**

**Laboratory  
filtration solutions  
for sample preparation**



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ZHEJIANG ALWSCI TECHNOLOGIES CO.,LTD





## Contents

LABFIL is a product brand under ALWSCI Technologies, which provides wide selection of syringe filter and membranes.

It is our great pleasure to have customer be satisfied with our solution from sample preparation.

We hope that this new catalogue will be a useful guide to find the right LABFIL products regarding your demands.

Please note that the catalogue only contains our standard products.

It is always worthwhile to contact us in case you don't find the proper choice in the catalogue.

ALWSCI team.

01	Welded Syringe Filter	4-10
02	Economy Syringe Filter	12-18
03	Sterile Syringe Filter	19-20
04	Membrane Filter	21

## Filtration Introduction

### Syringe Filters

Filtration is achieved by pushing the sample through the membrane with a syringe or other luer-connection device. Syringe filters allow you to control the rate of flow, which can be critical with delicate samples. It also allows you to filter into nearly any tube, vial, or column that represents the next step in your analysis.



Syringe Filter Capacities	Sample Volume
13mm Syringe Filter	less or equal 10mL
25mm Syringe Filter	less or equal 100mL
30mm Syringe Filter	less or equal 150mL
Pre-Cut Membrane Capacities	
13mm Pre-Cut Membranes	up to 20mL
25mm Pre-Cut Membranes	up to 100mL
47mm Pre-Cut Membranes	multi-liter

### Membrane Selection

Choosing a filter membrane is based on the size and amount of particulate in the sample, the membrane's chemical compatibility with the sample matrix, and potential interactions (binding) between the membranes and the sample components. This table offers general guidelines on membrane characteristics and applications.

### Membrane Selection Guide

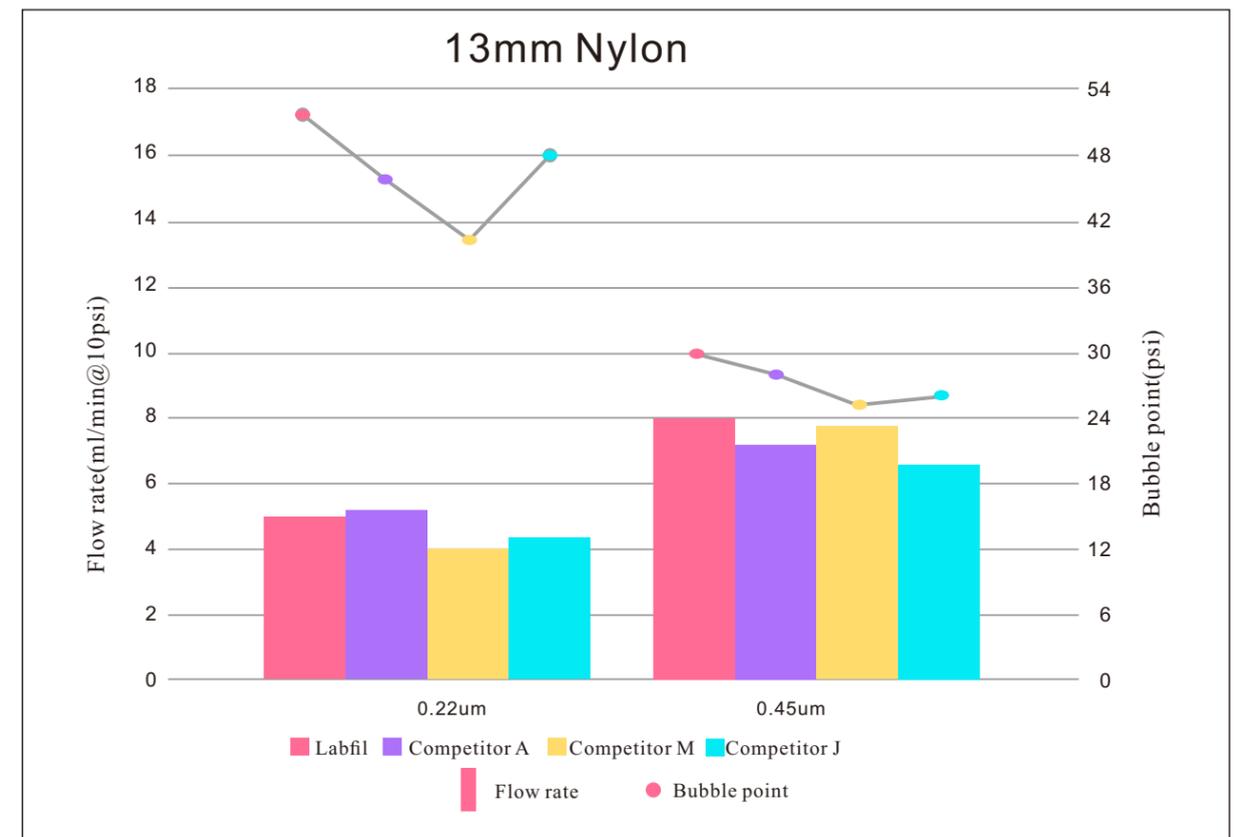
Membrane Type	Features	Common Uses
Nylon	Good chemical compatibility and very low extractables	General filtration sterilization, HPLC sample prep
Polytetrafluoroethylene (PTFE)	Compatible with strong acids and aggressive solvents	Gas, Air, and Solvent filtration
Polyvinylidene Fluoride (PVDF)	Good flow rate characteristics. Ideal for chromatography applications.	HPLC sample preparation and General filtration

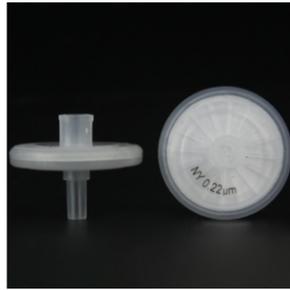
#### Related products

Need vials?  
We offer a full selection of vials, caps, and septa for all chromatography needs.



- Syringe filters are used for many routine preparation steps in laboratories all over the world.
- They are convenient, ready-to use disposables for removal of particles from solutions and gases.
- LABFIL syringe filters are for a wide range of applications.
- The filters are clean and safe as they are virtually free of leachables and extractables and reliably remove particles and microorganisms without any leakage.





## Nylon

- High mechanical and tensile strength.
- Used for most organic solvents and mid-polar liquids.
- Two types in pore size :0.22µm and 0.45µm, Three types in filter size: 13mm, 25mm and 30mm.

### Typical data

Material	Nylon	
Material of housing	PP	
Effective filtration area(cm <sup>2</sup> )	13mm/1.13cm <sup>2</sup>	25mm/4.15cm <sup>2</sup>
Pore size(µm)	0.22/0.45	
Process volume(ml)	<10ml(13mm)	<100ml(25mm)
Maximum Operating Temperature	100 °C	
Maximum Operating Pressure(psi)	87psi	

### P/N

Model No.	Pore Size	Dimension(mm)	Packing(pk)
C0000277	0.22µm	Ø13	100pcs
C0000278	0.45µm		
C0000279	0.22µm	Ø25	100pcs
C0000280	0.45µm		

### Features

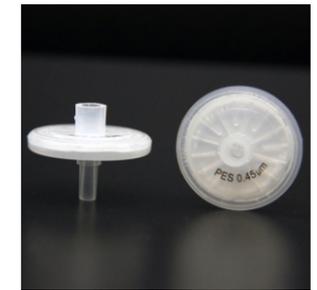
- This Nylon+PP pre-filter provides two times greater throughput than standard filter without pre-filtration.
- One of the most commonly used membranes; broad compatibility with aqueous and organic solvents, with stable hydrophilicity, not suitable for highly acidic samples.

### Applications

- Used for most organic solvents mixtures and mid-polar liquids.
- Chemical filtration and Beverage filtration.
- Note: Nylon binds protein, do not use when high protein recovery is desired.

## PES

- High flow rates(liquids), low protein binding, low concentrations of extractable substances.
- Low-affinity for proteins and extractable with substantially faster flow rates than PVDF; suitable for pre-filtration and filtration of buffers and culture media.
- Two types in pore size: 0.22µm and 0.45µm, Three types in filter size: 13mm, 25mm and 30mm.



### Typical data

Material	PES	
Material of housing	PP	
Effective filtration area(cm <sup>2</sup> )	13mm/1.13cm <sup>2</sup>	25mm/4.15cm <sup>2</sup>
Pore size(µm)	0.22/0.45	
Process volume(ml)	<10ml(13mm)	<100ml(25mm)
Maximum Operating Temperature	90 °C	
Maximum Operating Pressure(psi)	87psi	

### P/N

Model No.	Pore Size	Dimension(mm)	Packing(pk)
C0000293	0.22µm	Ø13	100pcs
C0000294	0.45µm		
C0000295	0.22µm	Ø25	100pcs
C0000296	0.45µm		

### Features

- Faster flow rate than PVDF.
- Excellent thermal resistance and chemical resistance.

### Applications

- PES is certified for ion chromatography; tissue culture media; filtration of proteins and nucleic acids.
- Suitable for filtration of aqueous solution with high throughput.



## PTFE Hydrophilic

- For removing particulates, reducing signal-to-noise ratios and maintaining flat baselines.
- Filtering aqueous and organic solutions.
- Two types in pore size: 0.22µm and 0.45µm, Three types in filter size: 13mm, 25mm and 30mm.

### Typical data

Material	PTFE(Hydrophilic)	
Material of housing	PP	
Effective filtration area(cm <sup>2</sup> )	13mm/1.13cm <sup>2</sup>	25mm/4.15cm <sup>2</sup>
Pore size(µm)	0.22/0.45	
Process volume(ml)	<10ml(13mm)	<100ml(25mm)
Maximum Operating Temperature	130°C	
Maximum Operating Pressure(psi)	87psi	

### P/N

Model No.	Pore Size	Dimension(mm)	Packing(pk)
C0000281	0.22µm	Ø13	100pcs
C0000282	0.45µm		
C0000283	0.22µm	Ø25	100pcs
C0000284	0.45µm		

### Features

- This PTFE+PP pre-filter provides two times greater throughput than standard filter without pre-filtration.
- Broad chemical compatibility choose for filtering aqueous and organic solutions low protein binding.

### Applications

- Industrial Chromatography.
- Filtration of aqueous solutions as well as organic solvents and chemicals.

## PTFE Hydrophobic

- High mechanical and tensile strength.
- Used for most organic solvents and mid-polar liquids.
- Two types in pore size :0.22µm and 0.45µm, Three types in filter size: 13mm, 25mm and 30mm.



### Typical data

Material	PTFE(Hydrophobic)	
Material of housing	PP	
Effective filtration area(cm <sup>2</sup> )	13mm/1.13cm <sup>2</sup>	25mm/4.15cm <sup>2</sup>
Pore size(µm)	0.22/0.45	
Process volume(ml)	<10ml(13mm)	<100ml(25mm)
Maximum Operating Temperature	130°C	
Maximum Operating Pressure(psi)	87psi	

### P/N

Model No.	Pore Size	Dimension(mm)	Packing(pk)
C0000297	0.22µm	Ø13	100pcs
C0000298	0.45µm		
C0000299	0.22µm	Ø25	100pcs
C0000300	0.45µm		

### Features

- This PTFE+PP pre-filter provides two times greater throughput than standard filter without pre-filtration.
- Hydrophobic PTFE membrane has great temperature resistance.
- Suitable for Solvents/Gases/Acids/Bases.

### Applications

- Degassing/Clarifying aqueous samples.
- Removal of protein precipitates.
- Strong acid solvent filtration and Alkali solvent filtration.
- Biofuel analysis.



## PVDF Hydrophilic

- Low protein-binding for filtration of non-aggressive aqueous and mild organic solutions.
- Low UV absorbing extractables and low nonspecific protein binding.
- Two types in pore size: 0.22µm and 0.45µm, Three types in filter size: 13mm, 25mm and 30mm.

### Typical data

Material	PVDF(Hydrophilic)	
Material of housing	PP	
Effective filtration area(cm <sup>2</sup> )	13mm/1.13cm <sup>2</sup>	25mm/4.15cm <sup>2</sup>
Pore size(µm)	0.22/0.45	
Process volume(ml)	<10ml(13mm)	<100ml(25mm)
Maximum Operating Temperature	100°C	
Maximum Operating Pressure(psi)	87psi	

### P/N

Model No.	Pore Size	Dimension(mm)	Packing(pk)
C0000289	0.22µm	Ø13	100pcs
C0000290	0.45µm		
C0000291	0.22µm	Ø25	100pcs
C0000292	0.45µm		

### Features

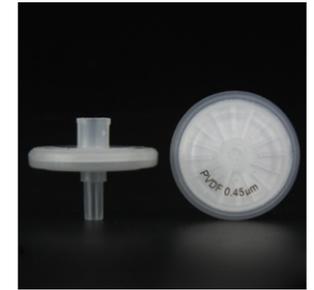
- This PVDF + PP pre-filter provides two times greater throughput than standard filter without pre-filtration.
- Hydrophilic membrane with good solvent resistance.

### Applications

- Sterilizing/Clarifying filtration of biological solutions.
- Excellent chemical compatibility, even with aggressive acids and alcohols.
- Filtration of samples where high protein recovery is desired.

## PVDF Hydrophobic

- Filtration of water-soluble oligomers and polymers, e.g. protein solutions.
- Filtration of hydrophobic substances in different organic solvents.
- Two types in pore size: 0.22µm and 0.45µm, Three types in filter size: 13mm, 25mm and 30mm.



### Typical data

Material	PVDF(Hydrophobic)	
Material of housing	PP	
Effective filtration area(cm <sup>2</sup> )	13mm/1.13cm <sup>2</sup>	25mm/4.15cm <sup>2</sup>
Pore size(µm)	0.22/0.45	
Process volume(ml)	<10ml(13mm)	<100ml(25mm)
Maximum Operating Temperature	100°C	
Maximum Operating Pressure(psi)	87psi	

### P/N

Model No.	Pore Size	Dimension(mm)	Packing(pk)
C0000285	0.22µm	Ø13	100pcs
C0000286	0.45µm		
C0000287	0.22µm	Ø25	100pcs
C0000288	0.45µm		

### Features

- This PVDF + PP pre-filter provides two times greater throughput than standard filter without pre-filtration.
- This membrane features stability and hydrophobic interactions which is similar to PTFE.

### Applications

- Gas filtration, Vapor filtration, High-temperature filtration.
- Food industry and Medicine filtration.

C=Compatibility LC=Limited Compatibility IC=Incompatibility ND=No Data at present					
Chemical		Nylon	PTFE	PVDF	PES
<b>ACIDS</b>	acetic acid 25%	C	C	C	C
	hydrochloric acid 25%	IC	C	C	C
	Sulfuric acid,25%	IC	C	C	C
	Nitric acid,25%	IC	C	C	C
	Phosphoric acid,25%	IC	C	ND	ND
	Formic acid,25%	IC	C	ND	ND
	trichloroacetic acid,10%	IC	C	ND	ND
<b>Alcohol</b>	Methyl alcohol,98%	C	C	C	C
	ethyl alcohol,70%	LC	C	C	C
	Isopropyl alcohol	C	C	C	C
	Butanol	C	C	C	C
	benzyl alcohol	C	C	C	ND
	glycerinum	C	C	C	C
<b>Acid amides</b>	Triethanolamine	C	C	ND	ND
	Aniline	ND	C	ND	ND
	Pyridine	C	C	IC	IC
	Acetonitrile	C	C	C	LC
<b>Lipid</b>	Ethyl acetate	C	C	C	IC
	N-butyl acetate	C	C	IC	IC
	Propyl acetate	C	C	IC	IC
	Cellosolve acetate	ND	C	ND	IC
	Methyl Cellosolve	ND	C	ND	IC
	Isopropyl myristate	C	C	ND	IC
<b>Ketone</b>	Acetone	C	C	IC	IC
	Cyclohexanone	C	C	IC	IC
	Methyl ethyl ketone	C	C	LC	IC
	Methyl-Isobutyl Ketone	ND	C	LC	IC
<b>Organic Peroxide</b>	Dioxane	C	C	LC	IC
	Tetrahydrofuran	C	C	LC	IC
	Dimethyl sulfoxide	C	C	IC	IC
	Isopropyl ether	ND	C	C	C
<b>Sundry</b>	Phenol solution,10%	ND	C	LC	IC
	Formaldehyde Solution,30%	C	C	C	C
	Hydrogen Peroxide	C	C	ND	ND
	Silicone oil/silicone oil	ND	C	C	C



- In order to meet different customers' request, LABFIL supply the syringe filters with outer ring as well.
- It's available in many different pore sizes and with several hydrophilic or hydrophobic membrane materials.
- More Economic.
- Reliable removal of microorganisms and particles from liquids for HPLC sample preparation.
- High mechanical and tensile strength.

Type	Color	Color
	0.45µm	0.22µm
NY	Yellow	Light Yellow
PES	Green	Light Green
PVDF(Hydrophilic/Hydrophobic)	Purple	Light Purple
PTFE(Hydrophilic/Hydrophobic)	Red	Pink

## Nylon



- High mechanical and tensile strength.
- Universal application for analytical procedures.
- Two types in pore size: 0.22µm and 0.45µm, Three types in filter size: 13mm, 25mm and 33mm.

### Typical data

Material	Nylon	
Material of housing	PP	
Effective filtration area(cm <sup>2</sup> )	13mm/1.09cm <sup>2</sup>	25mm/4.08cm <sup>2</sup>
Pore size(µm)	0.22/0.45	
Process volume(ml)	<10ml(13mm)	<100ml(25mm)
Maximum Operating Temperature	100 °C	
Maximum Operating Pressure(psi)	87psi	

### P/N

Model No.	Pore Size	Dimension(mm)	Packing(pk)
C0000602	0.22µm	Ø13	100pcs
C0000603	0.45µm		
C0000604	0.22µm	Ø25	100pcs
C0000605	0.45µm		

### Features

- One of the most commonly used membranes.
- Broad compatibility with aqueous and organic solvents, with stable hydrophilicity, not suitable for highly acidic samples.

## PES



- High mechanical and tensile strength.
- Used for most organic solvents and mid-polar liquids.
- Two types in pore size :0.22µm and 0.45µm, Three types in filter size: 13mm, 25mm and 33mm.

### Typical data

Material	PES	
Material of housing	PP	
Effective filtration area(cm <sup>2</sup> )	13mm/1.09cm <sup>2</sup>	25mm/4.08cm <sup>2</sup>
Pore size(µm)	0.22/0.45	
Process volume(ml)	<10ml(13mm)	<100ml(25mm)
Maximum Operating Temperature	90 °C	
Maximum Operating Pressure(psi)	87psi	

### P/N

Model No.	Pore Size	Dimension(mm)	Packing(pk)
C0000622	0.22µm	Ø13	100pcs
C0000623	0.45µm		
C0000624	0.22µm	Ø25	100pcs
C0000625	0.45µm		

### Features

- Excellent thermal resistance and chemical resistance.
- Having high flow rates thanks to their symmetric structure .
- A low protein adsorption, recommended for filtration of protein filtration as well as for aqueous solutions filtration.
- The low level extractables makes them suitable for environmental analysis.

## PTFE Hydrophobic



- Hydrophobic PTFE syringe filters have broad chemical compatibility and high pH resistance.
- Versatile filters for use with aggressive organic solvent-based solutions and are especially ideal for HPLC sample preparation.
- Two types in pore size: 0.22µm and 0.45µm, Three types in filter size: 13mm, 25mm and 33mm .

### Typical data

Material	PTFE(Hydrophobic)	
Material of housing	PP	
Effective filtration area(cm <sup>2</sup> )	13mm/1.09cm <sup>2</sup>	25mm/4.08cm <sup>2</sup>
Pore size(µm)	0.22/0.45	
Process volume(ml)	<10ml(13mm)	<100ml(25mm)
Maximum Operating Temperature	130 °C	
Maximum Operating Pressure(psi)	87psi	

### P/N

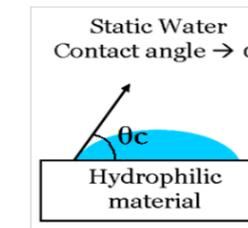
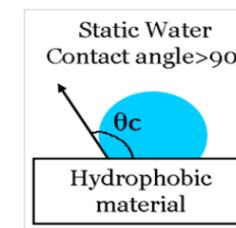
Model No.	Pore Size	Dimension(mm)	Packing(pk)
C0000610	0.22µm	Ø13	100pcs
C0000611	0.45µm		
C0000612	0.22µm	Ø25	100pcs
C0000613	0.45µm		

### Features

- Hydrophobic PTFE membrane has great temperature resistance.
- Suitable for Solvents/Gases/Acids/Bases.
- Excellent chemical compatibility for filtering harsh chemicals that destroy other membrane materials and ideal for aerosol sampling.

## PTFE Hydrophilic

- Hydrophilic materials are obtained through process improvement.
- Hydrophilic material has a great affinity for water and it's easily wetted by water because of the surface with water molecules to form intermolecular forces.



- High mechanical and tensile strength.
- Used for most organic solvents and mid-polar liquids.
- Two types in pore size : 0.22µm and 0.45µm, Three types in filter size: 13mm, 25mm and 33mm.



### Typical data

Material	PTFE(Hydrophilic)	
Material of housing	PP	
Effective filtration area(cm <sup>2</sup> )	13mm/1.09cm <sup>2</sup>	25mm/4.08cm <sup>2</sup>
Pore size(µm)	0.22/0.45	
Process volume(ml)	<10ml(13mm)	<100ml(25mm)
Maximum Operating Temperature	130 °C	
Maximum Operating Pressure(psi)	87psi	

### P/N

Model No.	Pore Size	Dimension(mm)	Packing(pk)
C0000606	0.22µm	Ø13	100pcs
C0000607	0.45µm		
C0000608	0.22µm	Ø25	100pcs
C0000609	0.45µm		

### Features

- Broad chemical compatibility choose for filtering aqueous and organic solutions Low protein binding.
- Low IC extractables.

## PVDF Hydrophobic



- Filtration of water-soluble oligomers and polymers, e.g. protein solutions.
- Filtration of hydrophobic substances in different organic solvents.
- Two types in pore size: 0.22µm and 0.45µm, Three types in filter size: 13mm, 25mm and 33mm.

### Typical data

Material	PVDF(Hydrophobic)	
Material of housing	PP	
Effective filtration area(cm <sup>2</sup> )	13mm/1.09cm <sup>2</sup>	25mm/4.08cm <sup>2</sup>
Pore size(µm)	0.22/0.45	
Process volume(ml)	<10ml(13mm)	<100ml(25mm)
Maximum Operating Temperature	100 °C	
Maximum Operating Pressure(psi)	87psi	

### P/N

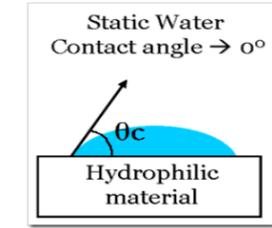
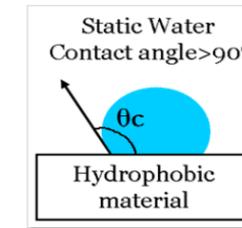
Model No.	Pore Size	Dimension(mm)	Packing(pk)
C0000618	0.22µm	Ø13	100pcs
C0000619	0.45µm		
C0000620	0.22µm	Ø25	100pcs
C0000621	0.45µm		

### Features

- This membrane features stability and hydrophobic interactions which is similar to PTFE.
- Naturally hydrophobic membrane provides excellent flow rates and high loading.
- Exceptional temperature stability provides extended sampling range over other membranes.

## PVDF Hydrophilic

- Hydrophilic materials are obtained through process improvement.
- Hydrophilic material has a great affinity for water and it's easily wetted by water because of the surface with water molecules to form intermolecular forces.



- Low protein-binding for filtration of non-aggressive aqueous and mild organic solutions.
- Low UV absorbing extractables and low nonspecific protein binding.
- Two types in pore size: 0.22µm and 0.45µm, Three types in filter size: 13mm, 25mm and 33mm.



### Typical data

Material	PVDF(Hydrophilic)	
Material of housing	PP	
Effective filtration area(cm <sup>2</sup> )	13mm/1.09cm <sup>2</sup>	25mm/4.08cm <sup>2</sup>
Pore size(µm)	0.22/0.45	
Process volume(ml)	<10ml(13mm)	<100ml(25mm)
Maximum Operating Temperature	100 °C	
Maximum Operating Pressure(psi)	87psi	

### P/N

Model No.	Pore Size	Dimension(mm)	Packing(pk)
C0000614	0.22µm	Ø13	100pcs
C0000615	0.45µm		
C0000616	0.22µm	Ø25	100pcs
C0000617	0.45µm		

### Features

- Hydrophilic membrane with good solvent resistance.
- It has superior performance to prevent leak of sample solvent and can promise membrane area being used in a large filtration area.

## Nylon

- 100% integrity tested.
- Individually packaged.
- Ideal for sterile filtration.
- Low extractables, high protein binding; recommended for alcohols and weak solvents.



### P/N

Model No.	Pore Size	Dimension(mm)	Packing(pk)
C0000524	0.22µm	Ø13	100pcs
C0000525	0.45µm		
C0000526	0.22µm	Ø25	50pcs
C0000527	0.45µm		

## PES

- 100% integrity tested.
- Individually packaged.
- Ideal for sterile filtration.
- For medical use, sterile filtering protein solution, tissue culture media, additives.



### P/N

Model No.	Pore Size	Dimension(mm)	Packing(pk)
C0000544	0.22µm	Ø13	100pcs
C0000545	0.45µm		
C0000546	0.22µm	Ø25	50pcs
C0000547	0.45µm		

## PTFE

- 100% integrity tested.
- Individually packaged.
- Ideal for sterile filtration.
- For degassing/clarifying aqueous and solvent samples.



### P/N

Type	Model No.	Pore Size	Dimension(mm)	Packing(pk)
Hydrophilic	C0000528	0.22µm	Ø13	100pcs
	C0000529	0.45µm		
	C0000530	0.22µm	Ø25	50pcs
	C0000531	0.45µm		
Hydrophobic	C0000532	0.22µm	Ø13	100pcs
	C0000533	0.45µm		
	C0000534	0.22µm	Ø25	50pcs
	C0000535	0.45µm		

## PVDF

- 100% integrity tested.
- Individually packaged.
- For sterilization/clarification of water, buffers, and salt solutions.



### P/N

Type	Model No.	Pore Size	Dimension(mm)	Packing(pk)
Hydrophilic	C0000536	0.22µm	Ø13	100pcs
	C0000537	0.45µm		
	C0000538	0.22µm	Ø25	50pcs
	C0000539	0.45µm		
Hydrophobic	C0000540	0.22µm	Ø13	100pcs
	C0000541	0.45µm		
	C0000542	0.22µm	Ø25	50pcs
	C0000543	0.45µm		

## Membrane Filter



- Membrane filters or "membranes" are polymer films with specific pore ratings.
- Membranes retain particles and microorganisms that exceed their pore ratings by acting as a physical barrier and capturing such particles on the surface of the membrane.
- Labfil membranes are available in a variety of polymers, pore sizes, diameters, and surface types.

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*Or visit us: [www.alwsci.com](http://www.alwsci.com)*

Image	Type	Dimension(mm)/Pore Size	Item No.	Packing
	CA	47mm / 0.22µm,0.45µm	C0000875/C0000876	100pcs/pk
		90mm / 0.22µm,0.45µm	C0000877/C0000878	100pcs/pk
	MCE	47mm / 0.22µm,0.45µm	C0000311/C0000313	100pcs/pk
		90mm / 0.22µm,0.45µm	C0000312/C0000314	100pcs/pk
	Nylon	47mm / 0.22µm,0.45µm	C0000303/C0000305	100pcs/pk
		90mm / 0.22µm,0.45µm	C0000304/C0000306	100pcs/pk
	PES	47mm / 0.22µm,0.45µm	C0000891/C0000892	100pcs/pk
		90mm / 0.22µm,0.45µm	C0000893/C0000894	100pcs/pk
	PVDF(Hydrophilic)	47mm / 0.22µm,0.45µm	C0000909/C0000563	100pcs/pk
		90mm / 0.22µm,0.45µm	C0000910/C0000911	100pcs/pk
	PVDF(Hdrophobic)	47mm / 0.22µm,0.45µm	C0000916/C0000917	100pcs/pk
		90mm / 0.22µm,0.45µm	C0000918/C0000919	100pcs/pk
	PTFE(Hydrophilic)	47mm / 0.22µm,0.45µm	C0000424/C0000425	100pcs/pk
		90mm / 0.22µm,0.45µm	C0000899/C0000900	100pcs/pk
	PTFE(Hdrophobic)	47mm / 0.22µm,0.45µm	C0000307/C0000309	100pcs/pk
		90mm / 0.22µm,0.45µm	C0000308/C0000310	100pcs/pk

**Related Products Please Refer Solutions of Chromatography**

