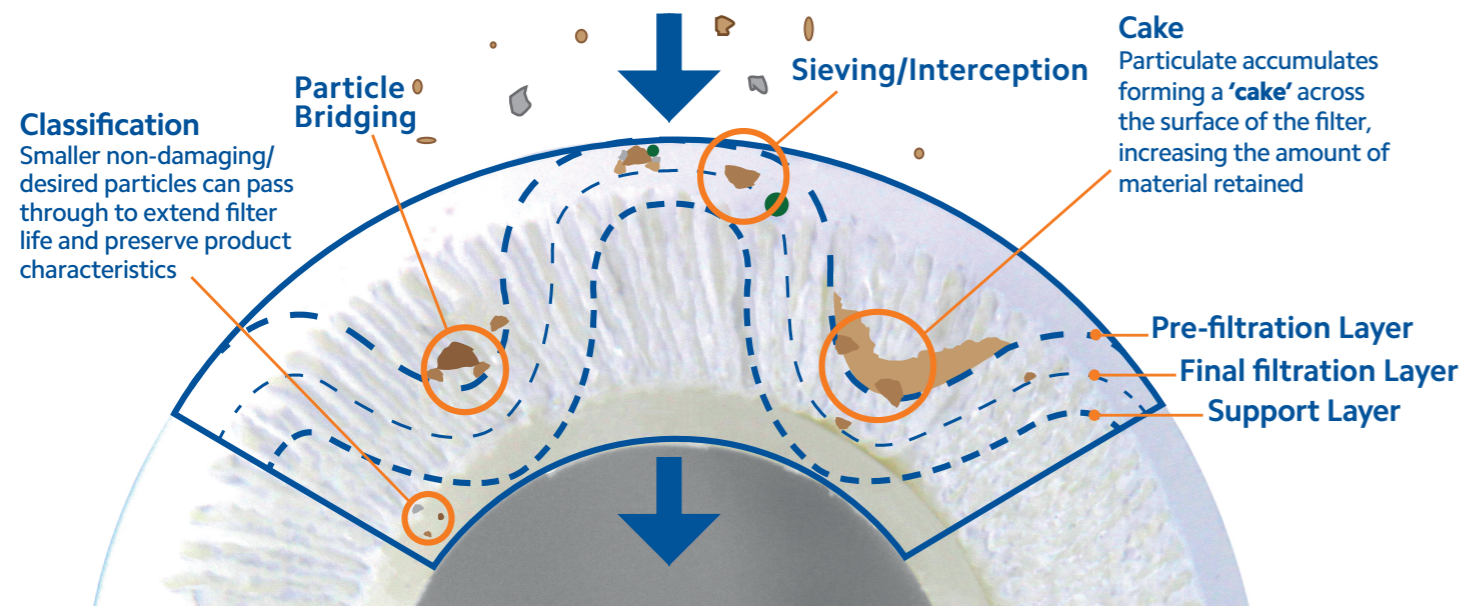


# What is Surface Filtration?

Pleated filters are widely used as effective surface filtration due to their excellent flow rates and high efficiency.

Pleating dramatically increases available surface area whilst maintaining high dirt loading and low pressure drops. Much of the media used in pleated cartridges also has some depth characteristics, thanks to its multi-layer construction, thereby aiding particle retention and classification.

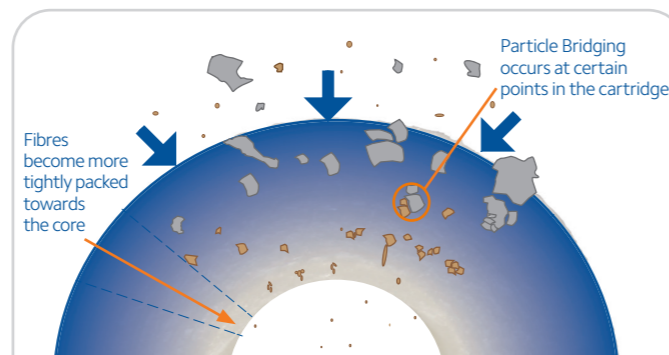


## Surface Filtration Technology

Pleated filters are the ideal technology of choice over depth filtration for retention of known or uniformly sized particles.

The Standard (SPE) range of cartridges features a single layer media, which filters on the principles of direct interception and 'caking' where multiple particles accumulate across the media pore. Over time this leads to partial closure, which can increase efficiency and the chance to target finer particles.

The entire Premier range includes support and pre-filtration layers providing an element of depth characteristics. These layers retain larger particles, ensuring the specified micron rating of the cartridge can be utilised for exacting classification.



## Depth Filtration Technology

The fibres become more tightly packed throughout a depth cartridge, progressively reducing the size of particles that can pass through the filter.

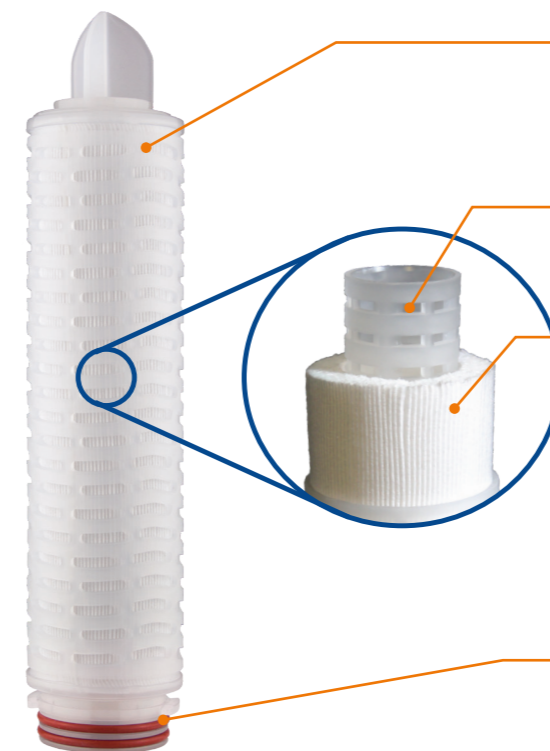
**Advantage:** Economic to produce.

**Disadvantage:** Higher pressure drop means a shorter service life compared to pleated cartridges.

# Premier Pleat Construction

The Premier Pleat, Crypto and Bubble Point ranges are all constructed with a rigid inner and outer polypropylene core. Offering protection for the pleat pack, the cage also allows a variety of end-caps to be thermally bonded to the cartridge. This secure construction technique prevents bypass, creating a seal strong enough for repeated steam or chemical sterilisation as well as cartridge integrity testing.

Developments in 2018 see a new outer cage design that increases its void volume by over 10%. Whilst maintaining cartridge strength, increasing the open area allows a more uniform distribution of flow across the entire pleat pack ensuring low pressure drop and maximised dirt holding capacity.



## Outer support cage

- Provides product strength and rigidity.
- Protects the pleat pack, ensuring media integrity.
- New outer cage design with increased void volume.

## Inner support cage

- End-caps are bonded to the support core for product security and strength, ensuring no bypass and enabling integrity testing.

## Media

- Pleated construction increases surface area, delivering high flow rates, low initial clean pressure drop and optimised dirt holding.
- Designed with an optimum balance of filtration media and void volume, the pleat pack is engineered to ensure that the entire surface area of the cartridge is used, maximising dirt holding capability whilst maintaining high flow rates and low pressure drop.

## Thermally bonded end-cap

- No adhesive ensures no leaching of additives.
- Numerous end-caps and seals available to suit various housings (refer to pages 32 and 33).

## Identification

### Lot Coded

- Laser etched lot code on cartridge
- Traceable back to raw materials

### QR Code

- Links directly to further information for each product

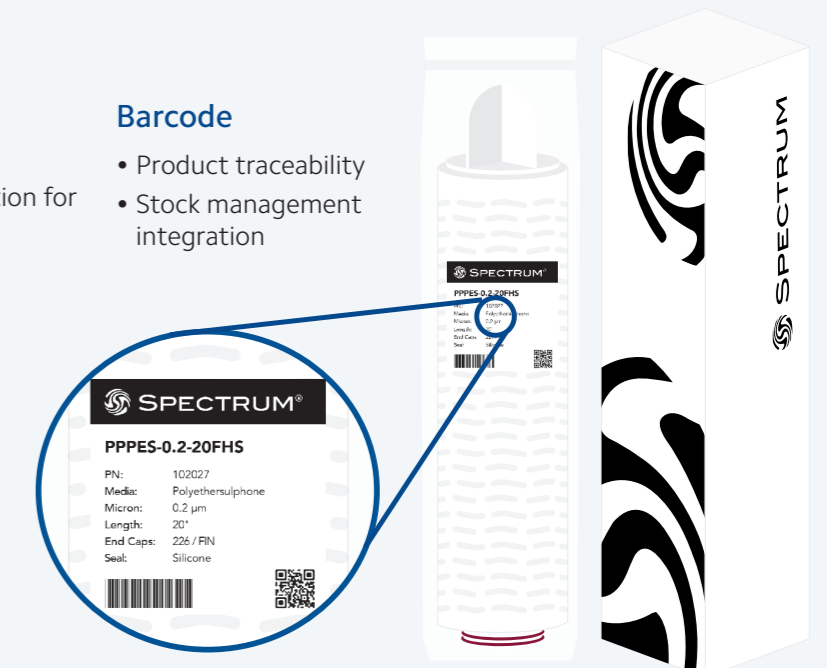
### Barcode

- Product traceability
- Stock management integration

## Packaging

### Four Protective Layers

- Vacuum sealed inner packaging
- Tough outer polybag layer provides additional protection
- Individual product boxes
- Heavy duty outer carton



# Absolute Rated for Precise Filtration



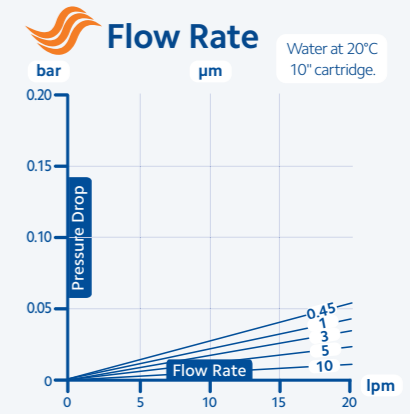
**SPECTRUM**

## Premier Pleat Glass Fibre 0.45-10 micron

Offering higher efficiency filtration than the PPP, the SPECTRUM Premier Pleat Glass Fibre combines absolute rated particle removal with high flow rate capabilities. Manufactured using only strong Borosilicate glass fibre media with two rigid support layers, the cartridge is able to meet demanding flow rate requirements without comprising the integrity of the media. Suitable for applications where known, consistent and absolute removal characteristics are required.

### Efficiency

Cartridge Micron Rating	Challenge Particulate Size								
	0.1 µm	0.2 µm	0.45 µm	1 µm	3 µm	5 µm	10 µm	20 µm	30 µm
0.45 µm	99.99%	99.994%	99.999%	99.9993%	99.99996%				
1 µm		99.99%	99.993%	99.999%	99.9996%				
3 µm			99.991%	99.995%	99.9991%	99.9999%	99.99992%		
5 µm				99.99%	99.999%	99.9994%	99.9997%	99.9999%	
10 µm					99.99%	99.999%	99.9996%	99.9997%	99.9991%



### Materials of Construction

**Filter Media**  
Glass Fibre

**Core**  
Polypropylene

**Support Media**  
Polypropylene

**Cage**  
Polypropylene

**End-cap**  
Polypropylene with PSU ring insert (Z)  
Polypropylene with SS ring insert (Q)

**Seal**  
Silicone (as standard)

### Configurations

**Micron (µm)**  
0.45 1 3 5 10

**Length (")**  
9¾ 10 20 30 40

**End-cap (refer to page 32)**  
AA CG EG EH FG FH MG  
MH QG ZH

**Seal**  
S = Silicone E = EPDM V = Viton®

### Specification

**Efficiency**  
99.99 - 99.9996%

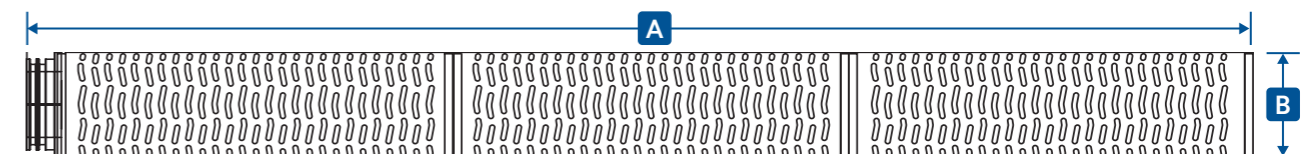
**Max. Operating Temperature**  
82°C

**Max. Sterilising Cycles**  
5 x 20 min cycles at 121°C. Requires compatible end-caps Q (222) and Z (226).

**Surface Area**  
0.41m² per 10"

**Max. Operating Pressure Differential**  
6 bar at 21°C

### Dimensions



Length	A (mm)					B (mm)
	AA	CG	EG/FG/MG/	QG	EH/FH/MH/ZH	
9¾"	248	-	-	-	-	70
10"	-	241	270	276	310	70
20"	508	506	520	526	560	70
30"	750	-	770	776	810	70
40"	1000	-	1020	1026	1060	70

### Part Number

Code	Micron	Length	End-Cap	Seal
PPG	0.45, 1, 3, 5, 10	9¾	AA	S, E, V
		10, 20, 30, 40	CG, EG, EH, FG, FH, MG, MH, QG, ZH	

e.g. PPG-0.45-40EHS