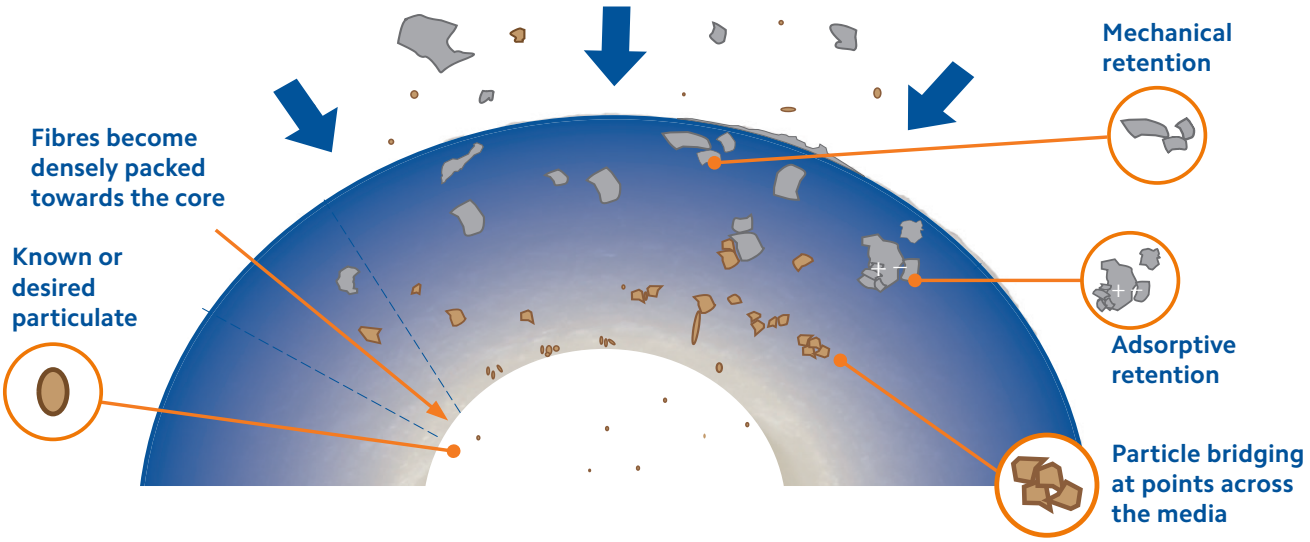
What is Depth Filtration?

Successfully used in a variety of applications, depth filtration utilises a thick layer of media to effectively trap and retain various particulate. Commonly specified as the first stage of a filtration cascade, more advanced manufacturing techniques have now developed depth cartridges suited to improving downstream filtration.

Cross-Section of a Depth Cartridge



How do Depth Filters Work?

As liquid from the inlet is sent twisting and turning on a tortuous path through the filter cartridge, particles become caught in the densely packed fibres of a depth filter - this sieving or interception is known as mechanical retention. With the introduction of graded-depth filtration, a broad range of particulate can be captured across the entirety of the depth media.

From outside to in, the media fibres become densely packed with larger particulate captured first, allowing smaller particles to be progressively intercepted. As well as the physical interception, fibres also naturally attract particles via Van de Waals force. This adhesion process is known as adsorptive retention.

Typical Applications

Depth filtration offers a myriad of solutions to suit many applications:

- Incoming water
- Pre-RO
- General pre-filtration
- Particulate removal
- High temperatures
- Aggressive solvents
- Food grade compatibility
- High viscosity liquids
- Adhesives
- Paints and inks

Technology Developments

For over 50 years, string wound cartridges have been used as a basic form of filtration. Development in manufacturing processes and technologies have resulted in more advanced cartridges with improved performance characteristics and capabilities.

1 Million+

Supply Capabilities

Each year Fileder supplies the equivalent of more than 1 million 10" depth cartridges

Spun Bonded Fibres

Advanced range of solutions for efficient prefiltration or particulate classification

- The most popular option for sediment reduction
- More precise filtration over wound technology
- Particulate is retained throughout the depth of the filter media
- Increased void volume (available space for particulate to be retained) maximises dirt holding capacity
- Suitable for applications from batch process to drinking water

Wound String Fibres

Ideal for high temperature and chemical compatibility applications

- Tried and tested technology
- Cost effective particulate filtration
- Multiple options of filter media and core material
- Suitable for high temperature and aggressive chemicals
- Wide micron rating options from 0.5 to 150 micron

Specialist Materials

Ideal for high viscosity and high temperature applications

- Specially designed for more challenging applications
- Technologies applied to overcome high viscosity processes
- Products for superior performance in paint and ink applications
- Cartridges infused with antibacterial additives

Cost Effective Particle Reduction

FDA Compliant Materials

SPECTRUM

TruDepth® Economic Spun Polypropylene

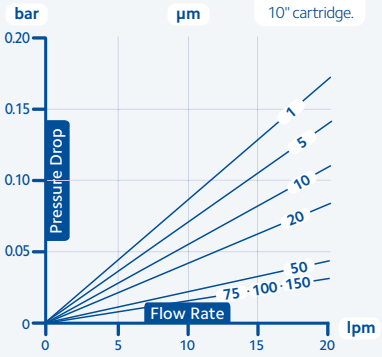
1-150 micron

The lowest cost spun-bonded cartridge in the SPECTRUM range, the TruDepth® Economic cartridge is ideally suited for batch processes where repeated changeout is required. With a graded density construction, this entry level cartridge is excellent at preventing premature blinding of other filtration systems further downstream.

Key Features

- Graded density construction for broad range of particle size removal
- Lowest price option without compromising on quality
- Thermally bonded matrix ensures a strong structural integrity preventing fibre migration

Flow Rate



Materials of Construction

Filter Media
Polypropylene

Configurations

Micron (µm)

1	5	10	20	50	75
100	150				

Length (")

4⅞	9⅞	20	30	40

Specification

Efficiency
70%

Max. Operating Temperature
65°C

Max. Operating Pressure Differential
2 bar at 21°C

Dimensions

	Dimensions (mm)		
	A	B	C
4⅞	28	124	63
9⅞	28	250	63
20	28	508	63
30	28	762	63
40	28	1016	63

Part Number

Code		Micron		Length
ESP	−	1, 5, 10, 20, 50, 75, 100, 150	−	4⅞, 9⅞, 20, 30, 40

e.g. ESP-1-97/8