

GORE® Microfiltration Media

For Semiconductor & Microelectronics Fabrication Processes

ASSURE CLEANLINESS & CONSISTENT HIGH PERFORMANCE

Fluid purity is essential in semiconductor fabrication and microelectronics manufacturing and processing, such as wet etch and clean (WEC), photolithography, and chemical mechanical polishing (CMP). Also, transistors continue to shrink to unimaginable sizes, and capturing the tiniest particles in the nanometer range is critical for effective micro-contamination control.

GORE® Microfiltration Media offers a unique combination of the highest retention and flow unmatched by other filtration material suppliers. Our membrane assures repeatable high performance, consistent quality, and exceptional cleanliness in critical filter applications.

Materials Science Innovation & Expertise in Filtration Technology

Our unparalleled expertise in manufacturing expanded polytetrafluoroethylene (ePTFE) and controlling its microstructure allows us to tailor membranes to increase retention and enable greater throughput or impart specific characteristics required for their intended use (Figure 1).

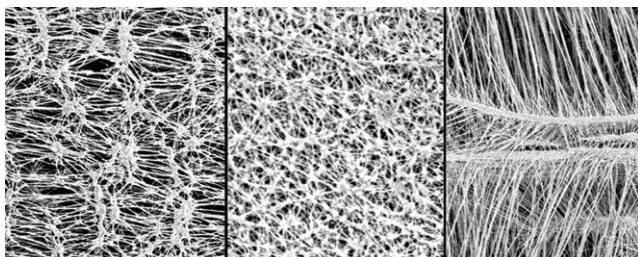


Figure 1: Gore ePTFE membrane structures under extreme magnification.



Gore is more than a membrane company — we are also an expert in filtration technology. For more than 40 years, we have delivered air, gas, liquid, and particle filtration solutions to help our partners purify processes, increase yields, and control costs.

We continue to set the industry standard in the liquid filtration market for membranes that bring high quality, high performance and reliability in the most critical semiconductor and microelectronics fabrication steps. In addition, we continue to develop new membranes as chip design gets finer, enabling filter manufacturers to keep up with industry needs and challenges to improve process yields.

Together, improving life



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Typical Applications

- Semiconductor Manufacturing Processes
- Microelectronics Fabrication
- High Purity Chemical Production

Features

- Clean, non-shedding membranes
- High chemical and thermal resistance
- Hydrophobic and hydrophilic membranes
- Unique ePTFE microstructure with uniform membrane properties
- Available in various pore size ratings from 0.015 to 10 μm
- Membrane consistency from roll to roll and lot to lot

Benefits

- Proven higher liquid flow rate at a given retention level
- Consistent high quality and repeatable high performance
- Reliably filters nanometer-level particles and harmful contaminants
- Reduce wafer defects and enhance process yields
- Decades of proven successful performance and reliability in many applications

Ordering Information

GORE® Microfiltration Media are designed to fit many critical applications and microfiltration device design formats (Table 1). Our membranes are available in a wide range of pore sizes, retention levels, and flow rates that can be customized to meet your exact needs and requirements (Table 2). We also offer membrane discs in custom sizes for diverse applications.

For more information or to order our membranes for semiconductor and microelectronics fabrication processes, visit gore.com/micromedia.



Table 1: Membrane Offerings

Materials Construction	Pore Reference Size (μm)	Capabilities/Intended Use
Hydrophobic (ePTFE)		
Membrane	0.015 to 10	Aggressive chemical and solvent-based applications
Laminate PP Net	0.1 to 1.0	Laminate for added support and strength
Hydrophilic		
Membrane	0.1 to 10	Water-based processes

Table 2: Membrane Properties

Pore Size ¹ (μm)	Gore Part Number ²	Thickness (μm)	Bubble Point		Typical Flow Time	
			Liquid	kPa	Liquid	Seconds
Hydrophobic (ePTFE)						
0.02	SM0-00002	> 15	60% IPA	> 700	IPA	< 1300
0.03	SM0-00003	> 10	60% IPA	> 550	IPA	< 1200
0.05	SM0-00005	> 10	EtOH	> 225	MeOH	< 300
0.1	SM0-00010	> 20	EtOH	> 155	MeOH	< 140
0.2	SM0-00020	> 35	EtOH	> 100	MeOH	< 100
0.45	SM0-00050	> 35	EtOH	> 63	MeOH	< 55
1	SM0-00100	< 120	IPA	> 24	IPA	(50) ³
5	SM0-00500	< 100	IPA	> 13	IPA	(20) ³
10	SM0-00A00	< 100	IPA	> 6	IPA	(10) ³
Hydrophilic (ePTFE)						
0.1	HSM0-00010	> 20	EtOH	> 135	Water	< 160
0.2	HSM0-00020	> 20	Water	> 230	Water	< 60
0.5	HSM0-00050	> 20	Water	> 135	Water	< 25
1	HSM0-00100	> 20	Water	> 67	Water	< 12
5	HSM0-00500	< 80	IPA	> 13	IPA	< 15
10	HSM0-00A00	< 80	IPA	> 6	IPA	< 9
Laminate (Phobic/PP Net)						
0.1	SM5-00010	> 100	EtOH	> 160	MeOH	< 250
0.2	SM5-00020	> 100	EtOH	> 107	MeOH	< 140
0.5	SM5-00050	> 100	EtOH	> 63	MeOH	< 75
1	SM5-00100	> 90	EtOH	> 39	MeOH	< 28

1. Standard membranes

2. Membrane width is 270 ± 5 mm

3. Data for reference

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