Asymmetric membranes

For highly efficient fluid clarification

Asymmetric membranes are different from conventionally cast microporous membranes in that the larger pores on the upstream side of the membrane act as a prefilter while the absolute rated downstream side, or exclusion zone, acts as an absolute cut off layer. This structure differs from that of traditional microporous materials, which have comparable pore sizes on both the upstream and downstream sides of the membrane. The graded nature of asymmetric membranes results in a sidedness to the membrane, requiring knowledge of the upstream side of the membrane for optimal performance. Our portfolio of hydrophillic, low-binding, autoclaveable, and gamma sterilizable asymmetric membranes includes two media types for optimal performance.

Asymmetric polyethersulfone

The asymmetric polyethersulfone (PES) membranes are constructed specifically for diagnostic applications. The graded pore structure helps maintain flow rates as larger-sized particles are captured on the upstream side of the membrane, leaving the smaller pores to carry out the final filtration step.

Asymmetric super micron polysulfone (MMM)

MMM membranes are super micron polysulfone (PS) filters which have pore sizes ranging from 0.1 to 10 µm. Featuring a patented asymmetric pore structure, these media are highly porous and inherently wettable. The MMM family of asymmetric membranes are low protein binding and have been certified to comply with United States Pharmacopeia (USP) Biological Reactivity Test, *In Vivo* <88> for biological safety. These membranes can be gamma sterilized and are well suited for sample preparation and prefiltration applications.

Applications

- Prefiltration
- Sample clarification
- Clarification of viscous samples
- Particulate removal

Sealing

- Mechanical
- Heat
- Lamination
- Insert molding
- RF welding

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Product specifications

Asymmetric polyethersulfone (PES)

Typical membrane characteristics					Typical performance characteristics	
Product	**Base material**	**Nominal pore size (µm)**	**Thickness (mils)**	**Thickness (µm)**	**Water bubble point (psi)**	**Water flow (mL/min/cm² at 10 psi)**
Supor™ MachV C200 membrane	Asymmetric polyethersulfone	0.2	6.9–9.1	175.3–231.1	≥ 54.3	≥ 27.3
Supor MachV A650 membrane	Asymmetric polyethersulfone	0.65	4.5–6.9	114.3–175.3	≥ 18.0	≥ 54.0

Asymmetric super micron polysulfone (MMM)

Typical membrane characteristics				Typical performance characteristics	
Base material	**Pore size (µm)**	**Thickness (mean) (mils)**	**Thickness (mean) (µm)**	**Water flow (mean) (mL/min/90 mm disc at 0.7 bar, 10 psi)**	**Water flow (mean) (mL/min/47 mm disc at 0.7 bar, 10 psi)**
Asymmetric super micron polysulfone (MMM)	0.1	4.1–5.7	120.0–145.0	≥ 200	N/A
Asymmetric super micron polysulfone (MMM)	0.45	4.9–7.3	125.0–185.0	≥ 600	N/A
Asymmetric super micron polysulfone (MMM)	0.8	6.5–7.9	165.0–200.0	≥ 6000	N/A
Asymmetric super micron polysulfone (MMM)	5	4.7–6.3	116.8–165.1	N/A	N/A
Asymmetric super micron polysulfone (MMM)	8	4.7–6.7	120.0–160.0	N/A	≥ 200
Asymmetric super micron polysulfone (MMM)	11	4.7–6.7	120.0–170.0	N/A	≥ 300

Ordering information

Product	Pkg	Product code
Supor MachV C200 membrane, 0.2 µm, 8" × 10" sheet	1/pkg	S80803
Supor MachV A650 membrane, 0.65 µm, 8" × 10" sheet	1/pkg	S80800
MMM membrane, 0.1 µm, 8" × 11" sheet	1/pkg	T9EXPPA0010S00M
MMM membrane, 0.45 µm, 8" × 11" sheet	1/pkg	T9EXPPA0045S00M
MMM membrane, 0.8 µm, 8" × 11" sheet	1/pkg	T9EXPPA0080S00M
MMM membrane, 5.0 µm, 8" × 11" sheet	1/pkg	T9EXPPA0500S00M
MMM membrane, 8.0 µm, 8" × 11" sheet	1/pkg	T9EXPPA0800S00M
MMM membrane, 10 µm, 8" × 11" sheet	1/pkg	T9EXPPA1000S00M

Custom roll, sheet, and disc sizes available upon request.
Please contact us for additional information.

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