

MEMBRA-CEL® Range

Size Range:

- Flat Width 10mm to 172mm
- Molecular Weight Cut-Offs: 14,000, 7,500, and 3,500 daltons

Presentations: MEMBRA-CEL® dialysis membranes are available in many different formats:

- Reels
- Sheets

Casing	Flat Width	Diameter	Thickness	Molecular Weight Cut-Offs
Size	(mm)	(mm)	(microns)	(kD)
MC16	23	15	27	14
MC18	25	16	27	14
MC24	32	20	30	14
MC30	40	25	30	14
MC40	50	32	30	14
MC65	69	44	46	14
MC75	80	51	51	14
MC85	90	57	58	14
MC97	104	66	66	14
MC110	117	75	74	14
MC125	133	85	86	14
MC135	144	92	91	14
MC150	159	101	101	14
MC170	172	127	103	14
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MD10	10	6	51	3.5, 7, and 14
M025	25	16	20	3.5, 7, and 14
MD34	34	22	23	3.5, 7, and 14
M044	44	28	20	3.5, 7, and 14
M055	55	35	25	3.5, 7, and 14
MD77	77	49	41	3.5, 7, and 14

Generalities

MEMBRA-CEL® dialysis membranes are made of regenerated cellulose using the viscose process. These semi-permeable membranes have distinct Molecular Weight Cut-Off (MWCOs)

Their main characteristics are:

- pH stability
- Protein absorption
- Temperature resistance

MEMBRA-CEL® Utilization

1. Handling

- Membrane preparation step is recommended prior to use in order to remove contaminants. This does not modify the molecular weight cut-off.
- Use clips to close tubing forms for use.
- Allow stirring to increase dialysis efficiency.
- Test different pH buffers for dialysis as the shape and the charge influence osmotic separations.
- Use within 36 hours after soaking otherwise an antimicrobial agent is recommended will be required.

Don't:

- Touch the membranes with hands.
- Use strong alkalis.
- Use solutions containing active cellulase.
- Knot-tie the tubing to close. This can modify the molecular cut-off weight near the tie.

2. Technical Information

- Level of contaminants:
 - Sulfur compounds: less than 0.3%
 - Heavy metals (atomic number greater than 36): less than 50 ppm
 - pH stability range: 5 to 9
- Chemical Compatibility:
 - Cellulose has good compatibility with many salts such as CaCl_2 , $(\text{NH}_4)_2\text{SO}_4$ and aqueous organic solvents commonly used in molecular biology / enzymology such as isopropanol, ethanol and acetone.
- Temperature Resistance:
 - MEMBRA-CEL® Tubing can be boiled or sterilized by autoclave but should not be allowed to dry unless reglycerinated.
 - Membranes in tubing form that contain aqueous solutions may be frozen

- Microbial Resistance:
 - Membranes are sensitive to cellulase activity particularly when they are humidified.
 - Growth of cellulolytic micro-organisms can be prevented by keeping the membranes in water containing benzoate, benzoic acid, formaldehyde or pentachlorophenol.
- Protein Adsorption of MEMBRA-CEL® Tubing is less than 1 nanograms/gram of dry MEMBRA-CEL® Tubing

SEPRA-CEL® Range

SEPRA-CEL® membrane is seamless semi-permeable clear regenerated cellulose membrane made from the viscose process. It is manufactured in a variety of widths and thicknesses in both fiber reinforced and non-reinforced cellulose types. All materials are humectant and plasticizer-free. SEPRA-CEL® membranes are also available in sheeted form.

Presentations: SEPRA-CEL® membranes are available in many different formats:

- Reels
- Sheets

Utilization

1. Applications

SEPRA-CEL® membranes are cellulosic battery separator used to provide a semi-permeable physical barrier between the anode and cathode in battery systems while allowing free flow of ionic components in the electrolyte. One of the major applications is in alkaline silver oxide-zinc rechargeable batteries.

2. Technical Information:

Physical:

- Approximate effective pore size diameter: 25-50 Angstroms
- Permeability: 15.55 ml/m²/24 h/mmHg
- Thickness: 1-5 mils.
- Physical properties: Clean cutting, dimensionally stable

Chemical:

- Swells in electrolyte to 2X dry thickness
- Neutral
- Resistant to strong KOH (20-45%) electrolyte
- Hydroxyl diffusion : 2.5 moles/min-m²
- Low electrical resistivity: 20 ohms-m²
- Low Zinc diffusion: 1.0 x 10⁻² moles/sec-m²
- Low Zinc dendrite penetration: comparable to polyethylene, acrylonitrile and standard cellophanes
- Superior charge/discharge cycling

Level of contaminants:

- Sulfur compounds: less than 0.3%
- Heavy metals (atomic number greater than 36): less than 50 ppm
- pH stability range: 5 to 9

Chemical Compatibility:

- SEpra-CEL® membranes have good compatibility with many salts such as CaCl₂, (NH₄)₂SO₄ and aqueous organic solvents commonly used in molecular biology / enzymology such as isopropanol, ethanol and acetone.

Storage

We recommend using MEMBRA-CEL® and SEpra-CEL® membranes during the 2 years following delivery. Store MEMBRA-CEL® and SEpra-CEL® casing in a cool, dry place avoiding proximity to heat sources as well as hot or freezing storage areas. Membranes should remain sealed in original containers until ready for use. Unused Membranes should be kept in airtight bags and replaced in the original carton to maintain proper moisture content. Keep stock current by using the oldest stock first. To avoid possible damage, it is imperative that knives, sharp instruments and hooks not be used to open cartons.

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