

fumasep[®] FKD-PK-75

General

Membrane type: Cation-exchange membrane - PK-reinforced - thickness 75 µm, with low resistance, high selectivity, high mechanical stability, and high stability in caustic environment.

Application: Diffusion dialysis for caustic solutions.

Membranes are identified by membrane type and identification number (Lot Number). Please refer to this type and identification number in case of queries.

Delivery

The membrane is the light brown foil delivered in wet form (2 wt% NaCl solution).

Handling and Storage

Keep membrane package closed / sealed when unused. Store, handle and process the membrane in a clean and dust-free area. Use only new and sharp knives or blades, when cutting the membrane. Always wear protective gloves when handling the membrane. Handle with care, be sure not to puncture, crease or scratch the membrane, otherwise leaks will occur. All surfaces in contact with the membrane during handling, inspection, storage and mounting must be smooth and free of sharp projections.

Storage for short and medium time scale (hours up to several weeks) may be done in unsealed containers in 0.5 - 2 wt% NaCl solution or comparable neutral pH electrolytes. For storage over a longer time period a sealed container is recommended using afore said electrolyte with biocide to avoid biological fouling.

Pretreatment

The membrane is delivered in Na⁺ form and wet form. The membrane is ready-to-use. Do not let the membrane dry out since micro-cracks may likely occur during shrinkage.

If you have any concerns about storage, chemical stability, and pretreatment please feel free to contact us for further information.

Physical and chemical data of fumasep® FKD-PK-75

fumasep®		FKD-PK-75
membrane type		cation exchange membrane
appearance / colour		brown, transparent
backing foil		none
reinforcement		PEEK (PK)
counter ion		sodium form (Na ⁺)
delivery form		wet (2 wt% NaCl solution)
thickness (dry)	µm	70 – 80
weight per unit area	mg cm ⁻²	9 – 10
ion exchange capacity (Na ⁺ form)	mmol g ⁻¹	1.4 – 1.6
area resistance in Na ⁺ form ^{a)}	Ω cm ²	1.5 – 2.0
specific conductivity in Na ⁺ form ^{a)}	mS cm ⁻¹	4 – 5
selectivity 0.1 / 0.5 mol/kg KCl at T = 25 °C ^{b)}	%	96 – 99
uptake in H ₂ O at T = 25 °C ^{c)}	wt %	20 – 30
dimensional swelling in H ₂ O at T = 25 °C ^{d)}	%	0 – 1
hydroxyl ion transfer rate ^{e)}	µmol min ⁻¹ cm ⁻²	300 – 600
Young's modulus at 23 °C / 50 % r.h. ^{f)}	MPa	2000 – 2500
yield strength at 23 °C / 50 % r.h. ^{f)}	MPa	30 – 40
tensile strength at 23 °C / 50 % r.h. ^{f)}	MPa	> 50
elongation at break at 23 °C / 50 % r.h. ^{f)}	%	> 15
bubble point test in water at T = 25 °C	bar	> 2.5
residual solvent / additive content	%	< 3

a) in Na⁺ form in 0.5 M NaCl @ T = 25 °C, measured in standard measuring cell (through-plane).

b) determined from membrane potential measurement in a concentration cell.

c) in H⁺ form, membrane as received stored in water for 24 hrs, reference membrane dried over P₂O₅ *in vacuo*.

d) in H⁺ form, membrane as received stored in water for 24 hrs, reference membrane as received.

e) determined from pH potential measurement in a concentration cell 0.1 M NaOH / 0.1 M NaCl @ T = 25 °C.

f) determined by stress-strain measurement at T = 25°C and 50 % r.h., according to DIN EN 527-1.

Contact us for any questions or sales information:

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