fumasep® FAS-30

General

Membrane type: Anion-exchange membrane - non-reinforced - thickness 30 µm, with very low resistance, high selectivity and high stability in pH acidic and basic environment.

Application: Electrodialysis, electro-deionisation and other similar electro-chemical applications.

Stability range: pH = 1 - 12 at T = 25-50 °C.

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 thin brown foil. The membrane is delivered in dry form.

Handling and Storage

Keep membrane package closed / sealed when unused. Unpack membrane only for direct use and process immediately after opening. Store, handle and process the membrane in a clean and dust-free area.

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 which may get into contact with the membrane during inspection, storage, pretreatment and mounting must be free of sharp edges or angles.

Dry form: Storage for long time scale (> 12 month) may be done in dry state (sealed container). Wet form: Storage for short and medium time scale (hours up to several weeks) may be done in unsealed containers in 0.5 – 1.5 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 ca. 100 ppm biocide (NaN_3) to avoid biological fouling.

Pretreatment

The membrane is delivered in bromide form and dry form. Depending on application and cell design, assembling is possible in dry form (without pretreatment) or wet form. Before assembling in wet form put the membrane sample between stabilizing meshes / spacers (in order to avoid curling) in NaCl solution - e.g. 0.5 M NaCl solution at T = 25 °C for 72 hrs exchanging the solution several times. Do not let the membrane dry out since micro-cracks may likely occur during shrinkage.

If you have any concerns about storage, chemical stability, pre-treatment or before proceeding, please feel free to contact us for further information.

Physical and chemical data of fumasep® FAS-30

fumasep®		**FAS-30**
membrane type		anion exchange membrane
appearance / colour		brown, transparent
backing foil		none
reinforcement		none
thickness (dry)	µm	27 – 33
ion exchange capacity	mmol g^{-1}	1.85
area resistance in in Cl^- form [a)]	Ω cm^2	< 2,0
specific conductivity in Cl^- form [a)]	mS cm^{-1}	> 5
selectivity 0.1 / 0.5 mol/kg KCl at T = 25 °C [b)]	%	> 90
uptake in H_2O at T = 25 °C [c)]	wt %	19
dimensional swelling in H_2O at at T = 25 °C [d)]	%	< 2

a) in Cl^- 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 Br^- form, membrane as received stored in water for 24 hrs, reference membrane dried over P_2O_5 *in vacuo*.
d) in Br^- form, membrane as received stored in water for 24 hrs, reference membrane as received.

Hereby, it is certified that all results of the measured item comply with the margins of the internal specification defined in the technical datasheet. All measurements and data recording are conducted in accordance with standardized procedures following the ISO 9001 certification.