

fumasep® FAPQ-275-PET

General

Membrane type: Partially fluorinated anion-exchange membrane – PET-reinforced – thickness 75 µm, with low resistance, high mechanical stability, high oxidative stability, resistant to chlorine and high stability in acidic environment.

Application: Diffusion dialysis for acidic solutions.

Operation range: Acidic and pH neutral environment. The material is not stable in caustic environment (pH > 9), recommended operational temperature range 15 – 40 °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 yellowish-white foil. The membrane is supplied in dry form.

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. To assure safe handling prevent contact with skin and eyes. Apply sufficient room ventilation and avoid inhalation close to the membrane (use fume hood). 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.

Pretreatment

The membrane is supplied in a dry state, however some remaining water and / or solvents can be present in the product, which can be easily removed by soaking in DI water (before or after assembling). If additional cleaning is required rinse the membrane in either the application solution or deionized water according to the application requirement. Do not let the membrane dry out since micro-cracks may likely occur during shrinkage. Membranes will expand and contract based on water / electrolyte content. Free-standing membrane tend to curl in water or electrolyte.

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

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Physical and chemical data of fumasep® FAPQ-275-PET

fumasep®	unit	FAPQ-275-PET
membrane type		anion exchange membrane
appearance ^{a)}		yellowish-white
backing foil		none
reinforcement		PET
counter ion		chloride (Cl ⁻) / methylsulfate (MeOSO ₃ ⁻)
delivery form		dry
thickness (dry)	µm	60 - 90
weight per unit area (dry)	g m ⁻²	70 – 95
area resistance in Cl ⁻ form ^{b)}	Ω cm ²	< 1.5
selectivity 0.1 / 0.5 mol/kg KCl at T = 25 °C ^{c)}	%	> 90
dimensional swelling in H ₂ O at T = 25 °C ^{d)}	%	< 4
Young's modulus at 23 °C / 50 % r.h. ^{e)}	MPa	> 700
tensile strength at 23 °C / 50 % r.h. ^{e)}	MPa	> 40
elongation at break at 23 °C / 50 % r.h. ^{e)}	%	> 15
proton transfer rate ^{f)}	nmol min ⁻¹ cm ⁻²	> 1500
burst test in water at T = 25 °C	bar	> 3
Version ^{g)}	2.2	Valid from April 20 th 2021

a) the colour of the product may vary slightly.

b) in Cl⁻ form in 0.5 M NaCl @ T = 25 °C, measured in standard measuring cell (through-plane).

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

d) membrane as received versus stored in water for 24 hrs.

e) determined by stress-strain measurement at T = 25 °C and 50 % r.h., according to DIN EN 527-1 (without pretreatment).

f) determined from pH-potential measurement in a concentration cell 0.5 M HCl / 0.5 M NaCl @ T = 25 °C.

g) Changes without prior notices may apply.

Note: The product is not certified for drinking water applications. The data are not measured directly on the item supplied. The data sheet does not release the customer of the necessity of a goods inwards control procedure. All information included in this data sheet is based on tests and data believed to be reliable. The data do not imply any warranty or performance guarantee. It is the user's responsibility to examine performance, suitability and durability of the product for the intended purpose. FUMATECH BWT GmbH does not assume any liability for patent infringement resulting from the use of this product. fumasep® is a trademark of company FUMATECH BWT GmbH.

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.