

fumasep[®] FAAM-15

General

Membrane type: Anion-exchange membrane - non-reinforced - thickness 15 µm, with low resistance, high selectivity, and high stability in acidic and caustic environment.

Application: Alkaline electrolysis using liquid aqueous KOH (6 - 12 M KOH), preferentially at both, anode and cathode side.

Operation range: 6 - 12 M KOH, temperature RT - 100 °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, delivered on a backing foil (colourless rigid PET foil). Pull off carefully the membrane (brown) from the backing foil. The membrane is delivered in dry form.

Handling

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.

Pretreatment

No specific pretreatment required. The membrane is self-activating in the cell after contact with aqueous caustic electrolyte (e.g. 6 - 9 M aqueous KOH solution) within several hours.

Depending on cell design, activation may also be done before assembling: Put the membrane sample between stabilizing meshes (in order to avoid curling) in aqueous KOH solution (concentration according to application) for at least 24 hrs at room temperature. Use closed container to avoid CO₂ contamination (carbonate formation that may affect conductivity). Membranes must be covered by KOH solution. Membranes will expand when subject to swelling process. The hydration level can be controlled by KOH concentration and temperature, e.g. 9 M KOH solution at room temperature leads to approx. 50 - 70 wt% hydration level.

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® FAAM-15

fumasep®		FAAM-15
membrane type		anion exchange membrane
reinforcement		none
appearance / colour		Dark yellow to brown, transparent
backing (carrier foil)		PET foil
counter ion		none
delivery form		dry
thickness (dry)	µm	13 - 17
thermal stability		No oxidation below 250 °C
pH durability range		stable under highly alkaline conditions
Young's modulus at 23 °C / 50 % r.h. ¹⁾	MPa	> 2000
yield strength at 23 °C / 50 % r.h. ¹⁾	MPa	> 100
tensile strength at 23 °C / 50 % r.h. ¹⁾	MPa	> 100
elongation at break at 23 °C / 50 % r.h. ¹⁾	%	> 30
treatment with 12 M aqueous KOH at 20 °C for 1 day ²⁾		
thickness increase	%	25 – 40
length increase	%	0 – 2
swelling (hydration)	wt %	40 – 60

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

2) Treatment with alkaline solution was performed in closed container to avoid CO₂ contact.

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.

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.

**Contact us for any questions
or sales information:**

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