

fumasep® FKM

General

Membrane type: Heterogeneous cation-exchange membrane with high selectivity and very high mechanical stability.

Application: Electrocoating, electroplating, electrodeionisation, electrodialysis for demineralisation, desalination and others.

Physical and chemical data of fumasep® FKM

fumasep®	unit	FKM
Membrane type		Cation exchange membrane
Appearance		Dark yellow to brown
Reinforcement		PP (polypropylene fabrics)
Counter ion		Sodium (Na ⁺)
Delivery form		dry
Thickness (dry)	µm	450-600
Area resistance in Cl ⁻ form ^{a)}	Ω cm ²	< 24
Permselectivity 0.1 / 0.5 M KCl at T = 25 °C ^{b)}	%	> 90
Swelling – water uptake in H ₂ O at T = 25 °C ^{c)}	wt %	< 10
Operation pH - range	-	0 - 9
Version ^{d)}	2.2	06/2026

a) in 0.5 M NaCl @ T = 25 °C, measured in standard measuring cell

b) determined from membrane potential measurement in a concentration cell

c) in Na⁺ form, membrane stored in water for 24 hrs, dried over P₂O₅

d) Fumatech reserves the right to changes without prior notice.

Note:

The product is not certified for drinking water applications. The data are not measured directly on the sheet of membrane supplied.

The data sheet does not release the customer of the necessity of incoming goods inspection.

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 tolerance 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.

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Application

Fumasep® FKM Membranes can be used in electro-membrane-processes for various applications at temperatures of 15 – 40 °C at pH-range 0 – 9.

For suitability of the Fumasep® membranes for specific applications please consult Fumatech-BWT.

Storage

Membranes are supplied in dry or wet form. Membranes need to be stored in a cool, ventilated place.

Dry form: For long term storage (> 12 month) keep the membrane in dry state inside a sealed packing or container protected against moisture and high humidity.

Wet Form: Membranes shipped in wet state, must remain sealed until installation.

Handling, Cutting

The membranes shall be handled in a clean, dust-free area. Always wear protective gloves when handling the membrane.

Sharp edges need to be avoided. The membrane must be handled with care to avoid any damages (rupture, cracks, scratches ...) which cause leakage and affect the separation characteristics of the membrane.

Membranes with woven reinforcement can be cut in dry state. These membranes are designed to be dimensionally stable in x/y-direction. Swelling results in thickness variations. This needs to be taken into account if the membranes are conditioned in a stack, since membrane swelling can cause extremely high pressures.

For membranes without reinforcement cutting and perforation of the membrane shall be done in wet state to avoid dimensional changes. Wetting / drying shall be avoided, since this may cause defects / cracks.

Cut the membrane with a sharp knife or blade.

Conditioning

Before application or handling the fumasep® membranes, the membrane must be converted to wet state. During the swelling the physical, mechanical and electro-chemical properties of the membrane are changed and the membrane becomes ion-conductive. Swelling causes dimensional changes.

Once the membrane has reached its equilibrium state, it is ready for use.

Standard conditioning of the fumasep® membrane is done in 0,5 – 1 M NaCl solution prepared with demineralized water at ambient temperature. The membrane is placed in to the solution and equilibrated for a defined period. During swelling, the membrane should be completely immersed.

ATTENTION: To prevent damage and deterioration of the membrane, surface-active substances (detergents), organic substances, oxidants and other contaminating substances, shall be avoided.

For further information regarding application, stability, storage and conditioning of fumasep® membranes please contact FUMATECH BWT GmbH at sales@fumatech.com.

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