

## Instruction for use

# PURAMEM® OSN SELECTIVE, PERFORMANCE, FLUX - FLAT SHEETS



## General notes

PURAMEM® OSN Selective, Performance and Flux membrane sheets are asymmetric, polymeric membranes. They have a shiny side (the active membrane surface) and a matte side (the support layer). The membrane should always be installed in the filtration equipment with the shiny, active membrane surface facing the solution to be filtered.

Flat sheet membrane samples are generally provided as DIN A4 sized (210x297 mm) sheets. The sheets lie flat, however occasionally a sample may curl and special care should be taken when cutting test coupons from curly sheets. The membrane sheets should always be handled with care and not folded.

## Specifications PURAMEM® OSN Selective, Performance, and Flux

### General

- Membrane Material: Silicone-coated PAN
- Flat Sheet: 210 x 297 mm

## Instructions for use

1. The shiny side of the membrane is the active membrane surface. Care should be taken to avoid scratching this surface.
2. Cut a piece of the membrane to the correct size for the filtration test cell and insert it in the filtration cell with the shiny, active side of the membrane facing the process solution.
3. Once wetted, the membrane should remain wet and not be allowed to dry out. Using membranes that have dried-out will result in poor performance and unrepresentative data.
4. Stable membrane performance is achieved after 2-3 hours of filtration.
5. Once wetted, the membrane should not be re-used after it has been removed from the filtration cell, even if it has been kept wet. As the sealing process in a filtration cell compresses the membrane at the seal point, any misalignment when the membrane is re-used will lead to leaks and by-passing of the membrane – this will lead to the generation of unrepresentative data.
6. Please store unused membranes in a dry state and away from light.

## Solvent stability

- PURAMEM® OSN membranes are stable in mild and non-polar solvents:
  - e.g. Alcohols (e.g. Methanol, Ethanol, 2-Propanol)
  - Aliphatic hydrocarbons (e.g. Hexane, Heptane)
  - Aromatic hydrocarbons (e.g. Toluene, Xylene)
  - Butyl Acetate, Ethyl Acetate
  - Methyl-Ethyl-Ketone
  - Methyl-tert-Butyl-Ether
- PURAMEM® OSN membranes are not recommended for use in aqueous or water mixtures.  
For aqueous or organic solvent mixtures, please contact us for membrane recommendations.

## Use conditions

| Conditions                       |         |
|----------------------------------|---------|
| Typical Operating Pressure (bar) | 20 - 40 |
| Maximum Pressure (bar)           | 60      |
| Maximum Temperature (°C)         | 50      |
| Allowable pH                     | 7       |

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## Performance

PURAMEM® Selective, Performance and Flux are composite membranes. Unlike porous membranes, molecular solubility (and not diffusion) of the solutes and solvent in the silicone separating layer dominates the mass transport of these compounds. This strongly influences the membrane separation performance. Therefore, the cut-off (MWCO) of the membrane is strongly dependent on the membrane-solvent-solute combination. For this type of membrane, MWCO obtained in a standard system is not necessarily indicative of actual membrane performance in a given application, and the most suitable membrane for an application should be chosen by experimental testing of the membranes in the real solution.

## Permeate flux<sup>1,2</sup>

| Solvent              | Toluene |
|----------------------|---------|
| PURAMEM® Selective   | 20      |
| PURAMEM® Performance | 30      |
| PURAMEM® Flux        | 50      |

<sup>1</sup> Data referring to membrane sheets with pure solvents. If you intend to use a solvent not listed above please contact us for further advice.

<sup>2</sup> Minimal permeate flux, data are approximate and based on flat-sheet membrane. Test conditions: 30 bar and 30°C

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