GENERAL NOTES:

OSN membrane sheets are asymmetric polymeric membranes, and have a shiny yellow side (the active membrane surface) and a matte side (the support layer). The membrane should always be installed in the filtration equipment with the active membrane surface facing the process solution. Flat sheet membranes are generally provided as DIN A4 sized (210x297 mm) sheets. The sheets generally lie flat, however some samples will have a tendency to curl – this is normal and special care should be taken when cutting disks from curly sheets. It is also normal for the membrane colour to darken over time – colour change does not affect membrane performance. The membrane sheets should always be handled with care and not be folded.

INSTRUCTIONS FOR USE:

1. The shiny yellow side is the active surface of the membrane. Care should be taken to avoid scratching this surface where possible.
2. Cut the membrane to the correct size for the filtration test cell and insert in the filtration cell.
3. DuraMem® membranes contain a polyethylene glycol preservative that is easily washed out prior to use with a solvent such as acetone, ethanol, THF or DMF. Permeate at least 50 L per m2 (255mL for a 90mm diameter disk (51 cm2)) of solvent through the membrane at operating filtration pressure to flush the preservative from a new membrane disk, and discard the resulting permeate.
4. Once wetted, the membrane should remain wet and not be allowed to dry out. Using membranes that have dried–out will result in poor membrane performance and rapid failure.
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 the 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 is undesirable as data generated with a misaligned membrane will not be representative of the membrane type.
6. Stable membrane performance is achieved after 4 hours of filtration.
7. Please store in dry condition and away from light.

NOTE: Do not exceed the maximum working pressure of the membrane when flushing the preservative from the membrane – please refer to the table on page 1 for the maximum operating pressure of each DuraMem® membrane type.

If the goods supplied hereby by Evonik Resource Efficiency GmbH are used in any work which is published, or submitted for publication, in any forum, including, but not limited to, conferences, seminars, internet publications, academic journals, magazines, newspapers, and any other public media not explicitly described above, the authors of this work undertake to include reference to Evonik Resource Efficiency GmbH as the supplier of these products, and to include in the publication the Evonik Resource Efficiency GmbH OSN membrane website (www.duramem.com) and other company details as appropriate.
SPECIFICATIONS
DURAMEM® 150, DURAMEM® 200, DURAMEM® 300, DURAMEM® 500 AND DURAMEM® 900

General
- Membrane Material: Modified Polyimide
- Flat Sheet: 210 x 297 mm

SOLVENT STABILITY
- Type T1 DuraMem® Membranes
  Stable in Solvents¹
  - Acetone, Tetrahydrofuran
  - Methanol, Ethanol
  - Methyl–tert–Butyl–Ether
  - Methyl–Ethyl–Ketone, Methyl–iso–Butyl–Ketone
  - Butyl Acetate, Ethyl Acetate
- Type T2 DuraMem® Membranes
  Stable in Solvents¹
  - Dimethylformamide,
  - Dimethylsulfoxide,
  - N-Methylpyrrolidone
- Type T1 and T2 DuraMem® Membranes are generally stable in aqueous/organic solvent mixtures. Please contact us for more information.

USE CONDITIONS

<table>
<thead>
<tr>
<th>Membrane Code</th>
<th>DuraMem® 150</th>
<th>DuraMem® 200</th>
<th>DuraMem® 300</th>
<th>DuraMem® 500</th>
<th>DuraMem® 900</th>
</tr>
</thead>
<tbody>
<tr>
<td>MWCO (g.mol⁻¹)²,³</td>
<td>150</td>
<td>200</td>
<td>300</td>
<td>500</td>
<td>900</td>
</tr>
<tr>
<td>Maximum Pressure (barg)</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Maximum Temperature (°C)</td>
<td></td>
<td></td>
<td></td>
<td>50 (for all)</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td></td>
<td></td>
<td></td>
<td>7 (for all)</td>
<td></td>
</tr>
<tr>
<td>Maximum pressure drop per element (barg)</td>
<td></td>
<td></td>
<td></td>
<td>0.5 (for all)</td>
<td></td>
</tr>
<tr>
<td>Maximum permeate pressure (barg)</td>
<td></td>
<td></td>
<td></td>
<td>0.2 (for all)</td>
<td></td>
</tr>
</tbody>
</table>

¹ Data referring to pure solvents. If you intend to use a solvent not listed above please contact us for further advice.
² Performance Data are approximate.
³ Based on rejection of styrene oligomers dissolved in toluene, MWCO = molecular weight cut-off, defined as MW at which 90% rejection is obtained from a curve of rejection versus molecular weight of styrene oligomers dissolved in toluene. See Journal of Membrane Science 291 (2007) 120-125.
Disclaimer
This information and all technical and other advice are based on Evonik’s present knowledge and experience. However, Evonik assumes no liability for such information or advice, including the extent to which such information or advice may relate to third party intellectual property rights. Evonik reserves the right to make any changes to information or advice at any time, without prior or subsequent notice. Evonik disclaims all representations and warranties, whether express or implied, and shall have no liability for, merchantability of the product or its fitness for a particular purpose (even if Evonik is aware of such purpose), or otherwise. Evonik shall not be responsible for consequential, indirect or incidental damages (including loss of profits) of any kind. It is the customer’s sole responsibility to arrange for inspection and testing of all products by qualified experts. Reference to trade names used by other companies is neither a recommendation, nor an endorsement of the corresponding product, and does not imply that similar products could not be used.

Evonik Resource Efficiency GmbH
High Performance Polymers
Paul-Baumann-Straße 1
45772 Marl
Germany
Phone +49 02365 49-4800
emet@evonik.com
www.duramem.com