## PCA Ion Exchange Membranes: Technical Data Sheet

<table>
<thead>
<tr>
<th></th>
<th>Standard Series</th>
<th>End membranes</th>
<th>Organic Anion Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code for ED Cell packages</td>
<td>#3 (-1--)</td>
<td>#38 (-8--)</td>
<td>#58 (----)</td>
</tr>
<tr>
<td></td>
<td>#20 (1---)</td>
<td>#5 (------)</td>
<td>#6 (------)</td>
</tr>
<tr>
<td></td>
<td>#41 (2---)</td>
<td>#8 (2--)</td>
<td>#9 (3--)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>#10 (4--)</td>
<td></td>
</tr>
<tr>
<td>General use</td>
<td>standard</td>
<td>End membrane</td>
<td>small organic</td>
</tr>
<tr>
<td></td>
<td>desalination</td>
<td>membrane (fluorinated)</td>
<td>organic anions</td>
</tr>
<tr>
<td>Membrane type</td>
<td>strongly</td>
<td>strongly</td>
<td>strongly alkaline</td>
</tr>
<tr>
<td></td>
<td>alkaline</td>
<td>acidic</td>
<td>alkaline</td>
</tr>
<tr>
<td></td>
<td>sulfonic acid</td>
<td>acid</td>
<td>alkaline</td>
</tr>
<tr>
<td></td>
<td>ammonium</td>
<td>ammonium</td>
<td>ammonium</td>
</tr>
<tr>
<td>Transference number</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>KCl (0.1 / 0.5 N)</td>
<td>&gt;0.95</td>
<td>&gt;0.94</td>
</tr>
<tr>
<td>Acid (0.7/3 N)</td>
<td></td>
<td>&gt;0.96</td>
<td>&gt;0.95</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt;0.96</td>
<td>&gt;0.95</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt;0.94</td>
<td>&gt;0.94</td>
</tr>
<tr>
<td>Resistance / Ω cm²</td>
<td>- 1.8</td>
<td>- 2.5</td>
<td>- 9</td>
</tr>
<tr>
<td>Water content (wt%)</td>
<td>- 14</td>
<td>- 9</td>
<td>- 5</td>
</tr>
<tr>
<td>Ion exch. capacity</td>
<td>n/a</td>
<td>3</td>
<td>ca 1.2</td>
</tr>
<tr>
<td>Strong basic (meq g⁻¹)</td>
<td></td>
<td>n/a</td>
<td>ca 0.7</td>
</tr>
<tr>
<td>Weak basic (meq g⁻¹)</td>
<td></td>
<td></td>
<td>ca 1.24</td>
</tr>
<tr>
<td>Burst strength /kg-cm²</td>
<td>4-5</td>
<td>4</td>
<td>4 - 5</td>
</tr>
<tr>
<td>Maximum operating</td>
<td>60</td>
<td>15</td>
<td>4 - 5</td>
</tr>
<tr>
<td>Temperature °C</td>
<td>40</td>
<td>10</td>
<td>4 - 5</td>
</tr>
<tr>
<td>Thickness /μm</td>
<td>180-220</td>
<td>130</td>
<td>160-200</td>
</tr>
<tr>
<td>Reinforcement d)</td>
<td>Polyester</td>
<td>PVC</td>
<td>Polyester</td>
</tr>
<tr>
<td>Ionic form as shipped</td>
<td>Cl⁻</td>
<td>Cl⁻</td>
<td>Na’</td>
</tr>
<tr>
<td>a) calculated from</td>
<td></td>
<td></td>
<td>Na’</td>
</tr>
<tr>
<td>potentiometric</td>
<td></td>
<td></td>
<td>Na’</td>
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<tr>
<td>measurements</td>
<td></td>
<td></td>
<td>H’</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cl’</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cl’</td>
</tr>
</tbody>
</table>

a) calculated from potentiometric measurements  
b) observed current efficiencies  
c) Gluconate  
d) Optional reinforcements: Polyamide, Polyetheretherketone (only for some types available)  
* adjusted to customer requirements
## PCA Ion Exchange Membranes: Technical Data Sheet

<table>
<thead>
<tr>
<th>Mineral Acid Series</th>
<th>Monovalent selective Series</th>
<th>Non-reinforced</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC Acid 60</td>
<td>PC MVA</td>
<td>PC SFA</td>
</tr>
<tr>
<td>PC Acid 100</td>
<td>PC FH</td>
<td>PC SFC</td>
</tr>
<tr>
<td>PC AV 100</td>
<td>PC MVK</td>
<td></td>
</tr>
<tr>
<td>PC Acid 100 PK</td>
<td>PC VK</td>
<td></td>
</tr>
<tr>
<td>Code for ED Cell packages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#1 (-6--)</td>
<td>#2 (-7--)</td>
<td>#6 (-F--)</td>
</tr>
<tr>
<td>#59 (-O--)</td>
<td>#65 (-R--)</td>
<td>#8 (-F--)</td>
</tr>
<tr>
<td>#65 (-P--)</td>
<td>#34 (-B--)</td>
<td>#63 (-R--)</td>
</tr>
<tr>
<td>#56 (-P--)</td>
<td>#57 (N--)</td>
<td>#6 (-F--)</td>
</tr>
<tr>
<td>#34 (8---)</td>
<td>#57 (N---)</td>
<td>#7 (F --)</td>
</tr>
</tbody>
</table>

### General use
- **Monovalent acid** (HCl/HNO₃/HF)
- Sulphuric acid
- Mineral acids
- Monovalent anion selective
- Proton selective
- Monovalent cation selective
- Monovalent cation selective
- Low cost
- Low cost

### Membrane type
- Strongly alkaline
- Strongly acidic
- Ammonium
- Sulphonic acid

### Transference number
- KCl (0.1 / 0.5 N)
  - >0.95
  - 0.55
  - 0.41
- HCl (0.7/3 N)
  - >0.97
  - >0.97
  - >0.97
  - >0.97

### Resistance / Ω cm²
- 2
- 5-20 (acid)
- 20
- 0.3
- 1
- 1

### Water content (wt%)
- 17
- 19
- 24
- 21

### Ion exch. capacity
- Strong basic (meq g⁻¹):
  - ca 1.14
  - ca 0.57
- Weak basic (meq g⁻¹):
  - ca 0.45
  - ca 0.37
- n/a
- n/a

### Burst strength /kg cm⁻²
- 4 - 5
- 4 - 5
- 2
- 2
- 2
- 3
- --
- --

### Maximum operating Temperature / °C
- 60
- 40
- 40
- 40
- 40
- 40
- 45
- 60
- 50

### Thickness / µm
- 160-200
- 160-200
- 130
- 80
- 110
- 150
- 100
- 180
- 50-120*
- 15-50*

### Reinforcement
- Polyester
- Polyester
- PVC
- PEEK
- PVC
- Polysulfone
- PVC
- Polyester
- none
- none

### Ionic form as shipped
- Cl⁻
- Cl⁻
- Cl⁻
- Cl⁻
- Cl⁻
- H⁺
- Na⁺
- Na⁺
- Cl⁻
- Na⁺
PCA Ion Exchange Membranes: Technical Data Sheet

Available Membrane Sizes:

Standard: 250 x 250 mm 0,82 x 0,82 ft
           500 x 500 mm 1,64 x 1,64 ft
           1000 x 500 mm 3,29 x 1,64 ft

Others: on request

For further information, please contact:

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Email info@pca-gmbh.com

Disclaimer:
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