Product Description
DuPont™ Kalrez® 8575 perfluoroelastomer parts are a white product for “select” etch, ash/strip and deposition process applications. It offers very low weight loss in oxygen and fluorine-based plasmas, low outgassing, and excellent elastic recovery properties. Kalrez® 8575 has excellent vacuum and long-term sealing performance, good mechanical properties and is well-suited for both static and dynamic sealing applications (e.g., gas inlets, chamber lid seals, slit valve doors). A maximum continuous service temperature of 300 °C is suggested. Ultrapure post-cleaning and packaging is standard for all parts made of Kalrez® 8575.

Key Performance Features Contribute to Extended Seal Life
- Excellent resistance to oxygen and fluorine-based plasmas, as well as chlorinated cleaning gasses (e.g., ClF₃)
- Very low weight loss in reactive plasmas
- Very low outgassing properties
- Excellent (low) compression set properties
- Excellent elastic recovery properties

Suggested Applications
- Chamber lids
- Gas inlets
- Quartz windows
- Throttle valves
- Other plasma applications

Typical Physical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>White</td>
</tr>
<tr>
<td>Hardness, Shore A (pellet)</td>
<td>62</td>
</tr>
<tr>
<td>Hardness, Shore M (O-ring)</td>
<td>72</td>
</tr>
<tr>
<td>100% Modulus, MPa</td>
<td>2.47</td>
</tr>
<tr>
<td>Tensile Strength at Break, MPa</td>
<td>12.04</td>
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<tr>
<td>Elongation at Break, %</td>
<td>230</td>
</tr>
<tr>
<td>Compression Set, %, 70 hr at 204 °C</td>
<td>29</td>
</tr>
<tr>
<td>Max. Continuous Service Temperature, °C</td>
<td>300</td>
</tr>
</tbody>
</table>

1 Not to be used for specification purposes
2 ASTM D2240 (pellet test specimens)
3 ASTM D2240 and ASTM D1414 (AS568 K214 O-ring test specimens)
4 ASTM D412 test method (dumbbell test specimens)
5 ASTM D395B (pellet test specimens)
6 DuPont proprietary test method

Fabs Choose Kalrez® 8575 for Improved Performance
Kalrez® 8575 has been reported to significantly improve wafer production in semiconductor etching and ashing applications. In evaluations by a fabline customer, Kalrez® 8575 exhibited longer seal life compared to a competitive perfluoroelastomer in both dynamic and static sealing applications.
Case Report #1
Customer U.S. East Coast Fabline
Equipment TEL Unity
Process Type Deep Trench Etch
Components End Point Window Seal (229 O-ring)
(most difficult location for seal performance)
Process Gasses HBr, O₂, SF₆, NF₃
Rf Power 1500 Watts
Process Temperature ~70 °C
Incumbent Material Competitive FFKM A2
Incumbent Performance After 6 months, fluoroelastomer was half eroded, competitive FFKM became brittle, developed cracks and leaked
DuPont™ Kalrez® 8575 Evaluated in application for over 10 months without failure
Performance: Based upon this success, customer evaluated complete seal set (15 sizes) and has changed all competitive FFKM to DuPont™ Kalrez® 8575