1.4b SiO$_2$, SiN$_x$ and Amorphous-Si Chamber Clean (CF$_4$)

Mode: Plasma Etch (PE)  
Pumps: Mechanical  
Susceptor Material: Aluminum  
Temperature (°C): Same as Deposition Process

Electrode Size: 6" 8" 11"

Gases (sccm):

<table>
<thead>
<tr>
<th></th>
<th>Step 1</th>
<th>Step 2</th>
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<th>Step 1</th>
<th>Step 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF$_4$</td>
<td>90</td>
<td>90</td>
<td>135</td>
<td>135</td>
<td>180</td>
<td>180</td>
</tr>
<tr>
<td>O$_2$</td>
<td>10</td>
<td>10</td>
<td>15</td>
<td>15</td>
<td>20</td>
<td>20</td>
</tr>
</tbody>
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Pressure (mTorr):

- 900 300 900 300 900 300

Power (Watts):

- 300 300 350 350 400 400

Typical Etch Rate (Å/min.) 500

Notes:
Before continuing deposition work, a pre-deposition run of 500-1000Å should be performed to condition the chamber.

Step 1 is performed at high pressure to effectively clean between the electrodes. Step 2 is performed at lower pressure to clean the entire chamber. Use Step 1 as the main cleaning step and calculate it’s etch time on the amount of deposited material on the electrodes. Use Step 2 a final step to clean the chamber walls.

The absolute %O$_2$ is not critical in this process as long as it is between 8-12% in CF$_4$. A pre-mixed gas such as DE100, which is about 8.5% O$_2$ in CF$_4$, would be a good choice for chamber cleaning since it would require only one flowmeter.