AZ Photoresist Process Guideline

1. Dehydrate wafer at 200 °C for at least 10 minutes (if possible)
2. Spin coat HMDS with recommended spin program below. (* before spinning leave HMDS puddle on the substrate for 30 s)

<table>
<thead>
<tr>
<th>Resist name</th>
<th>Spin speed*</th>
<th>Layer thickness</th>
<th>Prebake at 115 °C</th>
<th>Exposure dose (mJ/cm²) for Si Substrates*</th>
<th>Develop with AZ-726 developer</th>
</tr>
</thead>
<tbody>
<tr>
<td>AZ-1505</td>
<td>4000rpm</td>
<td>0.488um</td>
<td>1.5 min</td>
<td>12.3</td>
<td>1 min</td>
</tr>
<tr>
<td>AZ-1518</td>
<td>4000rpm</td>
<td>1.71um</td>
<td>1.5 min</td>
<td>43-45</td>
<td>1 min</td>
</tr>
<tr>
<td>AZ-4562</td>
<td>6000rpm</td>
<td>5um</td>
<td>1.5 min</td>
<td>396</td>
<td>2-3 min</td>
</tr>
</tbody>
</table>

* Exposure time calculation:
To calculate the exposure time in seconds, divide exposure dose (mJ/cm²) by the lamp power (mW/cm²).

* Recommended spin program:
1. Dispense resist on substrate
2. Spin at 500 rpm for 5-10 seconds with acceleration of 100 rpm/s.
3. Spin at recommended speed (table above) for 40 s with acceleration of 1000 rpm/s.
4. Final step is deceleration with spin speed 0 rpm for 0 s, with 1000 rpm/s ramp.
5. If the lithography is for lift-off, O2 plasma ashing is required before evaporation in order to remove HMDS.

IMPORTANT: DO NOT FORGET TO CLEAN BACKSIDE OF SAMPLE CHIP WITH Q-TIP AND ACETONE BEFORE SOFT BAKE!
AZ-5214 Image Reversal Photoresist - Process

Guideline

1. Dehydrate wafer at 200 °C for at least 10 minutes (if possible)
2. Spin coat HMDS with recommended spin program below. (* before spinning leave HMDS puddle on the substrate for 30 s)

FILM THICKNESS (µm) as FUNCTION of SPIN SPEED:

<table>
<thead>
<tr>
<th>spin speed (rpm)</th>
<th>3000</th>
</tr>
</thead>
<tbody>
<tr>
<td>AZ-5214E</td>
<td>1.4-1.5 µm</td>
</tr>
</tbody>
</table>

PROCESSING GUIDELINES:

1. Spin resist on substrate

2. Prebake 110°C, 1.5 min., hotplate

3. Exposure dose for 1.4-1.5 µm film thickness is ~15 mJ/cm²
   
   * To calculate the exposure time in seconds, divide exposure dose (mJ/cm²) by the lamp power (mW/cm²).

4. Reversal bake 120°C, 2 min., hotplate (most critical step)

5. Flood exposure > 200 mJ/cm²

6. Development AZ 351B, 1:4 (tank, spray) or AZ 726 (puddle)

7. Postbake 120°C, 50s hotplate (optional)

8. If the lithography is for lift-off, O₂ plasma ashing is required before evaporation in order to remove HMDS.