AZ 4999 Photoresist

Spray Coating Photoresist

GENERAL INFORMATION
AZ 4999 is a spray coating dedicated highly transparent photoresist tailored to excel on special spray coating equipment (e.g. SUSS Delta AltaSpray) where it provides defect free and conformal coatings on devices with severe topography. Thick (several to several tens of microns) and uniform resist coatings are obtained on topography such as V-grooves and trenches with optimum coverage of sharp edges. There is no accumulation of resist in trenches. The use of AZ® 4999 photoresist enables high reproducibility in volume production applications.

RECOMMENDED PROCESS
Softbake: 100°C, 60 sec, hotplate or 80°C – 115°C, 30 min, oven or follow spray coater instructions
Exposure: i-, h-, g-line, broadband and monochromatic
Post Exposure Bake (PEB): not required, optional with monochromatic exposure
Developer: AZ 400K Developer 1:4
AZ 826 MIF Developer
AZ 340 Developer 1:5
Development Time: ~ 30 sec per micron resist thickness

SUITABLE ANCILLARIES
AZ EBR 70/30 Edge Bead Remover
AZ 100 Remover / AZ KWIKSTRIP

PHYSICAL AND CHEMICAL PROPERTIES
Viscosity [cSt at 25°C]: 0.52
Solids content [%]: 4
Absorptivity [(l/(g*cm)] at 398 nm: 0.1
Spectral sensitivity: 310 nm – 440 nm
CAUCHY COEFFICIENTS

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unbleached</td>
<td>1.6154</td>
<td>0.010349 µm²</td>
<td>0.000816 µm⁴</td>
</tr>
<tr>
<td></td>
<td>1.6154</td>
<td>1.0349 x 10⁶ Å²</td>
<td>8.16 x 10¹² Å⁴</td>
</tr>
</tbody>
</table>

REFRACTIVE INDEX

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>k</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unbleached</td>
<td>1.6463</td>
<td>0</td>
</tr>
</tbody>
</table>

COATING ON TOPOGRAPHY

We advise our customers regarding technical applications to the best of our knowledge within the scope of the possibilities open to us, but without obligation. Current laws and regulations must be observed at all times. This also applies in respect of any protected rights of third parties. Our suggestions do not relieve our customers of the necessity to test our products, on their own responsibility, for suitability for the purpose envisaged. Quotations from our literature are only permitted with our written authority, and the source must be stated.

Merck Performance Materials GmbH
Rheingausstrasse 190 - 196
D-65203 Wiesbaden
Germany
Tel. +49 (611) 962-4031
Email: jasmin.schmicking@merckgroup.com