Spin-on Glass Zn-640

<table>
<thead>
<tr>
<th>Elements of Interest</th>
<th>Key Element atoms/cm³</th>
<th>Key Element % in Film</th>
</tr>
</thead>
<tbody>
<tr>
<td>Si, Zn, O, Cl</td>
<td>Zn, $4 \times 10^{21}$</td>
<td>Zn</td>
</tr>
</tbody>
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<tr>
<th>Viscosity</th>
<th>Thickness</th>
<th>Shelf Life</th>
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</thead>
<tbody>
<tr>
<td>0.90 +/- 0.15 cps</td>
<td>Coats 1800 Å (180 nm) at 4000 rpm</td>
<td>20°C 3 months 4°C 9 months</td>
</tr>
</tbody>
</table>

Benefits
- Diffusion barrier to avoid out gassing of doping material from substrate
- For final target concentration ranges from $5 \times 10^{17}$ to $5 \times 10^{19}$ of Zinc
- Uniform Coatings
- High Purity materials
- Available with impurity specification of less than 1 ppm or less than 50 ppb
- Lower melting point than silica alone

Typical Application

The concentration of the source for driving-in is typically high; in the range of $4 \times 10^{21}$ this leaves a high concentration of dopant right at the surface. During drive-in the dopant diffuses into the substrate. It is also at risk to diffuse out of the substrate since it is so near the surface. Keeping a capping layer with dopant can prohibit the loss of the doping species. The basic capping layer can be a silicate layer such as NDG-2000. Zn-640 adds a level of dopant consistent with the final desired concentration. Zn-640 has a film concentration of $4 \times 10^{21}$ Zinc atoms per cubic centimeter. This addition of Zinc eliminates any concentration gradient that may exist and prohibits the loss of zinc through the surface layer.

Packaging
- 240ml
- 500ml
- 1 l
- 2.5 l
- 4 l

Alternative Products
NDG-2000
Other target concentration levels available

Alternate Elements
- As
- Sb
- Bi
- Other elements available for compound semiconductor use
Spin-on Glass Zn-640

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