1st run: 30 minute deposition (Color: Blue)

Configuration:
4 inch boat, 8 baffle wafers and 5 deposition wafers (4 baffles in front and 4 in back of the monitor wafers), single spaced. 3 out of 5 deposition wafers for stress measurement, the remaining 2 thickness and membrane tests. Spectroscopic scan 300nm to 1µm in 100Å increments. Pressure for all the 10-16-04 depositions was stable at 200mTorr. NOTE: Prior deposition, test run without wafers for 30min was carried out.

Thickness: 655.18±8.56 Å
Index at 630nm: 2.2534±0.0119
Uniformity: ± 6.2 % (Measured With Filmetrix)
Deposition Rate: 21.8 Å/min

Spectroscopic Ellipsometry $\Psi$ & $\Delta$ data analysis:
10-16-04

2nd run: 60 minute deposition (Color: Yellowish)

Thickness: 1397.2±14.7 Å
Index at 630 nm: 2.2595±0.0171
Uniformity: ± 4.1 % (Measured With Filmetrix)
Deposition Rate: 23.3 Å/min

Spectroscopic Ellipsometry \( \Psi \) & \( \Delta \) data analysis:
3rd run: 120 minute deposition  (Color: Pink)

Thickness: 2865.2±108Å
Index at 630nm: 2.2368±0.0626
Uniformity: ± 4.0 %  (Measured With Filmetrix)
Deposition Rate: 23.9 Å/min

Spectroscopic Ellipsometry \( \Psi \) & \( \Delta \) data analysis:

Discrepancy here is due to the coarse 100Å increment.
**Low Stress Nitride n&k**

<table>
<thead>
<tr>
<th>Wavelength (Å)</th>
<th>Index of refraction ('n')</th>
<th>Extinction Coefficient ('k')</th>
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</thead>
<tbody>
<tr>
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<tr>
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<td>10000</td>
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<td>0.20</td>
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</tbody>
</table>

![si3n4 Optical Constants](image.png)