

| Advanced PECVD-Nitride2(HF n=2.00, 9.3nm/min) | | | | Advanced PECVD Typical Film Properties |
|--|-------------------|-------------------|--|--|
| SiN deposition~2700A, 300C | | | | Calibrated every 2-4 weeks |
| Step1: NITRIDE2 coat | | | | Check for the latest update on UCSB Nanofab WIKI |
| Name | Value | Changeable | | |
| Process pressure | 800 mtorr | N | | |
| RF setpoint | 30 W | N | | |
| stabilization time | 15 seconds | N | | |
| step time(m) | 10 | Y | | |
| step time(s) | 0 | Y | | |
| 2%SiH4 %He | 1040 | N | | |
| N2 | 980 | N | | |
| NH3 | 17 | N | | |
| Step2: NITRIDE2 deposition | | | | Nitride2~2700A Typical Film Properties |
| Name | Value | Changeable | | Deposition rate=9nm/min |
| Process pressure | 800 mtorr | N | | Refractive index@632.8nm=1.952 |
| RF setpoint | 30 W | N | | Stress=484MPa |
| stabilization time | 15 seconds | N | | HF etch rate=48nm/min |
| step time(m) | 30 | Y | | |
| step time(s) | 0 | Y | | |
| 2%SiH4 %He | 1040 | N | | |
| N2 | 980 | N | | |
| NH3 | 17 | N | | |
| Step3: STANDARD PLASMA CLEAN | | | | |
| 1. pump down | | | | |
| Name | Value | Changeable | | |
| stabilization time | 15 seconds | N | | |
| step time(m) | 0 | N | | |
| step time(s) | 30 | N | | |
| 2. Pre-purge | | | | |
| Name | Value | Changeable | | |
| purge | 1 (Yes/No) | N | | |
| stabilization time | 15 seconds | N | | |
| step time(m) | 1 | N | | |
| step time(sec) | 0 | N | | |
| 3.1 High Pressure | | | | |
| Name | Value | Changeable | | |
| Cload position | 50% | N | | |
| Ctune position | 50% | N | | |
| DriveMatch | 1 (Yes/No) | N | | |
| Process pressure | 600 mtorr | N | | |
| RF setpoint=300 | 300 W | N | | |
| Stabilization time | 35 seconds | N | | |
| step time(m) | ENTER TIME | Y | | For 7min(coat+deposition) run 1min Standard Plasma Clean |
| step time(s) | 0 | Y | | |
| CF4/O2(5) | 500 sccm | N | | |