

PECVD1-SiN standard recipe-1000A			PECVD1 SiN 1000A Typical Film Properties
1. Chamber Clean (wet clean) WET CLEAN Wipe clean upper chamber walls with DI Wipe off upper chamber walls with IPA	2. Chamber (clean+coat) 30CLN_SN step1: Initial t=10", p=2x10-2 T=250C step2: N2 purge t=30" p=300mT step3: evacuate, base pressure=2x10-2, t=10" step4:loop step5:gas stabilization, t=30" step6:etch chamber, t=30' step7:evacuate, t=10" step8:N2 purge step9:evacuate step10:loop step11:SiN gas stabilization step12:SiN deposition(200A coat) step13:evacuate step14:N2purge, t=30" step15:end	3.SiN Deposition SiN_10 step1: Initial t=10" step2: N2 purge t=30" step3: evacuate, t=10" step4:loop step5: SiN gas stabilization, t=30" step6: SiN deposition Time=9'28.1" Temperature=250°C Pressure=900mT Gas Flow: SiH4=150sccm N2=450sccm NH3=1.54sccm Power: RF1=22W step7:evacuate, t=10" step8:N2 purge t=30" step9:evacuate t=10" step10:loop	Calibrated every 2-4 weeks Check for the latest update on UCSB Nanofab WIKI SiN-1000A Typical Film properties Deposition rate~11nm/min Refractive index@632.8nm=1.942 Stress~450MPa HF etch rate=89nm/min All size particles accumulated in deposition (min=70, max=469) Mostly small particles size (0.160-0.213)um Uniformity within the wafer (98.1-99.9)%

Automatic - Process : _SIN10 Step: 6

Description **SiN Dep 1000 A**
 Process Pump **LOVAC**

Deposition ID **SIN250**
 Deposition [Å] **1000**

TEMPERATURE

	Setpt	Actual
Channel 2	250	248

Pressure[mTorr]

Setpt	Actual
900	903

GAS CHANNELS

	Setpt	Actual
SiH4	150	149
N2	450	450
NH3	1.54	1.56

RF GENERATORS

RF1

RF Control **POWER**
 RF Config **PE**

	Setpt	Actual
Power	22	21
Ref		0.0
DC		11

Time

Setpt	Elapsed	Left
09:28.1	08:16.0	01:12.1