

Plasma Etcher
Standard Operating Procedure (SOP)

11-01-04 Notes from the microfabrication facility

Cleaning wafers in the plasma ash/Etching - use program 1

Bonding: Use program 7

SOP PLASMA:

1. Turn on the gases (N2, O2 cylinders - in service area)
2. Turn on the mechanical pump (in clean room, power strip) * turn on pump 30 min prior to starting
3. Turn on the plasma chamber (green button on control panel)
5. Turn on RF generator switch (little red switch on left-front of RF generator)
6. Turn on the O2 on the wall by turning the valve SLOWLY counterclockwise -approx 2 turns
7. Turn N2 valve 90 deg counter clockwise to open the valve (directly behind the plasma gen)

Loading Chamber:

a. Place wafers (2 per shelf max - 4 in wafers) in the plasma ash, close door

9. Check/Choose program -

Parameters	Cleaning Progm 1	Bonding: Progm 3	Bonding: Progm 7	Bonding: Progm 9
pressure (mT)	363-work pressure	100	200	70
power (watts)	200	20	50	50
End pt. (%)	100	100	100	100
Time (sec)	180	25	35	20
DC bias (watts)	0	0	0	0
bp/rp (mT)	100 *	100*	70*	70*
Oxygen (ccm)	50	1	2	2

*** Warning!!**

When Plasma running if **bp/rp** is above 10, shut the machine down immediately. A good bp/rp is ~05.

11. Press START (auto) to run program. (little black button on left front panel)

12. When the program has finished, consistent beeping sound, Press STOP (little black button on left front panel).

Note: As of 08/18/03 "Bleeding" valve has been repaired and there is no need to outgas chamber manually.

13. Open chamber. open latch to chamber

14. remove Wafers and close chamber BUT do not lock.

15. (if the plasma etcher is no longer needed), follow 6, 5, 4, 3, 2, 1 in that order, otherwise, place new wafers in the chamber and proceed by pressing START.

.Close main N2 valve (black handle)