Date: 24/01/16

Tool name: PECVD

Tool location: FAB1

Tool purpose: a – Silicon, Silicon Oxide, Nitride and Carbide films deposition

Process gases: Ar, N_2, N_2O, SiH_4, NH_3, SF_6, C_2H_4

Process range temperatures: 250^0 – 300^0C

Samples type: silicon, glass, sapphire, alumina substrates

Samples size: up to 6" wafers

Thickness range: from nanometric scale up to 1um (at once, without clean)

Recipe structure: stabilization with gases on, RF on, deposition, purge

Main work instructions:

1. Check that the gases of interest are on.
2. Check that the rouging pump is on.
3. Press *Exit* button to switch the machine to operation mode .
4. Wait till the machine has come to *Vacuum Ready* status.
5. Use *Edit Recipe* line to view, create, copy/delete recipes .
6. Press a red button on the panel to vent the chamber.
7. Load the sample on the chuck (remember – it's very hot!).
8. Close the door gently and press the green button on the panel to start pumping.
9. Wait for the *Vacuum Ready* status.
10. Press the *Operation* button on the screen, choose the process of interest, type the current date with a run number and click on *Run*. The machine starts performing the process. Verify on graphs that all process parameters (RF power, gas flows, working pressure, N_2 reactor pressure have reliable, expected values). It should ends with purge step.
11. Wait for the *Vacuum Ready* status.
12. Press the red button on the machine panel.
13. Open the chamber door, take out the sample, close and vacuum the machine.

Important:

- Never put inside any sample with resist or some kind of organic materials.
- Never use *Abort Process* button to stop the process, press *Go To* and switch to *Purge* instead.
- The end – point detector is out of use.
- Don't change the parameters in original recipe – copy it first.
- Run *Clean_Si* procedure after the silicon deposition process and *Clean_SiO_2* after silicon oxide deposition.