

1. If you need photoresist from the 500 ml stock bottle, take the bottle of the refrigerator (under the West table). Warm up for 5 hrs (prevents water vapor in the air condensing inside the stock bottle) and transfer some photoresist into a small 5 ml bottle for your everyday use.

2. Before you enter the cleanroom go to the back corridor and make sure the large black vacuum pump is turned on.

3. Fill in the spinner log sheet (date, name, time, description). The spinner in the East wet bench is only for positive photoresist .

4. Ensure the spinner is clean.

If required, use wipes and acetone to clean the top of the chuck and the sides.

Use gentle spray from the nitrogen gun to blow off particulates inside the spinner.

5. Attach the nitrogen gas line to the spinner by removing the blue covers and pushing the two connectors until an audible click is heard. (Nitrogen gas is used to purge the electric motor so that no chemicals fumes affect it).

6. Attach the vacuum line to the spinner by removing the blue covers and pushing the two connectors until an audible click is heard. (Vacuum is used to hold the sample onto the spinner chuck).

7. Plug the electrical cord into the covered electrical outlet located in front of the spinner.

8. Programming

See attached page or the Manual pages 35, 36 for an example.

A high value for “ACL” (acceleration) means the spinner will ramp up faster to the final speed. The number to the right of ACL is the approximate ramp up rate in revolutions per minute (**do not exceed 6000 rpm**)

Note that the ramp up time is included in the time that you enter. (eg. if it takes 2 seconds to ramp up to full speed and you want to spin for 10 sec, you should enter $10 + 2 = 12$ seconds.)

9. If you are spinning a whole wafer (2, 3, 4 inch) do not use any adapter on top of the spinner chuck.

If you are spinning a piece, use the appropriate adapter (one inch coin shaped disk with a small o-ring and hole in the center).

The smallest piece that can be held is 4 mm by 4 mm (3/16 inch by 3/16 inch).

10. Ensure the piece covers the entire o-ring otherwise photoresist will be sucked into the vacuum system and a major repair job will have to be done !

11. Press the “Vac” button to hold down the piece/wafer.

12. Open the “Nitrogen gas” valve on the front of the wet bench just until the “Air” indicator is not flashing any more.

13. Close the Lid. There should be no flashing words on the readout.

If the “Air” sign flashes, the nitrogen gas pressure in the Lab is low. Please wait five minutes and the sign should go off.

14. You can do a test spin without photoresist if you wish, to make sure the spinner is doing exactly what you want it to do.

Press “Run/Stop” to start the spin sequence

If you want to stop the spin before the program is timed out, press “Run/Stop”. Then press “F1” twice to reset to the beginning of the program.

15. After all spinning is complete, use wipes and acetone to clean the spinner to the state which you found it before you started. Pay attention to the side walls and the inner lip on the bottom of the lid. The next person will not be happy if you leave a dirty spinner.

16. Leave the spinner lid open (up position).

17. Disconnect the vacuum quick connects and cap with the blue covers.

18. Disconnect the nitrogen gas quick connects and cap with the blue covers.

19. Close the sliding door .

20. Disconnect the electrical cord.

21. If you are the last person in the lab using the spinner or the mask aligner, turn off the large vacuum pump in the corridor before you exit the Lab.

Hints

1. Center your piece/wafer as best as you can by slowly turning the chuck with your hand.

2. After programming, you can test the spin sequence and spin times to make sure the spinner is doing what you want.

3. After spinning many pieces/wafers there will be a lot of acetone, alcohol, photoresist, etc on the sides and bottom of the spinner walls. The vapors from these chemicals will affect the photoresist thickness and uniformity of the next piece that will be spun.

Wipe up excess chemicals inside the spinner before spinning the next piece.

4. Do not agitate, bump the photoresist bottle as this can entrapped small air bubbles that will cause streaks. Try to minimize air sucked into pipets, eyedroppers used to dispense the photoresist. This is especially true if you are using a viscous photoresist.

(See www.brewerscience.com (follow the “CEE” link) for examples of problems that can occur on the spun photoresist layer.)

5. Take extra care that flakes of dried photoresist on the bottle cap and particulates do not drop inside the photoresist bottle.

6. Take care when you store photoresist in a small container. There should be no plastic (such as eye droppers) in contact with the photoresist. Avoid having any rubber/soft material for the cap as water and air diffuses through these materials and affects the photoresist.